1993 NEW RESEARCH PROGRAM AND ABSTRACTS

PATIENT CARE FOR THE 21ST CENTURY: ASSERTING PROFESSIONAL VALUES WITHIN ECONOMIC CONSTRAINTS

PROGRAM
AND
ABSTRACTS ON NEW RESEARCH

IN SUMMARY FORM

THE ONE HUNDRED AND FORTY-SIXTH ANNUAL MEETING OF THE AMERICAN PSYCHIATRIC ASSOCIATION

SAN FRANCISCO, CA
May 22-27, 1993

SUBCOMMITTEE ON NEW RESEARCH
OF THE SCIENTIFIC PROGRAM COMMITTEE

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AMERICAN PSYCHIATRIC ASSOCIATION
150 years of caring
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May 22, 1993

Dear Fellow Research Practitioners and Consumers:

On behalf of the members and staff of the Scientific Program Committee, I would like to welcome you to the 1993 New Research Program. This year's program reflects the increasing importance of basic and clinical neuroscience to psychiatry. The sessions are organized by topic and have been expanded to accommodate a myriad of excellent submissions.

The program begins Monday, May 24, at 9:00 a.m. with the first of two Young Investigators' Poster Sessions. It continues at 10:30 a.m. with "Research Advances in Psychiatry: An Update for the Clinician," with special emphasis on genetics, mood disorders, AIDS and schizophrenia. The Young Investigators' Oral/Slide Session will begin at 1:00 p.m. on Monday afternoon, followed by a Young Investigators' Poster Session beginning at 3:00 p.m.

The New Research Oral/Slide Sessions will be held Tuesday, May 25, through Thursday, May 27, from 9:00 a.m.-10:30 a.m. Sessions will focus on schizophrenia and anxiety disorders (Tuesday); substance abuse, personality disorders, aggression, eating disorders, managed care, geriatrics, and organic mental disorders (Wednesday); and infant, child and adolescent psychiatry; psychopharmacology; and neuroendocrinology (Thursday). Poster Sessions will be held Tuesday and Wednesday from 12 noon-2:00 p.m. and 3:00 p.m.-5:00 p.m., and on Thursday from 12 noon-2:00 p.m. These sessions will be devoted to schizophrenia and other psychotic disorders; brain imaging; genetics; diagnostic and research issues; epidemiology; dissociative, eating and anxiety disorders; and alcohol and substance abuse (Tuesday); mood and personality disorders; LLPD; suicide; women's and men's issues; cognitive and behavioral therapies; individual psychotherapies; private practice issues; psychiatric education; treatment techniques; forensics; infant, child and adolescent psychiatry; AIDS; C/L and emergency psychiatry; sexual and somatoform disorders; psychoimmunology; administrative, social, community, cross-cultural and minority psychiatry; stress; stigma; violence; ethics; and economic issues (Wednesday); and biological and geriatric psychiatry; psychopharmacology; neuropsychiatry; and organic mental disorders (Thursday).

The 42 oral/slide papers and 739 poster presentations (including 213 Young Investigators) are a diverse and, we believe, a representative sampling of that which is new and significant in psychiatric research. We hope that you will find them informative and provocative.

Sincerely,

Susan J. Fiester, M.D.
Chairperson
New Research Subcommittee of the
Scientific Program Committee

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The American Psychiatric Association requires disclosure of the existence of any significant financial interest or other relationship a presenter has with the manufacture(s) of any commercial product(s) discussed in an educational presentation. The existence of such relationships does not necessarily constitute a conflict of interest, but the prospective audience must be informed of the presenter's affiliation with a commercial sponsor by way of an acknowledgement in this printed *New Research Program and Abstracts Book.* This policy is intended to openly identify any potential conflict so that the audience in an educational activity is able to form their own judgements about the presentation.

The following presenters on this year's new research program have indicated a significant financial relationship with the manufacturer(s) of a commercial product(s). The presenter's name and final program number(s), and the manufacturer's name, as they appear in this *New Research Program Book* are listed below:

Presenter	Manufacturer(s)	Final Program #
Alexopoulos, George S.	Lilly Research Laboratories, a division of Eli Lilly & Company; Burroughs Wellcome Company	NR690
Anderson, Cheryl B.	Janssen Pharmaceutica	NR217
Batki, Steven L.	Mead Johnson Pharmaceuticals, a Bristol-Myers Squibb Company; Dista Products Company, a division of Eli Lilly and Company; Pfizer Pharmaceuticals; Burroughs Wellcome Company	NR414
Bell, Iris R.	Mead Johnson Pharmaceuticals, a Bristol-Myers Squibb Company; National Dairy Council	NR629, NR753
Black, Donald W.	Solvay Pharmaceuticals	NR367, NR441
Boyer, William F.	Lilly Research Laboratories, a division of Eli Lilly & Company; Pfizer Pharmaceuticals; SmithKline Beecham Pharmaceuticals; Burroughs Wellcome Company	NR746
Carter, Cameron S.	Roche Laboratories, a Division of Hoffman-La Roche, Inc.; SmithKline Beecham Pharmaceuticals	NR344
Christiansen, Poul E.	SmithKline Beecham Pharmaceuticals	NR338
Clark, Lee Anna	University of Minnesota	NR506
Coffey, David J.	Pfizer Pharmaceuticals	NR694
Denicoff, Kirk D.	Ciba-Geigy Corporation	NR451
Entsuah, A. Richard	Wyeth-Ayerst Research	NR670
Fava, Maurizio	Lilly Research Laboratories, a division of Eli Lilly & Company; SmithKline Beecham Pharmaceuticals; Pfizer Pharmaceuticals	NR465
George, Mark S.	Medi-Physics, Inc., an Amersham Company	NR16, NR114
Goldbloom, David S.	Lilly Research Laboratories, a division of Eli Lilly & Company	NR390
Goodwin, Guy M.	Medi-Physics, Inc., an Amersham Company	NR308
Hand, Iver E.	Duphar Medical Communication	NR377
Heiligenstein, John H.	Lilly Research Laboratories, a division of Eli Lilly & Company	NR733
Hellerstein, David J.	Dista Products Company, a Division of Eli Lilly and Company; Lilly Research Laboratories, a division of Eli Lilly & Company	NR555
Hsu, Ann	Abbott Laboratories	NR280
Jacobsen, Frederick M.	Abbott Laboratories	NR668
Jefferson, James W.	Astra; Glaxo; Abbott Laboratories; Pfizer Pharmaceuticals; Burroughs Wellcome Company; SmithKline Beecham Pharmaceuticals; The Upjohn Company; Ciba Geigy Corporation, Pharmaceuticals Division; Dista Products Company, a division of Eli Lilly and Company; Solvay Pharmaceuticals	NR323
Johnston, Hugh F.	Pfizer Pharmaceuticals	NR356
Katona, Cornelius L.	Lilly Research Laboratories, a division of Eli Lilly & Company	NR742
Kotrla, Kathryn J.	Medi-Physics, Inc., an Amersham Company	NR778
Lydiard, R. Bruce	Pfizer Pharmaceuticals; The Upjohn Company; Roche Laboratories, a Division of Hoffman-La Roche, Inc.; Sandoz Pharmaceuticals Corporation; Parke-Davis; Lilly Research Laboratories, a division of Eli Lilly & Company Mead Johnson Pharmaceuticals, a Bristol-Myers Squibb Company	NR473

Presenter	Manufacturer(s)	Final Program #
MacEwan, Gordon W.	Response Biomedical Corporation	NR246
Martindale, Jacqueline J.	Pfizer Pharmaceuticals	NR669
Mason, Barbara J.	IVAX Baker Norton	NR442
Risch, S. Craig	Sandoz Pharmaceuticals Corporation	NR717
Romach, Myroslava K.	Glaxo	NR743
Schooler, Nina R.	Janssen Pharmaceutica	NR722
Siever, Larry J.	Lilly Research Laboratories, a division of Eli Lilly & Company	NR335
Swann, Alan C.	Abbott Laboratories	NR491
Tollefson, Gary D.	Lilly Research Laboratories, a division of Eli Lilly & Company	NR448, NR713
Toney, Gregory B.	McNeil Pharmaceuticals	NR728

The following presenters on this year's scientific program failed to retun the APA form designed to disclose significant financial relationships with the manufacturer(s) of a commercial product(s). The presenter's name and final program number(s) as they appear in this *New Research Program Book* are listed below:

Presenter	FPG #
Alphs, Larry D.	NR731
Amin, Farooq	NR221
Amin, Ravindra N.	NR151
Bach, Michael	NR80
Barta, Patrick E.	NR252
Barth, Elaine M.	NR76
Bartlett, Jacquelne A.	NR633, NR634
Bernstein, Lawson F.	NR612
Bierer, Linda M.	NR699
Butler, Rob	NR235
Carman, John S.	NR273
Carvajal, Cesar	NR685
Chen, Jane W.	NR93
Chou, I-Han	NR278
Cover, Heidi E.	NR531
Cuffe, Steven P.	NR570
Dawaher, Rula	NR167
Dintenfass, John I.	NR212
Dunbar, Geoffrey C.	NR468, NR725
Fairbanks, Janet M.	NR99
Farrington, Julie	NR88
Fields, Robert B.	NR758
Gaffney, Gary R.	NR762
Gibbs, James	NR385
Goldstein, Reed D.	NR180
Gupta, Sanjay	NR24
Gyulai, Laszlo	NR453
Havens, Jennifer F.	NR122
Haznedar, Mustafa M.	NR54
Hinton, Ladson	NR480
Hitzemann, Robert J.	NR218
Januel, Dominique	NR207
Keefe, Richard S.E.	NR247
Koszycki, Diana	NR340
Kotun, Joan	NR421
Leadbetter, Robert A.	NR281
London, Julie A.	NR600
McGilchrist, Iain	NR230
Menon, Srikumar	NR195
Mukherjee, Sukdeb	NR270
Munchau, Nichole E.	NR375
Nestor, Paul G.	NR259
Newhouse, Paul A.	NR772
Niznikiewicz, Margaret	NR58
Olson, Stephen C.	NR263
Pallanti, Stefano	NR362
Papp, Laszlo A.	NR357
Pedersen, Ronald	NR540
Perry, Bruce D.	NR250
Petty, Richard	NR10
Pisvejc, Jiri	NR446
Pollack, Mark H.	NR339, NR667
Pourcher, Emmanuelle	NR50, NR165
Robinson, Charles T.	NR145
Rogue, Patrick J.	NR781
Rohmer, Jean-Georges	NR290, NR584
Sautter, Frederic J.	NR253
Schane, Murray D.	NR542
Schwartz, Carl E.	NR676
Shear, M. Katherine	NR351
Smith, Graeme C.	NR618
Sokolov, Stephen T.H.	NR45
Stoker, Dr. M.J.	NR740
Stott, P.C.	NR460
Tabb, Seth E.	NR100
Tanneau, Eric	NR52
Tobin, Marie B.	NR511, NR680
Tondo, Leonardo	NR488
Tune, Larry E.	NR304, NR711
Valencia, Viviana B.	NR143
Vandiver, Vikki L.	NR647
van Kammen, Daniel P.	NR219
Viau, Lucie	NR101
Von Buttlar, Norman	NR770
Walsh, Mark D.	NR185
Wang, Zhengyu	NR128
Weine, Stevan M.	NR535, NR579
Wible, Cynthia G.	NR244
Yanuck, Cheryl H.	NR661
Yargic, Ilhan L.	NR120
Young, Joel L.	NR55
Zemishlany, Zvi	NR303

NEW RESEARCH

Monday, May 24, 1993, 9:00 a.m.-10:30 a.m.

New Research 1 – Poster Session – Rooms 105/106, Exhibit Level, Moscone Center

YOUNG INVESTIGATORS' POSTER SESSION

Moderator: Jack D. Barchas, M.D.

NR1 Body Dysmorphic Disorder: Can It Be Psychotic?
Katharine A. Phillips, M.D., Susan L. McElroy, M.D., Paul E. Keck, Jr., M.D., Harrison G. Pope, Jr., M.D., James I. Hudson, M.D.

NR2 Body Dysmorphic Disorder: 90 Cases of Imagined Ugliness
Katharine A. Phillips, M.D., Susan L. McElroy, M.D., Paul E. Keck, Jr., M.D., Harrison G. Pope, Jr., M.D., James I. Hudson, M.D.

NR3 Familial Sporadic Schizophrenia: A Comprehensive Study
Marc-Andre Roy, Michael A. Flaum, M.D.

NR4 Familial/Sporadic Schizophrenia: MRI Findings
Marc-Andre Roy, Michael A. Flaum, M.D., Stephan Arndt, Ph.D., Nancy C. Andreasen, M.D.

NR5 Lowweight Discharge Causes Readmission in Anorexia
Sinan Baran, M.D., Theodore E. Weltzin, M.D., Christine Pollice, Walter H. Kaye, M.D.

NR6 Auras, Seizure Focus and DSM-III-R Diagnosis
Alison Freeland, Rahul Manchanda, M.D., Betsy Schaefer, B.A., Richard McLachlan, M.D., Warren T. Blume

NR7 Verbal and Visual Memory and Cortical Metabolism
Anna Okonek, Ph.D., Gary W. Small, M.D., Asenath La Rue, Ph.D., Mark A. Mandelkern, M.D.

NR8 Onset and Familial Risk in Alzheimer's Disease
Ge Li, M.D., Jeremy M. Silverman, Ph.D., Christopher J. Smith, B.S., Michele L. Zaccario, B.S., Richard C. Mohs, Ph.D., Kenneth L. Davis, M.D.

NR9 A PET Study of Normal Monozygotic Twins During Cognition
Jill L. Ostrem, B.A., Karen F. Berman, M.D., Venkata S. Mattay, M.D., Daniel R. Weinberger, M.D.

NR10 Loss of Planum Temporal Symmetry in Schizophrenia
Richard Petty, M.D., Patrick E. Barta, M.D., Iain McGilchrist, M.B., Godfrey D. Pearlson, M.D.

NR11 Adjunctive Clomipramine in Obsessive Schizophrenia
Ileana Berman, M.D., Benjamin L. Sapers, B.A., Howard H.J. Chang, M.D., Murray Alpert, Ph.D., Miklos F. Losonczy, M.D., Alan I. Green, M.D.

NR12 Predictors of Remission of Tardive Dyskinesia in Older Patients
Patricia L. Gilbert, M.D., Jonathan P. Lacro, Pharm.D., Kathleen Warren, R.N., Sherri Woody, R.N., Janet Thomas, M.S.W., Dilip V. Jeste, M.D.

NR13 The Effect of Television Violence on Children
Nuchananrt Venbrux, M.D., Paul A. Kettl, M.D., Edward O. Bixler, Ph.D.

NR14 Cerebral Blood Flow in Normal Aging: SPECT Measurements
J. Randolph Swartz, M.D., Ira M. Lesser, M.D., Kyle B. Boone, Ph.D., Bruce L. Miller, M.D., Ismael Mena, M.D.

NR15 Association Study of Dopamine Transporter Protein Gene and Schizophrenia
Peter A. Rao, M.D., Daniel P. van Kammen, M.D., John H. Krystal, M.D., Joel E. Gelernter, M.D.

NR16 The Neuroanatomy of Facial Emotion Recognition
Mark S. George, M.D., Terence A. Ketter, M.D., Debra S. Gill, Peter Herscovitch, M.D., Robert M. Post, M.D.

NR17 Schizo-Obsessives: A Clinical and Neuropsychiatric Study
Michael Y. Hwang, M.D., Eric Hollander, M.D., Lisa Cohen, Ph.D., Dan J. Stein, M.D., Jean-Pierre Lindenmayer, M.D., Marc Vital-Herne, M.D.

NR18 Effects of Nortriptyline on Serotonin 1A Responses in Controls
Michael R. Bronzo, M.D., Steven M. Stahl, M.D.

NR19 Serotonin and Cocaine Effect in Humans
Sarah C. Aronson, M.D., Jed E. Black, M.D., Christopher J. McDougle, M.D., B. Ellen Scanley, M.D., Thomas R. Kosten, M.D., George R. Heninger, M.D., Lawrence H. Price, M.D.

NR20 Early Versus Late-Onset Alcoholism in Women
Susan G. Goodson, M.D., Gerald L. Brown, M.D., Markku I. Linnoila, M.D.

NR21 Enhancing Motivation to Stop Smoking Cigarettes
Cheryl E. Gore-Felton, M.A., Cheryl A. Koopman, Ph.D., Chip Fried, M.A., David Spiegel, M.D.

NR22 Strategies for Dosing Neuroleptics in the Elderly
Melisa D. Rowland, M.D., Jacobo E. Mintzer, M.D., Cherry Jackson, Ph.D., Raymond Anton, M.D., Suzanna Gutierrez, M.D.

NR23 Amygdala-Hippocampal Volume in Monozygotic Twins Discordant for Bipolar Disorder
J. Thomas Noga, M.D., Katalin Vladar, M.D., E. Fuller Torrey, M.D., Douglas W. Jones, Ph.D., Michael B. Knable, D.O., Daniel R. Weinberger, M.D.

NR24 One-Year Follow-Up of First-Episode Psychoses
Sanjay Gupta, M.D., William C. Hubbard, M.A., Michael A. Flaum, M.D., Stephan V. Arndt, Ph.D., Nancy C. Andreasen, M.D.

NR25 Cloning and Localization of a Neuropeptide Y Receptor
Ma-Li Wong, M.D., Winnie Xin, Ph.D., Eric J. Nestler, M.D., Ronald S. Duman

NR26 Comparison of Research Versus Non-Research Schizophrenic Patients
Bina P. Patel, M.D., Sara B. Reddig, M.D., Rajiv Tandon, M.D., Stephan F. Taylor, M.D., John R. De Quardo, M.D., James E. Shipley, M.D.

NR27 Neuropeptide Modulation of Lymphocyte Function
Raga H. Malaty, M.D., Roger W. Beuerman, Ph.D., Elaine Gavin, B.S.

NR28 A Study of the Potential Confounding Effects of Diet, Nicotine, Caffeine and Lorazepan on the Stability of Plasma and Urine HVA Levels
Craig L. Donnelly, M.D., Joseph P. McEvoy, M.D., William Wilson, Ph.D., Nedathur Narasimhachari, Ph.D.

NR29 Torsades de Pointes and Intravenous Haloperidol
Eran D. Metzger, M.D., Rohn S. Friedman, M.D.

NR30 Recognition and Response to Prodromal Episodes
Annette Zygmunt, M.S., Peter J. Weiden, M.D., Tasha Mott, M.A., Nancy Curchio, Psy.D., Ralph Aquila, M.D., Dodi Goldman, M.A.

NR31 Peripheral Cholinergic Functioning in Alzheimer's Disease
Anand P. Popli, M.D., H.I. Ryer, Ph.D., M. Laubacher, R.N., C.V. Haldipur, M.B.

NR32 A Primate Model of Immunologic Changes in Stress
Lauren L. Wing, Ph.D., Ned H. Kalin, M.D., Steven E. Shelton, M.S., Henrietta Kulaga, Ph.D.

NR33 Compulsive and Impulsive Symptoms in Prader-Willi Syndrome
Dan J. Stein, M.D., Jeffrey Keating, B.S., Heather Zar, M.D., Eric Hollander, M.D.

NR34 Neuropsychiatry of Impulsive Aggression
Dan J. Stein, M.D., Eric Hollander, M.D., Lisa Cohen, Ph.D., Maxim Frenkel, M.D., Michael R. Liebowitz, M.D., Lee S. Cohen, M.D.

NR35 Neuroleptic Reduction in Elderly Schizophrenics
Helen Tierney, M.D., Kathleen A. Daly, M.D.

NR36 Post-Ictal and Chronic Psychoses in Temporal Lobe Epilepsy
Daniel S. Umbricht, M.D., Gustav DeGreef, M.D., William Barr, Ph.D., Simcha Pollack, Ph.D., Neil Schaul, M.D.

NR37 Is There Frontal Lobe Lateralization? A Study Using PET
John D. Van Horn, Ph.D., Karen F. Berman, M.D., Giuseppe Esposito, M.D., Jill L. Ostrem, B.A., Daniel R. Weinberger, M.D.

NR38 Dimensions of Neurobiological Abnormalities in Schizophrenia
Sara B. Reddig, M.D., Bina P. Patel, M.D., Rajiv Tandon, M.D., James E. Shipley, M.D., John R. De Quardo, M.D., John F. Greden, M.D.

NR39 Abnormal Pulsatility of Interleukin-2 in Bulimia Nervosa
Julio Licinio, M.D., Ma-Li Wong, M.D., Margaret Altemus, M.D., Peter B. Bongiorno,, Aviva S. Bernat, Philip W. Gold

NR40 Follow-Up of African-American Suicide Attempters
Arden D. Dingle, M.D., Mary B. Summerville, Ph.D., Karla Doepke, Ph.D., Sheila Jones

NR41 Benzodiazepines: Neuroprotective in Psychosis?
Rona J. Hu, M.D., S. Paul Berger, M.D., Owen M. Wolkowitz, M.D.

NR42 Substance Abuse and Head Trauma in the United States Military
Enid Quintero Sheeley, M.D., Deborah L. Warden, M.D., James J. Staudenmeier, M.D., Andres M. Salazar, M.D.

NR43 ECT in Adolescents
Terry D. Schneekloth, M.D., Teresa A. Rummans, M.D., Kathleen M. Logan, M.D.

NR44 Factor Analysis of the Negative Symptom Assessment
Bradley N. Axelrod, Ph.D., Robert Goldman, Ph.D., Larry D. Alphs, M.D.

NR45 Thyroid Function in Adolescent Mood Disorders
Stephen T.H. Sokolov, M.D., Stan Kutcher, M.D., Russell T. Joffe, M.D.

NR46 ECT in the Treatment of the Catatonic Syndrome
Barbara M. Rohland, M.D., Brendan T. Carroll, M.D.

NR47 Anxiety and Depression in Parkinson's: Comorbidity
Doreen E. Robertson-Hoffmann, M.D., Matthew A. Menza, M.D., Arlene S. Bonapace, Psy.D.

NR48 Detecting Genetic Syndromes in Schizophrenia
Eva W. Chow, M.D., Anne S. Bassett, M.D., Rochelle Roy, R.N., Sandra E. Nuttall, Ph.D., Rosanna Weksberg, M.D.

NR49 Predictors of Lithium Response in Psychoses
Lisa W. Schexnayder, M.D., Frederic J. Sautter, Ph.D., Barbara McDermott, Ph.D., Dave L. Garver, M.D.

NR50 Maprotiline in Multiple Sclerosis
Emmanuelle Pourcher, M.D., Roch-Hugo Bouchard, M.D., Marie-Josee Filteau, M.D., Philippe Baruch, M.D., Denis LaFond, B.Sc., Caroll Richards, Ph.D.

NR51 The Cognitive Profile in Alzheimer's Disease
Robert G. Stern, M.D., Richard C. Mohs, Ph.D., James Schmeidler, Ph.D., Michael Davidson, M.D., Kenneth L. Davis, M.D.

NR52 Influence of Neuroleptics on Natural Autoantibodies
Eric Tanneau, M.D., Andre Galinowski, M.D., Marie-Fran Poirier, M.D., Henri Loo, M.D., Straitis Avrameas, Ph.D.

NR53 Clozapine Response in Schizoaffective Disorder
Anil K. Malhotra, M.D., Robert E. Litman, M.D., Tom P. Su, M.D., Cameron H. Smyser, B.A., David Pickar, M.D.

NR54 Depot Neuroleptic and Post-Discharge Compliance
Mustafa M. Haznedar, M.D., Ralph Aquila, M.D., Thomas Portzline, M.D., Alan Stearns, M.D., Mary S. Charles, R.N., Peter J. Weiden, M.D.

NR55 Evaluating the Anticonvulsant Hypothesis of the Antidepressant Mechanism Action of ECT
Joel L. Young, M.D., Rajiv Tandon, M.D., Leon Grunhaus, M.D., John F. Greden, M.D.

NR56 Dopamine Receptor Subtypes in Mesolimbic Neurons
Donna T. Anthony, M.D., Karen Pilgrim, Stephen G. Rayport, M.D.

NR57 The Prevalence of Anxiety in Parkinson's Disease
Brandon H. Krupp, M.D., Joseph Friedman, M.D., Robert Kohn, M.D.

NR58 Electrophysiological Habituation in Schizophrenia
Margaret Niznikiewicz, Ph.D., Brian F. O'Donnell, Ph.D., Robert W. McCarley, M.D., Louise Smith, B.S.N., Hiroto Hokama, M.D.

NR59 Neuroleptics and Male Sexual Functioning
Michael A. Burke, M.D., Joseph P. McEvoy, M.D., James C. Ritchie, M.P.H.

NR60 Romanian Orphans: Developmental and Health Status
Bradley D. Stein, M.D., John Stecker, M.D., Steven Evans, Ph.D., Julie Grassell, B.S.

NR61 Dissociation in Incarcerated Adolescents
Malcom Cunningham, M.D., Kip Cunningham, M.D., Nancy Hornstein, M.D.

NR62 Naltrexone Augmentation in Schizophrenia
Michael J. Sernyak, M.D., William M. Glazer, M.D., Dennis S. Charney, M.D., George R. Heninger, M.D., Scott W. Woods, M.D., Lawrence H. Price, M.D.

NR63 Non-Epileptic Seizures After Epilepsy Surgery
Lois E. Krahn, M.D., Teresa A. Rummans, M.D., Frank W. Sharbrough, M.D., Max R. Trenerry, Ph.D., Sheila G. Jowsey, M.D., Gregory D. Cascino, M.D.

NR64 Some Social Competence Predictors in Schizophrenia
Esther F. Rabinowicz, Ph.D., Raymond A. Knight, Ph.D., David R. Owen, Ph.D., James D. Roff, Ph.D.

NR65 Drug Use in Schizophrenia
Daniella David, M.D., M. Pilar Somoza, Ph.D., Aitala Giron, M.D., Lourdes M. Mendoza, M.D., Richard Douyon, M.D., Thomas A. Mellman, M.D.

NR66 Fluoxetine in Haloperidol-Stabilized Schizophrenics
Donna Ames, M.D., William C. Wirshing, M.D., Steven R. Marder, M.D., Arthur Yuwiler, Ph.D., Gary L. Brammer, Ph.D.

NR67 Alzheimer's Dementia and Associated Psychopathology
Amanda A. Weiss, M.D., Maria Llorente, M.D., Ranjan Duara, M.D., David Loewenstein, Ph.D.

NR68 Command Hallucinations in Schizophrenic Outpatients
Desiree Byrd, Julie Kuck, M.A., Sidney Zisook, M.D.

NR69 Cerebral Spinal Fluid Study of Cannabinoid Users and Normal Controls
Dominique E. Musselman, M.D., R.R.J. Lewine, Ph.D., S. Craig Risch, M.D., Catherine Haden, M.A., Jane Caudle, M.Ln.

NR70 Heterogeneity in Schizophrenia: DSM-III-R Subtypes
Julia Kuck, M.S., John T. Moranville, M.D., Sidney Zisook, M.D., Robert K. Heaton, Ph.D., Lou Ann McAdams, Ph.D., David L. Braff, M.D.

NR71 Prevalence of ADHD in a Military Inpatient Sample
Robert A. Alonso, M.D., Deanna S. McNeil, M.D., Howard C. Wetsman, M.D.

NR72 Alcohol Recidivism Risk in Transplant Candidates
Brian J. Masterson, M.D., William R. Yates, M.D.

NR73 Inhibitory Attention Mechanisms in Schizophrenia
Edward Huey, B.A., Bruce Wexler, M.D.

NR74 Evaluation of Novel D1 Dopamine Receptor Ligands
Terry Rabinowitz, M.D., Ross J. Baldessarini, M.D., Michael Hartmann, Ph.D., Nora S. Kula, M.S., Francine Benes, M.D., John L. Neumeyer, Ph.D.

NR75 Factors Affecting Timing of Consultation Requests
Marian A. Ormont, M.D., Henry W. Weisman, M.D., Richard Shindledecker, M.A., Stanley S. Heller, M.D.

NR76 Stiffman Syndrome: Interviews and Psychometrics
Elaine M. Barth, M.D., John L. Black, M.D., Donald E. Williams, Ph.D., Joyce A. Tinsley, M.D.

NR77 Alpha-Theta EEG Brainwave Training and Obesity
Lee A. Kelley, M.D., Fowler C. Jones, Ed.D., William F. Gabrielli, Jr., M.D., Elizabeth C. Penick, Ph.D.

NR78 Problems in Creating a Geropsychiatry Ward
Jeffrey D. Meyerhoff, M.D., David M. Smith, M.D., Thomas R. Hansen, M.D.

NR79 Haloperidol Effects on Conditioned Cocaine Craving
Stephen E. Hall, M.D., Stephen P. Berger, M.D., Sharon M. Hall, Ph.D., Cynthia C. Crawford, Ph.D.

NR80 Alexithymia and Somatization: Clinical and Psychometric Issues
Michael Bach, M.D., Doris Bach, Ph.D., Franz Boehmer, M.D., Detlev O. Nutzinger, M.D.

NR81 Self-Reported Prescribing Patterns in Schizophrenia
Uriel Heresco-Levy, M.D., Jean-Pierre Lindenmayer, M.D., Ilana Zylberman, M.D., Sandra Grochowski, B.A.

NR82 Economics of Antihypertensive Compliance in Elders
Daniel P. Chapman, Ph.D.

NR83 Alpha-2 Adrenergic Antagonism and Opioid Dependence
Faiq A. Hameedi, M.D., Marc I. Rosen, M.D., H. Rowland Pearsall, M.D., Michelle L. Sullivan, R.N., Thomas R. Kosten, M.D., Scott W. Woods, M.D.

NR84 Clozapine Agranulocytosis Treated with Granulocyte-Colony Stimulating Factor
Guy R. Gullion, M.D., Dick Sowell, M.D., Hong-Shen Yeh, M.D.

NR85 Neurological Signs at the Onset of Psychosis
Russell Scheffer, M.D., Elizabeth Correnti, M.D., Richard Costa, M.A., Sukdeb Mukherjee, M.D.

NR86 Neuropsychological Performance and Psychopathological Processes in Chronic Schizophrenia
Jorge Barros-Beck, M.D., Sandra Grochowski, B.A., Nigel M. Bark, M.D., Daniel J. Javitt, M.D., Jean-Pierre Lindenmayer, M.D.

NR87 Discharge Predictors of VA Elderly Schizophrenics
Haim Y. Knobler, M.D., Richard Silverman, M.D., Ileana Berman, M.D., Richard Donn, M.D., Edward R. Allan, M.D., Miklos F. Losonczy, M.D.

NR88 General Hospital Consultations: An Evaluation
Julie Farrington, M.D., Francis J. Kane, M.D.

NR89 Clozapine as a Diagnostic Tool for Parkinsonism
Mark A. Frye, M.D., William C. Wirshing, M.D., Donna Ames, M.D.

NR90 Exercise Patterns in Indigent Psychiatric Patients
Mirella P. Auchus, Ph.D., Keith A. Wood, Ph.D.

NR91 The Reliability of Video Dementia Diagnosis
Irvin P. Brock III, M.D., Marshal F. Folstein, M.D.

NR92 Competency Evaluations in Patients with Organic Mental Disorders Seen by the Psychiatric Consultation Service
Tarak Vasavada, M.D., George Nasra, M.D., Prakash Masand, M.D.

NR93 Response to Stress in Juvenile Anorexia Nervosa
Jane W. Chen, B.S., Hans Steiner, M.D.

NR94 Haloperidol Plasma Levels, Fixed Doses and Clinical Response: The Brazilian Experience
Marco A. Marcolin, M.D., Javaid I. Javaid, Ph.D., Zaira Motta, M.D., John M. Davis, M.D.

NR95 Violence and Substance Abuse in the Emergency Room
P. Murali Doraiswamy, M.D., Devon Binder, M.S., Laura J. Havrilesky, M.S., Everett H. Ellinwood, Jr., M.D., Leeland Dennis, M.D., K. Ranga Rama Krishnan, M.D., Larry A. Tupler, Ph.D.

NR96 Axis II Pathology and Recidivism in Schizophrenia
Orlando J. Cartaya, M.D., Karl S. Burgoyne, M.D., Michael Kelley, Ph.D., John Richard Elpers, M.D.

NR97 Referral Trends to a Geriatric Psychiatry Clinic
Jill S. Meyer, M.D., Gary L. Falk, M.D., Gabe J. Maletta, M.D., Dana Hazel, M.D., Laura Lathrop, M.P.H.

NR98 Alcoholism Among People in Methadone Program in Vienna
Norbert Loimer, M.D., Herbert Vedovelli, M.D., Bettina Rauch, Ph.D.

NR99 Follow-Up of Open Trial of Interpersonal Psychotherapy with Depressed Adolescents
Janet M. Fairbanks, M.D., Laura H. Mufson, Ph.D., Jaqueline Martin, R.N., Donna Moreau, M.D., Myrna M. Weissman, Ph.D.

NR100 The Forgotten Evaluation: Taking Competence Seriously
Seth E. Tabb, M.D., Scott A. West, M.D., John J. Worthington, M.D.

NR101 Disruptive Behavior in a Special School for Emotionally Disturbed School Boys
Lucie Viau, M.D., Michel Boulanger, M.D.

NR102 Temporal Lobe Epilepsy and Psychiatric Disorders
Rita A. Shaughnessy, M.D., Rita A. Shaughnessy, M.D., Kandace Atkins, M.D., Moises Gaviria, M.D., Don Penney, M.D., Nadine Acacia, B.A.

NR103 Dissociation in Patients with PTSD
Glenn N. Saxe, M.D., Bessel A. van der Kolk, M.D., Michael Michaels, B.A., Rita Fisler, B.A., Daniel Dreyfuss, M.D., Robert L. Berkowitz, M.D.

NR104 Mortality and Axis I Diagnosis in Inpatients: A Five-Year Follow-Up
Anelis E. Muhlebach, M.Sc., Charles Rebetez, M.D., Antonio Andreoli, M.D.

This poster is not part of the Young Investigator's poster presentations. Due to the observance of the holiday Shavuot, the author requested that it be presented early Monday.

NR105 Chronic Fatigue Syndrome Therapy: Mechanism and Response
Paul J. Goodnick, M.D.

NEW RESEARCH

Monday, May 24, 1993, 1:00 p.m.-2:30 p.m.

New Research 2 – Oral/Slide Session – Room 110, Exhibit Level, Moscone Center

YOUNG INVESTIGATORS' ORAL/SLIDE SESSION

Chp.: Philip R. Muskin, M.D.

NR106	The Outcome of Schizophreniform Disorder Five Years After Onset Jiahui Zhang, M.Sc., Morton Beiser, M.D., Graham Bean, Ph.D.	1:00 p.m.
NR107	Mitochondrial Inheritance in Mood Disorders Francis J. McMahon, M.D., O. Colin Stine, Ph.D., Sylvia G. Simpson, M.D. J. Raymond DePaulo, Jr., M.D.	1:15 p.m.
NR108	Psychiatry and Organ Transplantation: Why Post-Operative Evaluations are Too Little, Too Late Susan A. Van Meter, M.D., Sarah D. Atkinson, M.D.	1:30 p.m.
NR109	Are Sleep Panic Attacks a Marker of an Anxiety Disorder? Lawrence A. Labbate, M.D., Mark H. Pollack, M.D., Michael W. Otto, Ph.D., Shani Langenauer, B.A., Jerrold F. Rosenbaum, M.D.	1:45 p.m.
NR110	Patterns of Familial Risk in Alzheimer's Disease Jeremy M. Silverman, Ph.D., Ge Li, M.D., Michele L. Zaccario, B.S., Christopher J. Smith, B.S., Richard C. Mohs, Ph.D., Kenneth L. Davis, M.D.	2:00 p.m.
NR111	Blunted Plasma Adrenocorticotropicn Hormone Responses to the Ovine Corticotropin-Releasing Hormone Stimulation Test in Sexual Abuse Michael D. De Bellis, M.D., George P. Chrousos, M.D., Lorah Dorn, Ph.D., Karin Helmers, Penelope K. Trickett, Ph.D., Frank W. Putnam, M.D.	2:15 p.m.

NEW RESEARCH

Monday, May 24, 1993, 3:00 p.m.-5:00 p.m.

New Research 3 – Poster Session – Rooms 105/106, Exhibit Level, Moscone Center

YOUNG INVESTIGATORS' POSTER SESSION

Moderator: Susan J. Fiester, M.D.

NR112 Stimulant Treatment in Children with Tourette's and ADHD
F. Xavier Castellanos, M.D., Judith H.L. Rapoport, M.D., Gail Ritchie, M.S.W., Charles S. Gulotta, B.S., Jo Elia, M.D., June Tanaka, B.S.

NR113 Response to Cholinergics in Personality Disorder Patients
Bonnie J. Steinberg, M.D., Susan Weston, M.D., Robert L. Trestman, M.D., Julia Temple, M.D., Damon Mitchell, B.A., David Gold, M.A., Orna Guralnik, M.A., Larry J. Siever, M.D.

NR114 Blunted Cerebral Blood Flow with Emotion Recognition in Depression
Mark S. George, M.D., Terence A. Ketter, M.D., Debra S. Gill, Lauren B. Marangell, M.D., Peggy J. Pazzagglia, M.D., Robert M. Post, M.D.

NR115 Noradrenergic Dysregulation in Panic Disorder Following Fluoxetine Treatment
Jeremy D. Coplan, M.D., Laszlo A. Papp, M.D., Jose Martinez, M.A., Leonard Rosenblum, Ph.D., Jack M. Gorman, M.D.

NR116 Biochemical and Physiological Antecedents of Lactate-Induced Panic: An Extended Sample
Jeremy D. Coplan, M.D., Ray Goetz, Ph.D., Laszlo A. Papp, M.D., Donald F. Klein, M.D., Jack M. Gorman, M.D.

NR117 Thyroid Abnormalities in Outpatient Depression?
Lawrence A. Labbate, M.D., Maurizio Fava, M.D., Rafael Ornstein, M.D., Melissa Abraham, B.A., Jerrold F. Rosenbaum, M.D.

NR118 Short-Term Group Therapy in AIDS Related Grief
Jacquelyn Summers, M.S.W., Renee Robinson, M.A., Sidney Zisook, M.D., Daniel D. Sewell, M.D., J. Hampton Atkinson, M.D., J. Chandler, M.D.

NR119 Familial Effects on Attempted Suicide and Depression
Kevin M. Malone, M.D., Gretchen L. Haas, Ph.D., John A. Sweeney, Ph.D., John J. Mann, M.D.

NR120 Psychiatric Comorbidity and Chronic Fatigue
Ilhan L. Yargic, M.D., Jon K. Zubieta, M.D., Cary N. Engleberg, M.D., Mark A. Demitrack, M.D.

NR121 Functional Effects of Basal Ganglia Changes in Tourette's Syndrome
Yanki Yazgan, M.D., Bruce Wexler, M.D., Bradley Peterson, M.D., James F. Leckman, M.D.

NR122 Drugs and HIV: Relation to Childhood Disorders
Jennifer F. Havens, M.D., Agnes H. Whitaker, M.D., Judith F. Feldman, Ph.D., Anke Ehrhardt, Ph.D.

NR123 A Linear-Systems Model of OCD
Gregory S. Berns, Ph.D.

NR124 Health Care Workers' Attitudes Toward Mandatory HIV Testing
Donald K. Winter, M.D., Susan E. McManis, M.D., James C. Ashworth, M.D., Edna R. Fiedler, Ph.D., Clifford A. Butzin, Ph.D., George R. Brown, M.D.

NR125 Phototherapy for SAD: A Blind Comparison of Three Different Schedules
Beny Lafer, M.D., Gary S. Sachs, M.D., Amy B. Thibault, B.A., Lawrence A. Labbate, M.D., Jerrold F. Rosenbaum, M.D.

NR126 Training Psychiatry Residents in Suicide Care
Marcia R. Morris, M.D.

NR127 Antidepressant-Associated Mania
Andrew L. Stoll, M.D., Pierre V. Mayer, M.D., Mauricio Tohen, M.D., Eric Goldstein, Meridith Kolbrener, B.A., Bruce M. Cohen, M.D.

NR128 Using Survival Analysis to Analyze Acute Clinical Trials
Zhengyu Wang, M.S., John M. Davis, M.D., Philip G. Janicak, M.D.

NR129 Ictal EEG Markers of Therapeutic Efficacy with ECT
Andrew D. Krystal, M.D., Richard D. Weiner, M.D., C. Edward Coffey, M.D.

NR130 Ictal EEG Effects of Different ECT Types
Andrew D. Krystal, M.D., Richard D. Weiner, M.D., W. Vaughn McCall, M.D., Frank E. Shelp, M.D., Pamela Smith, Rebecca Arias

NR131 Neurologic Dysfunction in BPD and Axis II Patients
Catherine R. Kimble, M.D., Mary C. Zanarini, Ed.D., Amy A. Williams, B.A.

NR132 Cortisol Fast-Feedback on ACTH in ECT
Holly B. Rogers, M.D., Paul Kim, M.D., Bernard Carroll, M.D.

NR133 Lifetime BPD Symptoms and Childhood Sexual Abuse
Elyse D. Dubo, M.D., Mary C. Zanarini, Ed.D., Ruth E. Lewis, M.A., Amy A. Williams, B.A.

NR134 MRI Findings in Early Versus Late Onset Depression
P. Murali Doraiswamy, M.D., K. Ranga Rama Krishnan, M.D., William M. McDonald, M.D., Larry A. Tupler, Ph.D., Mustafa M. Husain, M.D., Orest B. Boylo, M.D., Gary S. Figiel, M.D., Everett H. Ellinwood, Jr., M.D.

NR135 Legal Issues of a Homeless Mentally Ill Population
James G. Harold, M.D., Lisa Dixon, M.D., Charles T. Robinson, M.D., Anthony F. Lehman, M.D.

NR136 Methylphenidate and Depressive Retardation
Annick Vincent, M.D., Sophie Lemelin, B.P.S., Philippe Baruch, M.D., Marie-Josee Filteau, M.D., James Everett, Ph.D., Pierre Vincent, M.D.

NR137 Racial Bias and Inpatient Treatment: Revisited
Henry Chung, M.D., John C. Mahler, M.D.

NR138 Naltrexone for Self-Injurious Thoughts and Actions
Susan C. Sonne, Ph.D., Robert Rubey, M.D., Kathleen T. Brady, M.D., Robert Malcolm, M.D., Tracy Morris, Ph.D.

NR139 Substance Abuse and Bipolar Affective Disorder
Susan C. Sonne, Ph.D., Kathleen T. Brady, M.D., Alexander Morton, Ph.D.

NR140 Specific Serotonin Reuptake Inhibitors and Agitated Depression
Marie-Josee Filteau, M.D., Philippe Baruch, M.D., David Bakish, M.D., Andre Blanchard, B.P.S., Emmanuelle Pourcher, M.D., Yvon D. Lapierre, M.D.

NR141 Social Labeling and the Presence of Psychiatric Symptoms
Graham Bean, Ph.D., Morton Beiser, M.D., Jiahui Zhang, M.Sc.

NR142 DSM-III-R Personality Disorders and Acute Symptoms: A Six-Year Follow-Up
Yvonne Bumand, Fabienne Maitre, Antonio Andreoli, M.D.

NR143 Symptoms Severity in Emergency Room Patients: Racial Differences
Viviana B. Valencia, M.D., Eugene Somoza, M.D.

NR144 Screening for Thyroid Disease in Ambulatory Patients with Depression
James H. Briggs, M.D., Mark S. Bauer, M.D., Linda McBride, B.S.N., Owen Hagino, M.D., Walter A. Brown, M.D.

NR145 Family Connections of the Homeless Mentally Ill
Charles T. Robinson, M.D., Lisa Dixon, M.D., Betty Stewart, B.A., James G. Harold, M.D., Anthony F. Lehman, M.D.

NR146 Trauma, Ethnicity and Dissociation
Douglas F. Zatzick, M.D., Charles R. Marmar, M.D., Daniel S. Weiss, Ph.D.

NR147 Substance Use in an Adolescent Psychiatric Population
Deborah Deas-Nesmith, M.D., Sallie Campbell, M.S.W., Kathleen T. Brady, M.D.

NR148 Pathological Gambling and Platelet MAO
Carlos Blanco, M.D., Luis Orensanz-Munoz, Ph.D., Carmen Blanco-Jerez, B.S., Jeronimo Saiz-Ruiz, M.D.

NR149 Psychiatric Morbidity in a Medical HIV Clinic
John S. McDaniel, M.D., Gene Farber, Ph.D., Mary B. Summerville, Ph.D., Karen Johnson, M.D., Sumner Thompson, M.D.

NR150 Psychological Functioning, Gender and HIV
John S. McDaniel, M.D., Elisabeth Fowlie, B.S., Mary B. Summerville, Ph.D., Steven A. Cohen-Cole, M.D., Elaine Walker, Ph.D., Peggy Keen, Ph.D., Sumner Thompson, M.D.

NR151 Efficacy of Thyroid Function Test Screening in Psychiatry
Ravindra N. Amin, M.D., Eva Khavkin, M.D., Sigfrido Ruiz, M.D., Joseph Moise, M.D., John Harrera, Ph.D.

NR152 Intra-Daily Mood Variance in Depression
Donald P. Hall, M.D., Capt. David Benedek, M.D., Audrey Chang, Ph.D.

NR153 Which Patients Receive Medication in Psychotherapy?
Thomas E. Byrne, M.D., Kenneth I. Howard, Ph.D.

NR154 Panic Disorder in the Consultation Setting: 1980-1990
Terri T. Gerdes, M.D., William R. Yates, M.D., Gerard P. Clancy, M.D.

NR155 Mandatory HIV Testing: Impact on Providers of Care
James C. Ashworth, M.D., Donald K. Winter, M.D., Susan E. McManis, M.D., Edna R. Fiedler, Ph.D., George R. Brown, M.D., Clifford A. Butzin, Ph.D.

NR156 Changes in Psychiatrists' Self-Perception Over Time
Ileana Berman, M.D., Stuart M. Berman, M.D., William Fried, Ph.D., Murray Alpert, Ph.D., Edward R. Allan, M.D., Miklos F. Losonczy, M.D.

NR157 A Cinema-Psycho-Social Time Line
Charles M. Grade, M.D., Anne I. Koplin, M.D.

NR158 Bipolar Relapse Rates During Maintenance Therapy
Amy B. Thibault, B.A., Gary S. Sachs, M.D., Beny Lafer, M.D., JoAnn Koletsky, B.A., Jerrold F. Rosenbaum, M.D.

NR159 Structured Interview Guide for Anxiety (SIGH-A)
Gary S. Bruss, Ph.D., Reed D. Goldstein, Ph.D., Alan M. Gruenberg, M.D., Jacques P. Barber, Ph.D.

NR160 Validity of Generalized Anxiety Disorder as a Diagnostic Entity
Olga Brawman-Mintzer, M.D., R. Bruce Lydiard, M.D., James C. Ballenger, M.D.

NR161 Tourette's Disorder: Social Issues and Treatment Outcome
Raul R. Silva, M.D., Dinohra M. Munoz-Silva, M.D., Pazit E. Dinstein, M.D., Selvi Wild, Tasnim Khomusi, Arnold J. Friedhoff, M.D.

NR162 Enhanced Suppression with Low Dose DST in BPD with a History Abuse
Penny K. Randall, M.D., J. Douglas Bremner, M.D., Dennis S. Charney, M.D., Steven M. Southwick, M.D.

NR163 Clozapine Therapy in Refractory Affective Disorders: Polarity Predicts Response in Long-Term Follow-Up
Michael D. Banov, M.D., Carlos A. Zarate, M.D., Diane Scialabba, B.A., Mauricio Tohen, M.D., James Wines, M.D., Jong-Won Kim, M.D.

NR164 Panic, Hypertension and Pheochromocytoma Screening
Charles C. Engel, M.D., John Fogarty, B.S., Gregory E. Simon, M.D., Joan Russo, Ph.D., Wayne J. Katon, M.D.

NR165 Blepharospasm and Mood Disorder
Emmanuelle Pourcher, M.D., Roch-Hugo Bouchard, M.D., Marie-Josee Filteau, M.D., Philippe Baruch, M.D., Alain Gourdeau, M.D., Hagop S. Akiskal, M.D.

NR166 Identifying the Suicidal Patient in the Emergency Room Setting
Nuchananrt Venbrux, M.D., Paul A. Kettl, M.D., Edward O. Bixler, Ph.D.

NR167 History of Suicide Attempts: A Trait Variable?
Rula Dawaher, Bernadette D'Souza, M.D., Eugene Somoza, M.D.

NR168 MMPI-2 and Risk Factors in Suicidal Ideation
Bradley D. Grinage, M.D., Edna R. Fiedler, Ph.D.

NR169 Anafranil's Effect on the Obsessions and Sleep in PTSD
Michael R. Rubin, M.D., Veronika Solt, M.D., Cheng-Jen Chen, M.D.

NR170 Low CSF HVA Levels in Patients with Panic Disorder and Social Phobia
Michael R. Johnson, M.D., R. Bruce Lydiard, M.D., James C. Ballenger, M.D., Joseph J. Zealberg, M.D., Mark D. Fossey, M.D.

NR171 Cognitive Deficits in Schizotypal Personality
Martina M. Voglmaier, Ph.D., Larry J. Seidman, Ph.D., Dean F. Salisbury, Ph.D., Robert W. McCarley, M.D.

NR172 Homeless or Not: Urban Poverty and Mental Disorder
Hunter L. McQuistion, M.D., Ann D'Ercole, Ph.D.

NR173 Sertraline Response in Mentally Retarded Adults
Lee A. Kelley, M.D., Jessica A. Hellings, M.D., William F. Gabrielli, Jr., M.D., Earl Kilgore, Psy.D.

NR174 Panic-Phobic Patients and Developmental Trauma
Daniella David, M.D., Aitala Giron, M.D., Thomas A. Mellman, M.D.

NR175 Bereavement After Suicide or Accident: A Comparison
Monique Seguin, M.A., Alain D. Lesage, M.D., Margaret C. Kiely, Ph.D.

NR176 Insight in Mania
S. Nassir Ghaemi, M.D., Harrison G. Pope, Jr., M.D., Andrew L. Stoll, M.D.

NR177 Gender Differences in the Use of Ego Defenses
David A. Hall, M.D., Edna R. Fiedler, Ph.D.

NR178 Left Ear Hearing Loss in Major Depression
Yoram Yovell, M.D., Harold A. Sackeim, Ph.D., David G. Epstein, Ph.D., Joan Prudic, M.D., Martin C. McElhiney, M.A., Joy M. Settembrino, B.A.

NR179 Dissociation in Borderline Personality Disorder
Robert L. Wolski, M.D., Jody Shachnow, M.S.W.

NR180 Symptom Score Correlations in Mood Disorders
Reed D. Goldstein, Ph.D., Alan M. Gruenberg, M.D., Gary S. Bruss, Ph.D.

NR181 Use of Computer-Administered Cognitive-Behavior Therapy with Depressed Inpatients
Scott P. Stuart, M.D., Wayne A. Bowers, Ph.D.

NR182 HIV, Psychiatric Morbidity and Quality of Life
Mary B. Summerville, Ph.D., John S. McDaniel, M.D., Elisabeth Fowlie, B.S., Gene Farber, Ph.D., Steven A. Cohen-Cole, M.D., Sumner Thompson, M.D.

NR183 Issues of AZT Noncompliance in HIV Positive Women
Karen Johnson, M.D., John S. McDaniel, M.D., Mary B. Summerville, Ph.D., Peggy Keen, Ph.D., Sumner Thompson, M.D.

NR184 Defense Style in Nonpsychiatric Panic Patients
Michael Zoglio, M.D., Cameron S. Carter, M.D., Richard J. Maddock, M.D., Susan Jella, Ph.D., C. Lutrin, M.D., E. Amsterdam, M.D.

NR185 CSF Monoamines and Core Symptoms in Panic Disorder
Mark D. Walsh, M.D., Michael R. Johnson, M.D., R. Bruce Lydiard, M.D., James C. Ballenger, M.D., Mark D. Fossey, M.D., Joseph J. Zealberg, M.D.

NR186 The Screener
Mark Zimmerman, M.D., Neal Farber, M.D., Jon Hartung, M.A.

NR187 Reduction of Cerebellar Volume in Depression
Patricio R. Escalona, M.D., Bridgett Early, M.D., William M. McDonald, M.D., Charles B. Nemeroff, M.D., K. Ranga Rama Krishnan, M.D.

NR188 Crisis Intervention and Mortality: A Five-Year Follow-Up
Charles Rebetez, M.D., Anelise Muhlebach, M.Sc., Antonio Andreoli, M.D.

NR189 Managed Care and Psychiatrists' Practice Patterns and Provision of Uncompensated Care
Karen Anderson Oliver, M.P.H.

NR190 Cognitive Function of Elderly Bipolars on Lithium
Steven C. Samuels, M.D., Dana Luck, Ph.D., Julia Mayo, Ph.D., Monica Creelman, M.A., Win Turner, M.A., Ralph A. O'Connell, M.D.

NR191 Genetic, Epidemiological, and Comorbidity Factors in Panic Disorder
Carol Lane, B.Sc., Roberta M. Palmour, Ph.D., Jacques Bradwejn, M.D., Jean-Philippe Boulenger, M.D.

NR192 Major Depression, Support and Marital Therapy: A Pilot Study
Jacqueline Lalive Aubert, M.D., J. Guillemin, B. Weber, J. Laederach, E. Zbinden

NR193 Depression of the Spouse, Marital Therapy and Major Depressive Episode Outcome: A Pilot Study
Jacqueline Lalive Aubert, M.D., Antonio Andreoli, M.D., Roland Eisele, M.D., Werner Fischer

NR194 Bupropion Revisited: How Much is Too Much?
Anand P. Popli, M.D., John F. Tanquary, M.D., Vincent Lamparella, M.D., Prakash Masand, M.D.

NR195 Knowledge About AIDS and Condom Use Among Psychiatric Inpatients
Srikumar Menon, M.D., Sherry Pomerantz, Ph.D., Ernie Peacock, M.A., David Appelbaum, M.A., Sarahlee Horowitz, Psy.D.

NR196 Psychoeducation with Bipolar Patients and Families
Margret Fitzgerald, M.D., Ellen Frank, Ph.D., Alan G. Mallinger, M.D., David J. Kupfer, M.D.

NR197 Southeast-Asian Refugees: Cultural Issues and a New Syndrome
Susan R. Downs, M.D., Richard A. Blum, Ph.D.

NR198 Career Needs of Nurses Across the Life-Cycle
Judith A. Shindul-Rothschild, Ph.D.

NR199 Childhood Trauma and PTSD in Substance Abuse Inpatients
Elisa G. Triffleman, M.D., Charles R. Marmar, M.D., Kevin Delucchi, Ph.D.

NR200 Interpersonal Difficulties and Retrospective Views of Parenting in Patients with Panic Disorder
Leora R. Heckelman, Ph.D., Lisa A. Spielman, Ph.D., M. Katherine Shear, M.D.

NR201 Community Mental Health Needs of HIV Patients
David W. Purcell, J.D., Cindy L. Zenker, M.A., John H. Templeton, M.S.W., John S. McDaniel, M.D.

NR202 Axis I Disorders of American and Japanese BPD Patients
Norimasa Ikuta, M.D., Mary C. Zanarini, Ed.D., Kuninao Minakawa, M.D., Yuko Miyake, Ph.D., Naoki Moriya, M.D., Aya Nishizono-Maher, M.D.

NR203 Homicide Followed by Suicide: A Quebec Case Series 1988-90
Jacques Buteau, Alain D. Lesage, M.D., Margaret C. Kiely, Ph.D.

NR204 Abusive Behavior: Physician Versus Student Perspective
James A. Bourgeois, M.D., Jerald Kay, M.D., John R. Rudisill, Ph.D.

NR205 Therapeutic Alliance and Dual Diagnosis Patients
Laurence M. Westreich, M.D., Richard N. Rosenthal, M.D., Christopher Muran, Ph.D.

NR206 Effect of an Informational Video About ECT
Laurence M. Westreich, M.D., Stewart Levine, M.D., Paulette Ginsburg, M.D., Ilene Wilets, Ph.D.

NR207 Lithium Antidepressant in Non-Resistant Depression
Dominique Januel, M.D., Andre Galinowski, M.D., Marie-Fran Poirier, M.D., J. Pierre Olie, M.D., Henri Loo, M.D.

NR208 Affective Disorders After Prenatal Famine Exposure
Alan S. Brown, M.D., Ezra S. Susser, M.D., Shang Lin, Ph.D., Jack M. Gorman, M.D.

NR209 A New Look at Psychiatric Triage in the Community
Elizabeth A. Baerg, M.D., Nicholas Slade-Dew, M.B.

NR210 The Family Caregiver's Quality of Life Outcome
Jill S. Meyer, M.D., Gabe J. Maletta, M.D., Susan J. Rottunda, B.S., John Mach, Jr., M.D.

NR211 Characterizing God-Self Relationships
Carolyn V. Tingle, M.D., Nancy L. Krejmas, M.D., James L. Griffith, M.D., Melissa Elliott Griffith, M.S.N., Dinesh Mittal, M.D., Alexis Polles, M.D.

NR212 Exploring Group Process with Medical Students
John I. Dintenfass, M.D., Nanci Lebowitz-Naegeli, M.D., Corey Greenwald, M.D.

NR213 Carbamazepine-Induced White Blood Count Changes in an AIDS Patient with Bipolar Disorder
Cheng-Jen Chen, M.D., Anwar Ghali, M.D.

NR214 ECT in Cognitively Impaired Depressed Patients
Kathryn D. Lombardo, M.D., Teresa A. Rummans, M.D., Sheila G. Jowsey, M.D., Siong-Chi Lin, M.D., M. Kevin O'Connor, M.D., Thomas S. Pileggi, R.N.

The following two posters are not part of the Young Investigator's poster presentations, but must be displayed on Monday.

NR215 Emotional Stroops in PTSD, OCD and Depression
Phebe M. Tucker, M.D., Michael Lewin, Ph.D., Dan McNeil, Ph.D., Alfretia Scarborough, M.P.H.

NR216 Lithium Ratio Monitoring in 77 Bipolar Disordered Patients
Mohamed Toutoungi, M.D., Elizabeth Pellerey, M.D., Marie E. Silvestre, M.D., Antonio Andreoli, M.D., Jacques Richard, M.D.

Tuesday, May 25, 1993, 9:00 a.m.-10:30 a.m.

New Research 4 – Oral/Slide Session – Rooms 228/230, East Mezzanine, Moscone Center

SCHIZOPHRENIA

Chp.: Sally R. Szymanski, M.D.

NR217 Risperidone Dose, Plasma Levels and Response — 9:00 a.m.
Cheryl B. Anderson, Pharm.D., Janet E. True, M.D., Larry Ereshefsky, Pharm.D., Alexander L. Miller, M.D., Barbara L. Peters, M.A., Dawn I. Velligan, Ph.D.

NR218 Dose Reduction in Schizophrenia (DORIS) Study: Preliminary Report — 9:15 a.m.
Robert J. Hitzemann, Ph.D., Jack Hirschowitz, M.D., Joe MacAluso, M.D., Rene S. Kahn, M.D., Kathy Piscani, R.N., Marci Mann, M.S.

NR219 Relapse Prediction Following Haloperidol Withdrawal — 9:30 a.m.
Daniel P. van Kammen, M.D., Hans Agren, M.D., Jeffrey K. Yao, Ph.D., John A. Gurklis, M.D., Jeffrey L. Peters, M.D.

NR220 Brain Glucose Metabolism in Seventy Male Schizophrenics — 9:45 a.m.
Benjamin V. Siegel, M.D., Monte S. Buchsbaum, M.D., William E. Bunney, M.D., Joseph C. Wu, M.D., Steven G. Potkin, M.D.

NR221 Plasma HVA in Non-Psychotic First-Degree Relatives of Schizophrenic Probands — 10:00 a.m.
Farooq Amin, M.D., Jeremy M. Silverman, Ph.D., Lisa Dumont, B.A., Michele Zaccario, B.A., Rene S. Kahn, M.D., Melanie Schwarz, B.A., Michael Davidson, M.D., Larry J. Siever, M.D.

NR222 Decreased Regional Gray Matter in Schizophrenia — 10:15 a.m.
Thomas E. Schlaepfer, M.D., Gordon J. Harris, Ph.D., Godfrey D. Pearlson, M.D.

Tuesday, May 25, 1993, 9:00 a.m.-10:30 a.m.

New Research 5 – Oral/Slide Session – Rooms 232/234, East Mezzanine, Moscone Center

ANXIETY DISORDERS

Chp.: Tana A. Grady, M.D.

NR223 Focal Paroxysmal EEG Changes During Atypical Panic Attacks — 9:00 a.m.
Jeffrey B. Weilburg, M.D., Steven Schacter, M.D., Mark H. Pollack, M.D., Gary S. Sachs, M.D., Jonathan L. Worth, M.D.

NR224	Rape, PTSD and Bulimia in a Sample of United States Women Bonnie S. Dansky, Ph.D., Timothy D. Brewerton, M.D., Patrick M. O'Neil, Ph.D., Dean G. Kilpatrick, Ph.D.	9:15 a.m.
NR225	Circadian Release of Cortisol in Combat PTSD Rachel Yehuda, Ph.D., Robert A. Levengood, M.D., Martin Teicher, M.D., Robert L. Trestman, M.D., Karen Binder-Brynes, Ph.D., Ilana Schlein, B.A., Larry J. Siever, M.D.	9:30 a.m.
NR226	Objective Assessment of OCD SPECT Abnormalities Gordon J. Harris, Ph.D., Godfrey D. Pearlson, M.D., Robert W. Lewis, B.S., Rudolf Hoehn-Saric, M.D.	9:45 a.m.
NR227	Imipramine Antagonizes CCK-4 Induced Panic Jacques Bradwejn, M.D., Diana Koszycki, M.A.	10:00 a.m.
NR228	Changes of Platelet Benzodiazepine Receptor in Generalized Anxiety Disorder Amarendra N. Singh, M.B., Ram K. Mishra, Ph.D., Simon Chiu, M.D., Pauline Chiu, Ph.D., R. B. Rastogi, Ph.D.	10:15 a.m.

NEW RESEARCH

Tuesday, May 25, 1993, 12 noon-2:00 p.m.

New Research 6 – Poster Session – Rooms 105/106, Exhibit Level, Moscone Center

SCHIZOPHRENIA AND OTHER PSYCHOTIC DISORDERS; BRAIN IMAGING; GENETICS; DIAGNOSTIC AND RESEARCH ISSUES; AND EPIDEMIOLOGY

Moderator: Robert W. McCarley, M.D.

NR229 Does P50 Indicate Sensory Gating?
Kenneth Lifshitz, M.D., Janet A. Camp-Bruno, M.Phil., Robert T. O'Keeffe, B.A., Gary S. Linn, Ph.D., Kai L. Lee, M.S.

NR230 Inferior Parietal Gray Matter Loss in Schizophrenia
Iain McGilchrist, M.B., Godfrey D. Pearlson, M.D., Patrick E. Barta, M.D., Gordon J. Harris, Ph.D., Allen Y. Tien, M.D., Larry E. Tune, M.D.

NR231 M100 Location in Schizophrenia: Sex Differences
Martin L. Reite, M.D., Jeanelle L. Stocker, B.A., Doug B. Richardson, B.A., Peter D. Teale, Leigh Goldstein, M.S.

NR232 Mechanisms of Memory Impairment in Schizophrenia
John W. Newcomer, M.D., Suzanne Craft, Ph.D., Kelly M. Askins, M.D., Tamara Hershey, M.A., Mark E. Bardgett, Ph.D., John G. Csernansky, M.D.

NR233 Diagnosis of Affective and Schizophrenic Disorders in Adult and Adolescent of First Admission Patients
Shmuel Fennig, M.D., Gabrielle Carlson, M.D., Evelyn J. Bromet, Ph.D., Beatrice M. Kovasznay, M.D.

NR234 Facility Versus Research Diagnosis in First Admission Sample
Shmuel Fennig, M.D., Thomas J. Craig, M.D., Evelyn J. Bromet, Ph.D., Beatrice M. Kovasznay, M.D.

NR235 Sex Concordance in Icelandic and British Families
Rob Butler, M.B., Tonmoy Sharma, M.B., Hugh Gurling, M.B., J. Brynjolfsson, T. Sigmundsson, T. Read, P. Murphy

NR236 Alprazolam-Neuroleptic Treatment of Schizophrenia
Owen M. Wolkowitz, M.D., Debra Harris, M.D., Neil G. Turetsky, M.A., Victor I. Reus, M.D., Ron Johnson, Ph.D., Mark Gustafson, R.N., Scott Espinoza, Frederick Petty, M.D., Thomas B. Cooper, M.A., Yvette Sheline, M.D., William A. Hargreaves, Ph.D.

NR237 Incidence of EPS with Risperidone Compared with Haloperidol and Placebo in Patients with Chronic Schizophrenia
Jean-Pierre Lindenmayer, M.D., The Risperidone Study Group

NR238 Stability of a New Five Factor Model of Schizophrenia
Jean-Pierre Lindenmayer, M.D., Sandra Grochowski, B.A., The Risperidone Study Group

NR239 Superior Temporal Gyrus Volume in Schizophrenia
Henry A. Nasrallah, M.D., Robert Martin, B.S., Olivia Chu, B.S., Stephen C. Olson, M.D., Mary B. Lynn, M.A.

NR240 Ketamine Interactions with Lorazepam in Humans
John H. Krystal, M.D., Laurence P. Karper, M.D., Anissa Abi-Dargham, M.D., Deepak Cyril D'Souza, M.D., Richard C. Delaney, Ph.D., Malcolm B. Bowers, Jr., M.D., Dennis S. Charney, M.D.

NR241 Multi-Family Groups in Schizophrenia
William R. McFarlane, M.D., Ellen Lukens, M.P.H., Bruce Link, Ph.D., Robert Dushay, Ph.D., Susan A. Deakins, M.D.

NR242 Magnetic Resonance Temporal Lobe Alterations in Schizophrenia
Martha E. Shenton, Ph.D., Ron Kikinis, M.D., Cynthia G. Wible, Ph.D., Hiroto Hokama, M.D., Ferenc A. Jolesz, M.D., Robert W. McCarley, M.D.

NR243 Monozygotic Twins Discordant for Schizophrenia and Immunological Variation
Angelo Sambunaris, M.D., Henrietta Kulaga, Ph.D., E. Fuller Torrey, M.D., David Glovinsky, M.D., Richard Jed Wyatt, M.D., Darrell G. Kirch, M.D.

NR244 Dorsal/Venral Prefrontal Lobe in Schizophrenia: An MRI Study
Cynthia G. Wible, Ph.D., Martha E. Shenton, Ph.D., Hiroto Hokama, M.D., R. Kikinis, M.D., Robert W. McCarley, M.D.

NR245 The Dopamine-Serotonin Ratio and Its Relationship to Clozapine
Sally R. Szymanski, D.O., Jeffrey A. Lieberman, M.D., Simcha Pollack, Ph.D., Rafael Munne, M.D., Allan Safferman, M.D., Daniel S. Umbricht, M.D.

NR246 Leucotec: A Test for Agranulocytosis with Clozapine Patients?
Gordon W. MacEwan, M.D., David V. Godin, Ph.D., Maureen E. Garnett, M.Sc., Sung H. Pyo, Gregory S. Anderson

NR247 Analogues of Monkey Prefrontal Cortex Tasks in Schizophrenia
Richard S.E. Keefe, Ph.D., Cynthia Blum, Ph.D., Denise M. Merhige, B.A., Sonia E. Lee, B.A., Deborah M. Zolot, B.A., Michael Davidson, M.D., Philip D. Harvey, Ph.D., Kenneth L. Davis, M.D.

NR248 Caudate Increases in First-Episode Schizophrenia
Miranda H. Chakos, M.D., Jeffrey A. Lieberman, M.D., Robert M. Bilder, Ph.D., Gail Lerner, M.S., Berhard Bogerts, M.D., Manzar Ashtari, Ph.D.

NR249 Treatment Response, VBR and Clinical Aspects in Schizophrenia
Miklos F. Losonczy, M.D., Joseph M. Macaluso, M.D., Michael Davidson, M.D., Ede Frecska, M.D., Ling Guo, M.D., Kenneth L. Davis, M.D.

NR250 Hippocampal Lesions and Dopamine Receptor Density
Bruce D. Perry, M.D., Daniel J. Luchins, Nestor Schmajuk

NR251 Age and Auditory P3 Abnormalities in Schizophrenia
Brian F. O'Donnell, Ph.D., Matthew O. Kimble, B.A., Robert W. McCarley, M.D., Dean F. Salisbury, Ph.D., Robert S. Smith, M.A., Martha E. Shenton, Ph.D.

NR252 SPECT Activation Study of The P300 Paradigm
Patrick E. Barta, M.D., Gordon J. Harris, Ph.D., Godfrey D. Pearlson, M.D., Eric Schwartz

NR253 Familial Schizophrenia and Neuropsychology
Frederic J. Sautter, Ph.D., Barbara E. McDermott, Ph.D., Alec Wilson, Ph.D., John Cornwell, Ph.D., F. William Black, Ph.D., Alicia Borges, B.A., Jan Johnson, M.D., Patrick O'Neill, M.D.

NR254 Effects of Clozapine on Cognitive Function
Anne L. Hoff, Ph.D., Mary Weineke, Ph.D., Diana DeVilliers, Ph.D., Scott R. Espinoza, R.A., Mark W. Gustafson, R.N., Robert D. Mone, M.A.

NR255 Three Syndromes Concept of Schizophrenia: A Factor Analytic Study
Ashok K. Malla, M.B., Ross M.G. Norman, Ph.D., Peter Williamson, M.D., Leonard Cortese, M.D., Fernando Diaz, M.D.

NR256 Lateral Frontal Cortex and Clozapine Response
William G. Honer, M.D., G.N. Smith, Ph.D., J.S. Lapointe, M.D., M. Lang, B.A., L. Kopala, M.D., S. Altman, M.D., Gordon W. MacEwan, M.D.

NR257 Schizophrenic Premorbid Adjustment: Brain Indices
James J. Levitt, M.D., Brian F. O'Donnell, Ph.D., Robert W. McCarley, M.D., Paul G. Nestor, Ph.D., E. Shenton, Ph.D., Jennifer E. Haimson, B.A.

NR258 Subjective Reasons for Drug Use in a Schizophrenic Population
J. Meg Racenstein, M.A., Andrew L. Shaner, M.D., Thad A. Eckman, Ph.D.

NR259 Left Temporal Lobe Abnormalities in Schizophrenia
Paul G. Nestor, Ph.D., Martha E. Shenton, Ph.D., Brian F. O'Donnell, Ph.D., Robert W. McCarley, M.D., Matthew O. Kimble, B.A., Jennifer E. Haimson, B.A.

NR260 Reference Performance in Parents of Schizophrenics
Nancy M. Docherty, Ph.D.

NR261 Affect and Schizophrenic Phenomenology
Paul M. Ramirez, Ph.D., Lewis A. Opler, M.D., David Klahr, M.D.

NR262 Phenomenology, Neuroleptic Medication and Cognition
Paul M. Ramirez, Ph.D., Lewis A. Opler, M.D., Elkhonon Goldberg, Ph.D., Jack M. Gorman, M.D., David Klahr, M.D.

NR263 Brain Morphology in Schizophrenics and Their Siblings
Stephen C. Olson, M.D., Henry A. Nasrallah, M.D., Mary B. Lynn, M.S.

NR264 Benzodiazepine Maintenance in Schizophrenia
Neil G. Turetsky, M.A., Owen M. Wolkowitz, M.D., Victor I. Reus, M.D., William A. Hargreaves, Ph.D.

NR265 Validity of Subjective History in Schizophrenia
Michael A. Flaum, M.D., William H. Hubbad, M.A., Sanjay Gupta, M.D., Stephan V. Arndt, Ph.D., Nancy C. Andreasen, M.D.

NR266 Substance Abuse and Treatment Resistant Schizophrenia: Implications for Clozapine Therapy
Peter Buckley, M.D., Herbert Y. Meltzer, M.D.

NR267 Soft Signs, Attention and Startle Regulation in Schizophrenia
Laurence P. Karper, M.D., Louise Brenner, R.N., Glenna Freeman, B.S., Paul Lysaker, Ph.D., Morris Bell, Ph.D., C.A. Morgan III, M.D., Joseph Beam-Goulet, M.S., Dennis S. Charney, M.D., John H. Krystal, M.D.

NR268 Pre-Pulse Inhibition and Attention in Schizophrenia
Laurence P. Karper, M.D., Glenna Freeman, B.S., C.A. Morgan III, M.D., Christian Grillon, Ph.D., Dennis S. Charney, M.D., John H. Krystal, M.D.

NR269 Weight Gain Associated with Clozapine Treatment of Schizophrenia
Tung-Ping Su, M.D., John Hsiao, M.D., Anil K. Malhotra, M.D., Robert E. Litman, M.D., Walter W., M.D., David Pickar, M.D.

NR270 Fibroblast Studies in First-Episode Psychoses
Sukdeb Mukherjee, M.D., Russell Scheffer, M.D., Sahebarao Mahadik, Ph.D., Elaine Correnti, M.D., Marshall A. Guill, M.D., C. Mohan Wakade, M.B.

NR271 Familial Factors in Age of Onset in Schizophrenia
Beryl J. Nielsen, M.S.W., Linda C. Lucas, M.S.W., Robert D. Mone, M.A., Mark W. Gustafson, R.N., Anne L. Hoff, Ph.D.

NR272 Dysphoria and Symptomatology in Schizophrenia
Ross M. G. Norman, Ph.D., Ashok K. Malla, M.D.

NR273 Long-Term Safety of Risperidone in Patients with Chronic Schizophrenia
John S. Carman, M.D.

NR274 Positive/Negative Syndromes and Neuropsychological Scores in Children and Adolescents
Joel H. Fields, M.D., Sandra Grochowski, B.A., Jean-Pierre Lindenmayer, M.D., Abraham Fiszbein, M.D.

NR275 Gender Differences in Pathways to Homelessness
Carol L.M. Caton, Ph.D., Patrick Shrout, Ph.D., Paula F. Eagle, M.D., Francine Cournos, M.D., Frederic I. Kass, M.D., Lewis A. Opler, M.D.

NR276 The Pathophysiology of Hallucinated Voices
Ralph E. Hoffman, M.D., Jill Rapaport, B.A., Rezvan Ameli, Ph.D., Thomas H. McGlashan, M.D., Diane Harcherik, M.S., David Servan-Schreiber, M.D.

NR277 Cocaine and Alcohol Abuse in Schizophrenia
William B. Lawson, M.D.

NR278 Cingulate Gyrus and Schizophrenia
I-Han Chou, Martha E. Shenton, Ph.D., Francine M. Benes, M.D., Ron Kikinis, M.D., Ferenc A., M.D., Robert W. McCarley, M.D.

NR279 Auditory Mismatch Negativity in Schizophrenia
Hiroto Hokama, M.D., Brian F. O'Donnell, Ph.D., Robert W. McCarley, M.D., Dean F. Salisbury, Ph.D., Matthew O. Kimble, B.A., Paul G. Nestor, Ph.D.

NR280 Pharmacokinetic and Pharmacodynamic Evaluation of Divalproex Sodium for Treatment of Bipolar Disorder
Ann Hsu, Ph.D., Richard G. Granneman, Ph.D., Lyinn Chung, Ph.D., Molly Blake, M.S., Andrew, M.D.

NR281 Influence of Clozapine on Polydipsia and Hyponatremia
Robert A. Leadbetter, M.D., Nickie Spears, M.D., Michael S. Shutty, Ph.D.

NR282 Projections From Rat Entorhinal Cortex to Striatum
David M. Finch, Ph.D., John Gigg, Ph.D., Aiko M. Tan, B.Sc., Joseph P. Kosoyan, Ph.D.

NR283 Visual Attention and Schizophrenic Symptoms
Jean M. Addington, Ph.D., Donald E. Addington, M.D.

NR284 Symptom Stability in Geriatric Schizophrenia
Katherine M. Putnam, M.A., Philip D. Harvey, Ph.D., Michael Davidson, M.D., Leonard White, Ph.D., Michael Parrella, Ph.D., Kenneth L. Davis, M.D.

NR285 Soft Neurological Signs and Minor Physical Anomalies in Schizophrenia
Nigel M. Bark, M.D., Sandra Grochowski, B.A., Jorge Barros-Beck, M.D., Jean-Pierre Lindenmayer, M.D., Gail Silipo, M.A., Denize DA. Silva, M.D.

NR286 Evaluation of Functioning in Schizophrenia: Data Regarding the Validity of a New Scale
Mark H. Rapaport, M.D., James J. Bazzetta, M.A., Sidney Zisook, M.D., Tony Santucci, R.N., Shirley Bruce, R.N., David Pickar, M.D.

NR287 Polydipsia Does not Cause ADH Defects in Psychosis
Morris B. Goldman, M.D., Daniel J. Luchins, M.D., Gary L. Robertson, M.D., Don Hedeker, Ph.D., Robert C. Marks, M.D.

NR288 Rape and Attempted Rape in Women with Schizophrenia and Bipolar Disorder
Jean-Michel Darves-Bornoz, M.D., Andree Degiovanni, M.D., Therese Lemperiere, M.D.

NR289 Schizophrenia, Interleukin-1b, KALIG-1 and Dopamine D2 Receptors
Murray A. Cowen, M.D., Maurice Green, M.D.

NR290 Attentional Disorders in Schizophrenia: First Results of a Comparative Study Using Computerized Tests
Jean-Georges Rohmer, M.D., Blandine Kastler, Frederic Khidichian, Francois Biringer, Barbu Dumitresco, Michel Patris

NR291 Appraisal and Coping with Stress in Schizophrenics
Joseph Ventura, M.A., Keith H. Nuechterlein, Ph.D., Irwin Rosenfarb, Ph.D.

NR292 M-CPP Effects on Cortical Blood Flow in OCD
Eric Hollander, M.D., Lisa J. Cohen, Ph.D., Isak Prohovnik, Ph.D., Michael Hwang, M.D., Concetta M. Decaria, M.S., Michael R. Liebowitz, M.D.

NR293 PET Study of OCD During Symptom Provocation
Scott L. Rauch, M.D., Michael A. Jenike, M.D., Nathaniel Alpert, Ph.D., Lee Baer, Ph.D., Hans C.R. Breiter, M.D., Alan J. Fischman, M.D.

NR294 MRI Studies of Gyral Anatomy in Neuropsychiatry
Christiana M. Leonard, Ph.D., John M. Kuldau, M.D., Kytja Voeller, M.D., Janice Honeyman, Ph.D., Frank Agee, M.D., Anthony A. Mancuso, M.D.

NR295 MRI Reveals Cerebral Anomalies in Patients with Generalized Resistance to Thyroid Hormone
Christiana M. Leonard, Ph.D., Edythe Wiggs, Ph.D., Steve An, Bruce D. Weintraub, M.D., Peter Hauser, M.D.

NR296 Cerebral Perfusion in Early and Late Opiate Withdrawal: A Tc-99m- Exametazime SPECT Study
Judith S. Rose, M.D., Marc Branchey, M.D., Kenya Chasten, A.R.R.T., Albert Werrell, M.D., Morelly Maayan, M.D.

NR297 Blunted Cerebral Blood Flow Response to Procaine in Mood
Terence A. Ketter, M.D., Paul J. Andreason, M.D., Mark S. George, M.D., Peggy J. Pazzaglia, M.D., Lauren B. Marangell, M.D., Robert M. Post, M.D.

NR298 Reduced Resting Frontal Lobe Cerebral Blood Flow in Mood Disorders
Terence A. Ketter, M.D., Paul J. Andreason, M.D., Mark S. George, M.D., Lauren B. Marangell, M.D., Peggy J. Pazzaglia, M.D., Robert M. Post, M.D.

NR299 Age and Cerebral Metabolism in ADHD
Monique Ernst, M.D., Alan J. Zametkin, M.D., John A. Matochik, Ph.D., Laura L. Liebenauer, B.S., Glinda A. Fitzgerald, B.A., Robert M. Cohen, M.D.

NR300 1H MRS in Hepatic Encephalopathy
Sandra A. Jacobson, M.D., Truda K. Shonk, B.S., James Drogescu, M.D., Rex A. Moats, Ph.D., Thomas Ernst, Ph.D., Brian D. Ross, M.D.

NR301 Emotional Word Activation of Psychopaths Using SPECT
Joanne R. Intrator, M.D., David Dorfman, Ph.D., John Keilp, Ph.D., David Bernstein, Ph.D., Leonard Handelsman, M.D., Robert Hare, Ph.D., Peter Stritzke, Ph.D.

NR302 Post-Haloperidol rCBF: Schizophrenic Versus Normals
Ron G. Goldman, M.D., Zvi Zemishlany, M.D., Isak Prohovnik, Ph.D., Gene E. Alexander, Ph.D., Sukdeb Mukherjee, M.D., Harold A. Sackeim, Ph.D.

NR303 Regional Cerebral Blood Flow and Negative Symptoms in Schizophrenia
Zvi Zemishlany, M.D., Gene E. Alexander, Ph.D., Isak Prohovnik, Ph.D., Ron G. Goldman, M.D., Sukdeb Mukherjee, M.D., Harold A. Sackeim, Ph.D.

NR304 D2 Receptor PET Sex Differences in Schizophrenia
Larry E. Tune, M.D., Dean F. Wong, M.D., Godfrey D. Pearlson, M.D., Tawnya Cooper, B.A., Henry N. Wagner, Jr., M.D.

NR305 Involuntary Head Movements in Supine Subjects
William C. Wirshing, M.D., Joel Cho, B.S., Robert Moghimi, George Bartzokis, M.D., William H. Oldendorf, M.D., Donna Ames, M.D.

NR306 Fluoxetine and Cerebral Glucose Metabolism
Edwin H. Cook, Jr., M.D., John Metz, Ph.D., Miriam Lebovitz, Malcolm D. Cooper, M.D., Sabrina A. Semerdjian, Bennett L. Leventhal, M.D.

NR307 MRI Suggests Increased Brain Iron in Alzheimer's Disease
George Bartzokis, M.D., David Sultzer, M.D., Jim Mintz, Ph.D., Peter Marx, B.S., C. Kelly Phelan, M.D., Stephen Marder, M.D.

NR308 State Changes in Brain Activity Shown by the Uptake of 99mTc- Exametazime with SPECT in Major Depression Before/After Treatment
Guy M. Goodwin, M.D., Marie-Paule Austin, M.D., Klaus Ebmeier, M.D.

NR309 The Dopamine in Schizophrenia: A Six 18F-DOPA PET Study
Ahmed M. Elkashef, M.D., Doris Doudet, Ph.D., Robert M. Cohen, Ph.D., Richard Jed Wyatt, M.D.

NR310 Genetic Analysis of a Genealogical Reconstruction
Micheline Tremblay, M.D., Marc De Braekeleer, M.D., Jacques Thivierge, M.D.

NR311 Co-Segregation of Mood Disorder and Darier's Disease
Nick J. Craddock, M.D., Mike Owen, M.D., Susan M. Burge, M.D., Peter McGuffin, M.D.

NR312 Visual Field Anomalies in Neuropsychiatric Disorder
Herbert A. Schreier, M.D., Jay Enoch, Ph.D., Luiza Barosa, M.D.

NR313 Symptoms Which Distinguish Between Bipolar I and II Disorders
Sylvia G. Simpson, M.D., Francis J. McMahon, M.D., Susan E. Folstein, M.D., J. Raymond DePaulo, Jr., M.D.

NR314 Maladaptive Denial of Physical Illness: A New Diagnosis Proposed for DSM-IV
Philip R. Muskin, M.D., Tovah Felthammer, M.D., Janice Gelfand, M.D., David H. Strauss, M.D.

NR315 Validating DSM-IV Schizophrenia
William S. Edell, Ph.D., Thomas H. McGlashan, M.D., Kathy Garnet, M.A., Kenneth N. Levy, B.A., Ernesto Roederer, M.D., Daniel Becker, M.D., Helen Sayward, M.S.

NR316 Neuropsychological Test Results in BPD Inpatients
Constance J. Carpenter, Ph.D., James M. Gold, Ph.D., Wayne S. Fenton, M.D.

NR317 Differential Diagnosis of Adult ADHD
Sheldon Benjamin, M.D., Ceil Mikalac, M.D.

NR318 Instability of Adolescent Psychiatric Diagnoses
Jonathan J. Fleischacker, B.A., William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

NR319 Comorbidity in Axis I and Axis II in Inpatients
Donald Quinlan, Ph.D., Thomas H. McGlashan, M.D., William S. Edell, Ph.D., David Greenfeld, M.D.

NR320 Treating Depression: A Comparison of Two Modalities of Cognitive Therapy, Pharmacotherapy and No Intervention
Avner Elizur, M.D., Yona Teichman

NR321 Chronic Fatigue Syndrome in Psychiatric Patients
Gregory W. Mattingly, M.D., Richard Anderson, M.D.

NR322 Do Clinics Target Comorbid Depression and Anxiety?
Phebe M. Tucker, M.D., Edward Beckham, Ph.D., Alfretia Scarborough, M.P.H.

NR323 Rhinotillexomania: Impulse Control Disorder or Habit?
James W. Jefferson, M.D., Trent D. Thompson, B.S.

NR324 Underrecognition of Dual Diagnosis
Samuel Weisman, M.A., Denise Hien, Ph.D., Michael First, M.D., Sheldon Zimberg, M.D.

NR325 Subtypes and Correlates in Dual Diagnosis Outpatients
Denise Hien, Ph.D., Michael First, M.D., Sheldon Zimberg, M.D., Richard Shindledecker, M.A., Allen J. Frances, M.D.

NR326 Accurate Diagnoses in Chronic State Inpatients
Cheryl K. Cantrell, M.D., Eric S. Cole, Ph.D.

NR327 Outcomes of Care: Managed Versus Nonmanaged Care
Ellen P. Fischer, Ph.D., Martin Lazoritz, M.D., G. Richard Smith, M.D., Kathryn Rost, Ph.D.

NR328 Survey of Personal and Institutional Influences on Child Psychiatry Research Careers
Patricia K. Leebens, M.D., David E. Walker, B.A., James F. Leckman, M.D.

NR329 Tetrahydrobiopterin in Brain Nitric Oxide Synthase
Kenneth L. Campos, M.D., John Giovanelli, Ph.D., Seymour Kaufman, Ph.D.

NR330 SF-36 Health Status Questionnaire Use in an Outpatient Setting
Jack D. Burke, Jr., M.D., Kimberly C. Burke, M.S., Jenny Hurt, B.S., Argye Hillis, Ph.D.

NR331 A Population-Based Study of Erectile Dysfunction
Laurel A. Panser, M.S., Hsing-Yi Chang, M.S., Cynthia J. Girman, M.S., Harry A. Guess, M.D., Christopher G. Chute, M.D., Michael M. Lieber, M.D., Joseph E. Oesterling, M.D.

NR332 The Longitudinal Course of PTSD
J. Douglas Bremner, M.D., Steven M. Southwick, M.D., Dennis S. Charney, M.D.

NR333 Depression as a Predictor of Abstinence Treatment
Norman S. Miller, M.D., Norman Hoffmann, Ph.D.

NEW RESEARCH

Tuesday, May 25, 1993, 3:00 p.m.-5:00 p.m.

New Research 7 – Poster Session – Rooms 105/106, Exhibit Level, Moscone Center

ANXIETY, DISSOCIATIVE AND EATING DISORDERS; AND ALCOHOL AND SUBSTANCE ABUSE

Moderator: David Pickar, M.D.

NR334 The Dramatic Cluster Dimensions and Validators
Joanne R. Intrator, M.D., Robert L. Trestman, M.D., Vivian Mitropoulou, M.A., Irene Lopez, B.A., Eyal Pavell, M.A., Elena Taurke, M.A., Larry J. Siever, M.D.

NR335 Increased Ventricular Brain Ratio in Schizotypal Personality Disorder
Larry J. Siever, M.D., Merril Rotter, M.D., Robert L. Trestman, M.D., Emil F. Coccaro, M.D., Miklos F. Losconzy, M.D., Kenneth L. Davis, M.D.

NR336 Analysis of Suicidality in a Trauma Database
Michael Blumenfield, M.D., William W. Witt, M.P.H., Daniel W. Byrne, M.S., William Stahl, M.D., Fred H. Moy, Ph.D., Gene C. Cayten, M.D.

NR337 Thyroid Disease Rates in Suicides and Accidents
Nicholas G. Ward, M.D., Sally Fitterer, M.D., Donald T. Reay, M.D.

NR338 A Double-Blind Randomized Multicentre Placebo Controlled Parallel Group Study of Paroxetine with Panic Disorder
Poul E. Christiansen, M.D., S. Ohrberg, M.D., K. Behnke, M.D., J.K. Ohstrom, M.D., R. Judge, M.B., P.M. Manniche, M.D., B. Severin, M.D., H. Callberg, M.D., J. Sogaard, M.D., A.L. Borup, M.D.

NR339 Cognitive-Behavioral Therapy for Benzodiazepine Discontinuation
Mark H. Pollack, M.D., Michael W. Otto, Ph.D., Samantha Meltzer-Brody, B.S., Jerrold F. Rosenbaum, M.D.

NR340 Anxiety Sensitivity and Response to CCK-4
Diana Koszycki, M.A., Brian Cox, M.A., Jacques Bradwejn, M.D.

NR341 Plasma Catecholamines and Autonomic Function in PTSD
Mark B. Hamner, M.D., Bruce I. Diamond, Ph.D.

NR342 Psychotic Symptoms in PTSD
Mark B. Hamner, M.D., Mark D. Fossey, M.D.

NR343 Treatment of Panic Disorder with Low Dose Clomipramine
Franklin R. Schneier, M.D., Laszlo A. Papp, M.D., Michael R. Liebowitz, M.D., Abby J. Fyer, M.D., Jeremy D. Coplan, M.D., Donald F. Klein, M.D.

NR344 Panic Disorder in the Cardiac Stress Laboratory
Cameron S. Carter, M.D., Richard Maddock, M.D., Michael Zoglio, M.D., Susan Jella, Ph.D., C. Lutrin, M.D., E. Amsterdam, M.D.

NR345 The Seasonality of PTSD
Veronika Solt, M.D., Chen-Jen Chen, M.D.

NR346 Postpartum Panic in Women with Pre-Existing Panic Disorder
Lee S. Cohen, M.D., Deborah Sichel, M.D., Jacqueline Dimmock, B.S., Jerrold F. Rosenbaum, M.D.

NR347 Benzodiazepine Treatment of Veterans with PTSD
Mark D. Fossey, M.D.

NR348 Lactate Diminishes Respiratory Sinus Arrhythmia
Vikram K. Yeragani, M.D., K. Srinivasan, M.D., Robert Pohl, M.D., Richard Balon, M.D., Richard Berchou, Pharm.D.

NR349 Multicenter Findings in Generalized Anxiety Disorder: Efficacy and Safety of Ipsapirone and Lorazepam Versus Placebo
Jerome F. Costa, M.D., Neal R. Cutler, M.D., John J. Sramek, Pharm.D., Jan M. Keppel Hesselink, M.D., Alice Krol, Julie Roeschen, Karl Rickels, M.D., Edward Schweizer, M.D.

NR350 MRI and EEG Brain Abnormalities in Panic Disorder
Karl Dantendorfer, M.D., Daniela Wimberger, M.D., Josef Kramer, M.D., Herwig Imhof, M.D., Heinz Katschnig, M.D., Peter Berger, M.D.

NR351 Standardization of Assessment in Panic Disorder
M. Katherine Shear, M.D., Jack Maser, Ph.D.

NR352 Life Events and the Corticotropin Releasing Factor Test in Panic Disorder
Dominique Servant, M.D., Daniel Bailly, M.D., Didier Dewailly, M.D., Regis Beuscart, M.D., Philippe Jean Parquet, M.D.

NR353 Dizziness, Panic and Vestibular Abnormalities
Duncan B. Clark, M.D., Rolf G. Jacob, M.D., Melinda Smith, B.A., Barry Hirsch, M.D., Joseph M.R. Furman, M.D.

NR354 Controlled Study of Eye Movement Desensitization and Reprocessing Treatment for PTSD
Roger K. Pitman, M.D., Scott P. Orr, Ph.D., Bruce Altman, Psy.D., Ronald E. Longpre, Psy.D., Roger E. Poire, Psy.D., Natasha B. Lasko, Ph.D.

NR355 Social Phobia in Suicide Attempters
Mocrane Abbar, M.D., Jean-Michel Chignon, M.D., M.C. Picot, M.D., Y. Caer, M.D., L. Schenk, M.D., D. Castelnau, M.D.

NR356 The Efficacy of Sertraline and Behavior Therapy in Adolescents with Treatment Resistant OCD
Hugh F. Johnston, M.D., J. Jay Fruehling, M.L.S.

NR357 Instructional Set in Panic Disorder
Laszlo A. Papp, M.D., Jose Martinez, M.A., Donald F. Klein, M.D., Jack M. Gorman, M.D.

NR358 Psychopathology in Children of Panic Disorder Patients
Eve D. Richer, Psy.D., Charlotte M. Zitrin, M.D., Laszlo A. Papp, M.D.

NR359 Assessment of Insight in Obsessions and Delusions
Jane L. Eisen, M.D., Katharine A. Phillips, M.D., Douglas Baer, M.D., Steven A. Rasmussen, M.D., Wayne K. Goodman, M.D.

NR360 REM Sleep in Veterans with PTSD and Depression
Bruce M. Dow, M.D., J. Christian Gillin, M.D.

NR361 A Study of Defense Mechanisms in Panic Disorder
Fredric N. Busch, M.D., Arnold M. Cooper, M.D., Theodore Shapiro, M.D., M. Katherine Shear, M.D., Andrew Leon, Ph.D., Amy L. Bloch, M.D.

NR362 Eye Movements in OCD
Stefano Pallanti, M.D., Carlo Faravelli, M.D., Lorella M. Grecu, M.D., Pier Luigi Cabras, M.D., Pier Franco Gangemi, M.D., Stefano Massi, M.D., Alessandro Parigi, M.D., G. Zaccara, M.D., Carlo Faravelli, M.D.

NR363 Nociception in Trichotillomania
Gary A.H. Christenson, M.D., Nancy C. Raymond, M.D., Patricia L. Faris, Ph.D., Robin D. McAllister, M.D., James E. Mitchell, M.D.

NR364 Monthly Follow-Up Study of Patients with GAD
James G. Barbee, M.D., Mark H. Townsend, M.D., Don Mercante, Ph.D.

NR365 Platelet Serotonin 2 and Serotonin Uptake Sites in OCD
William A. Hewlett, M.D., Fan Ching, M.D.

NR366 Improved Discrimination of Anxiety and Depression
Thomas A.M. Kramer, M.D., John B. Jolly, Psy.D., Karen Rousch, B.S., Janet M. Jolly, Laura Simpson, B.S.

NR367 Predictors of Treatment Response in Panic Disorder
Donald W. Black, M.D., Robert B. Wesner, M.D., Janelle Gabel, R.N., Wayne Bowers, Ph.D., Patrick Monahan, B.A.

NR368 Value of the Generalized Anxiety Disorder Symptoms
Vladan Starcevic, M.D., Stephanie Fallon, M.D., Eberhard H. Uhlenhuth, M.D.

NR369 Is Irritable Bowel Syndrome Related to OCD?
Kevin W. Olden, M.D., Michael A. Jenike, M.D., Lee Baer, Ph.D., Sylvia S. Hom, M.P.H.

NR370 Telephone Behavior Therapy for Agoraphobia
Brian J. Cox, M.A., Karen Fergus, B.A., Richard P. Swinson, M.D., Kim Wickwire, B.Sc.

NR371 Family Function and Family Group Treatment in OCD
Barbara L. Van Noppen, M.S.W., Michele T. Pato, M.D., Steven Rasmussen, M.D., Richard Marsland, R.N.

NR372 PTSD in Cancer Survivors and Chronic Illness
Carol L. Alter, M.D., David Pelcovitz, Ph.D., Lori Gluck, B.A., Karen Goodman, Francine Mandel, Ph.D., Sandra J. Kaplan, M.D.

NR373 Combat Stress, Childhood Trauma, Coping and Adaptation
Dewleen G. Baker, M.D., Alice A. Clark, M.A., Sue Dyrenforth, Ph.D., Mary Grace, M.S., Mary Lieneck, M.A., Robert Welch, Ph.D.

NR374 Panic Disorder in a Homeless Population
Mark H. Townsend, M.D., Mary R. Stock, M.S.W., Irma J. Bland, M.D.

NR375 Comparative Assessment of OCD by Yale Brown Obsessive Compulsive Scale and Hamburg Obsession Compulsive Inventory
Nichole E. Munchau, Ph.D., Iver E. Hand, M.D., Heidrun Buttner-Westph, Ph.D.

NR376 Panic Disorder and PCO2 in Cardiac Stress Testing
Richard J. Maddock, M.D., Cameron S. Carter, M.D., Ezra Amsterdam, M.D., Lisa Tavano, M.S., Michael Zoglio, M.D., Susan Jella, Ph.D.

NR377 Behaviorally Oriented Self-Help Groups for OCD
Iver E. Hand, M.D., Nichole E. Munchau, Ph.D., Ralf Schaible, Ph.D.

NR378 Axis I and Axis II Comorbidity in Hospitalized Adolescent Females with Anxiety Disorders
Roger C. Burket, M.D., Wade C. Myers, M.D.

NR379 Sexual and Physical Abuse in Anxiety Disorders
Catherine Mancini, M.D., Michael Van Amerigen, M.D., Mary Helen Blackall, R.N., Lara Kubilius, B.A., Harriet MacMillan, M.D.

NR380 The TRH Test and Basal Hormones in Dissociation
Mark H.N. Corrigan, M.D., J. Garbutt, M.D., M. Senger, M.A., E. Ilgen, M.S.W., L. Miller, M.A., C. Sears, B.A.

NR381 Gender Issues in Dissociative Disorders
Daniel R. Schiele, M.D., Lynda Bjornson, Ph.D., Claudia Freihofer, Ph.D., Colin Ross, Ph.D., James Springfield, M.S.

NR382 Obsessions and Compulsions in Eating Disorders
Theodore E. Weltzin, M.D., Katherine Plotnicov, Ph.D., Cynthia Bulik, Ph.D., Shira Neuberger, Walter H. Kaye, M.D.

NR383 Eating Disorders in Subjects with Cystic Fibrosis
Nancy C. Raymond, M.D., Scott Crow, M.D., Pi-Nian Chang, Ph.D., James E. Mitchell, M.D., Ross D. Crosby, Ph.D.

NR384 Pain Thresholds in Obese Binge Eating Subjects
Nancy C. Raymond, M.D., Martina Dezwaan, M.D., Patricia Faris, Ph.D., Sean Nugent, B.S., James E. Mitchell, M.D.

NR385 The Role of Bombesin-Like Peptides in Food Intake
James Gibbs, M.D., Tim C. Kirkham, Ph.D., Gerard P. Smith, M.D.

NR386 Predictors of Relapse in Bulimia Nervosa
Marion P. Olmsted, Ph.D., Allan S. Kaplan, M.D.

NR387 One-Year Follow-Up in Bulimic Patients
Howard Steiger, Ph.D., Stephen Stotland, Ph.D.

NR388 Prognostic Implications of Stable Versus Transient Borderline Features in Bulimic Patients
Howard Steiger, Ph.D., Stephen Stotland, Ph.D.

NR389 Eating Disorders: Dissociation and Essential Behaviors
Kimberli E. McCallum, M.D.

NR390 Illness Beliefs and Expectations in Bulimia Nervosa
David S. Goldbloom, M.D., Marion Olmsted, Ph.D., Ron Davis, Ph.D., Brian Shaw, Ph.D., Janet Clewes, Ph.D.

NR391 Seasonal Symptom Patterns in Eating Disorders
Raymond W. Lam, M.D., Elliot M. Goldner, M.D.

NR392 Compulsive Exercising in Eating Disorder Patients
Timothy D. Brewerton, M.D., Eileen J. Stellefson, R.D., Nancy Hibbs, R.D., E.L. Hodges, M.S.W., C.E. Cochrane, Ph.D.

NR393 Eating Disorder History in Women with OCD
Marijo B. Tamburrino, M.D., Rachel Kaufman, M.D., John Hertzer

NR394 Thyroid Disease in Eating Disordered and Depressed Patients
Richard C.W. Hall, M.D., Sally C. Hazard, Ph.D., Ryan C.W. Hall, Carlos A. Pacheco, M.D., Robert E. Blakey, M.D., Joy Abraham, M.D.

NR395 The Yale-Brown-Cornell Eating Disorders Scale
Steven J. Romano, M.D., Carolyn Mazure, Ph.D., Suzanne Sunday, Ph.D., Katherine A. Halmi, M.D.

NR396 Alexithymia in Patients with Eating Disorders
Jose L. Ayuso-Gutierrez, M.D., Jose L. Ayuso-Mateos, M.D., Enrique Baca, M.D.

NR397 Potential Role of IL-6 and Transforming Growth Factor-B in Anorectics
Elke D. Eckert, M.D., Claire Pomeroy, M.D., Beth Eiken, B.A., C. Chao, Ph.D., M. Mentink, B.S., S. Hu, M.D.

NR398 Thirty-Year Drinking Outcomes and Familial Comorbidity
Elizabeth C. Penick, Ph.D., Donald W. Goodwin, M.D., Joachim Knop, M.D., Per Jensen, Ph.D., William F. Gabrielli, M.D., Fini Schulsinger, M.D.

NR399 Alcohol and Liver Transplant: Long-Term Follow-Up
Thomas P. Beresford, M.D., R. Merion, M.D., M. Lucey, M.D.

NR400 Serotonin Agonist m-CPP Decreases Cocaine Craving
Marc H. Branchey, M.D., Laure B. Buydens-Branchey, M.D., Paul Fergeson, M.A.

NR401 Benefit of Psychiatric Care for Dual Diagnosis
Andrew J. Saxon, M.D., Donald A. Calsyn, Ph.D.

NR402 Intravenous Clomipramine for OCD
Lorrin M. Koran, M.D., Carlo Faraelli, M.D., Stefano Pallanti, M.D.

NR403 Opiate Dose and Cocaine Effect on Withdrawal
Susan M. Stine, M.D., Thomas R. Kosten, M.D.

NR404 Dopamine Agonists Sensitize c-fos Expression
Andrew B. Norman, Ph.D., Jennifer M. Klug, B.S., Sunny Y. Lu, M.D., Eugene Somoza, M.D.

NR405 Carbamazepine in the Treatment of Cocaine Abuse
Ross D. Crosby, Ph.D., James A. Halikas, M.D., Nina M. Graves, Pharm.D., Victoria L. Pearson, M.T., Gregory A. Carlson, B.A.

NR406 Psychopathology in Outpatient Cocaine Abusers
Ross D. Crosby, Ph.D., James A. Halikas, M.D., Sean M. Nugent, B.A., Victoria L. Pearson, M.T., Gregory A. Carlson, B.A.

NR407 Quality of Life in Patients Treated for Alcohol Abuse
Patrick Martin, Pharm.D., Jean-Michel Chignon, M.D., Eric Souetre, M.D., Catherine Dissoubray, M.D., Jean Ades, M.D.

NR408 Dopamine Transporter mRNA in Prenatal Cocaine Exposure
Andrea De Bartolomeis, M.D., Mark C. Austin, Ph.D., Linda P. Spear, Ph.D., David Pickar, M.D., Jacqueline N. Crawley, Ph.D.

NR409 Improving Outcome: Matching Patients to Treatment Setting
Helen M. Pettinati, Ph.D., Bradley D. Evans, M.D., Charles Ruetsch, M.S., F. Kaplan, B.A.

NR410 Alcohol and Cocaine Dependence: Diagnostic Severity
Helen M. Pettinati, Ph.D., Charles Ruetsch, M.S., Gina B. Byrnes, B.A., Jacqueline Jensen, M.A., George E. Woody, M.D.

NR411 Antisocial Personality and Cocaine Dependence
Jorge Leal, M.D., Douglas M. Ziedonis, M.D., Thomas R. Kosten, M.D.

NR412 Alcoholic Versus Non-Alcoholic Major Depressives
Jack R. Cornelius, M.D., Ihsan M. Salloum, M.D., Juan E. Mezzich, M.D., Marie D. Cornelius, Ph.D., Joan G. Ehler, M.D., Richard F. Ulrich, M.S.

NR413 Gender Differences in Substance Use Disorders
Kathleen T. Brady, M.D., Dorothy Grice, M.D., Lorraine Dustan, M.D., Carrie Randall, Ph.D.

NR414 Fluoxetine for Cocaine Abuse: Depression and Antisocial Personality Disorder
Steven L. Batki, M.D., Allyson M. Wasburn, Ph.D., Luisa B. Manfredi, M.P.H., Mark D. Herbst, M.D., Jennifer Murphy, R.T. Jones, M.D.

NR415 Irregular Discharges on a Dual Diagnosis Unit
William M. Greenberg, M.D., Juan Otero, M.A., Linda Villanueva, M.D., Hubert J. Moran, B.A.

NR416 Alcohol Withdrawal in Elderly and Younger Patients
Kirk J. Brower, M.D., Sharon A. Mudd, M.S., Frederic C. Blow, Ph.D., James P. Young, M.S., Elizabeth M. Hill, Ph.D.

NR417 Buprenorphine: Reduced Dosing Frequency
Richard B. Resnick, M.D., Colette Pycha, M.S.N., Marc Galanter, M.D.

NR418 Prevalence of Alcohol Abuse in Head Injury
Paul A. Kettl, M.D.

NR419 Beer Advertising, Spending and Amount of Drinking on Television
Paul A. Kettl, M.D., Michelle Sredy, M.D.

NR420 Euphorogenic Properties of m-CPP in Cocaine Addicts
Laure B. Buydens-Branchey, M.D., Marc H. Branchey, M.D., Paul Fergeson, M.A.

NR421 Opiate Addicts on LAAM Versus Methadone: Cocaine Use
Joan Kotun, M.D., Peter Barglow, M.D.

NR422 A Simple Objective Measure of Nicotine Craving in Psychiatric Patients
Neil Hartman, M.D., David Wine, Ph.D., Sid Gold, M.D., Stryder Lewis, B.A., Murray E. Jarvik, M.D.

NR423 Substance Abuse and Hallucinations
Kenneth N. Sokolski, M.D., Jeffrey L. Cummings, M.D., Edward M. Demet, Ph.D., Bruce I. Abrams, M.D., Lori Katz, Ph.D., Jerome L. Costa, M.D.

NR424 Cocaine and Marijuana Effects in Schizophrenia
Jeffrey N. Wilkins, M.D., David A. Gorelick, M.D., Andrew Shaner, M.D., David Y. Setoda, B.S., Valerie von Raffay, M.A., Douglas E. Tucker, M.D.

NR425 Tuberculosis Exposure in Substance Abusing Veterans: An Epidemiologic Profile
John T. Moranville, M.D., Bonnie S. Cook, R.N., Barbara J. Spahr, R.N.C.

NR426 A Pharmaco-Epidemiological Study Among Alcoholic Outpatients
Jean-Michel Chignon, M.D., Patrick Martin, Ph.D., Catherine Dissoubray, M.D., Jean Ades, M.D.

NR427 Cocaine and Alcohol Co-Abuse Impact on Physical Health
Ihsan M. Salloum, M.D., Juan E. Mezzich, M.D., Jack R. Cornelius, M.D., Dennis C. Daley, M.S.W.

NR428 Lethality Indicators in Cocaine and Alcohol Co-Abusers
Ihsan M. Salloum, M.D., Dennis C. Daley, M.S.W., Jack R. Cornelius, M.D., Juan E. Mezzich, M.D.

NR429 Affect Disturbance in Substance Abusing Veterans
Brian D. Higgins, M.S., David P. Bernstein, Ph.D., Leonard Handelsman, M.D., Laura Travaglini, M.A., Paul Rinaldi, M.A., Karen Holloway, M.D.

NR430 Psychiatric Diagnoses and Prenatal Care
Laura J. Bierut, M.D., Therese M. Grant, M.Ed., Ann P. Streissguth, Ph.D.

NR431 Axis II Correlates of Childhood Trauma
Joseph Ruggiero, M.A., David P. Bernstein, Ph.D., Laura Fink, Ph.D., Leonard Handelsman, M.D., Jeffery Foote, Ph.D., Meg Lovejoy, B.A.

NR432 Outmoded Treatments for Alcohol Detoxification
Elizabeth F. Howell, M.D., Francis J. Kane, Jr., M.D.

NR433 Serotonergic Challenges in Cocaine Addicts and Alcoholics
Leonard Handelsman, M.D., Karen Holloway, M.D., Iqbal Sheikh, M.D., Chris Sturiano, B.A., David Bernstein, Ph.D.

NR434 Substance Abuse, Comorbidity and Re-Injury Behavior After Trauma
Cheryl H. Cottrol, M.D., Richard J. Frances, M.D.

NR435 Comorbidity of Revolving Door Alcoholics
Kristinn Tomasson, M.D.

NR436 Neuroendocrine Profiles of Alcoholic Men
Eve J. Wiseman, M.D., Michael H. Creer, M.D.

NEW RESEARCH

Wednesday, May 26, 1993, 9:00 a.m.-10:30 a.m.

New Research 8 – Oral/Slide Session – Rooms 228/230, East Mezzanine, Moscone Center

SUBSTANCE ABUSE; PERSONALITY DISORDERS; AGGRESSION; EATING DISORDERS; AND MANAGED CARE

Chp.: Larry J. Siever, M.D.

NR437	Utilization Management: Effect on Inpatient Care A. Lawrence Rubin, M.D., Lee S. Cohen, M.D., Andre Jaeger, M.D., Marc Reitman, M.D., Andrew Levin, M.D., Arnold Mandelstam, M.D.	9:00 a.m.
NR438	Tryptophan Depletion Increases Binge Eating Theodore E. Weltzin, M.D., Madelyn Fernstrom, Ph.D., John Fernstrom, Ph.D., Shira Neuberger, Walter H. Kaye, M.D.	9:15 a.m.
NR439	Differential Biology of Aggression and Suicide Robert L. Trestman, M.D., Marie Devegvar, M.D., Emil F. Coccaro, M.D., Vivian Mitropoulou, M.A., Irene Lopez, B.A., Steven Gabriel, Ph.D., Larry J. Siever, M.D.	9:30 a.m.
NR440	Twin Study of Adult and Child Antisocial Criteria Michael J. Lyons, Ph.D., Lindon Eaves, D.Sc., Ming T. Tsuang, M.D., Seth Eisen, M.D., Jack Goldberg, Ph.D., William True, Ph.D.	9:45 a.m.
NR441	A Follow-Up Study of Antisocial Personality Disorder Donald W. Black, M.D., Connie Baumgard, BSN, Sue E. Bell, M.S.W.	10:00 a.m.
NR442	Nalmefene Modification of Alcohol Dependence: A Pilot Study Barbara J. Mason, Ph.D., Eva C. Ritvo, M.D., Fernando Salvato, M.D., Evan Zimmer, M.D., Gloria Goldberg, B.S., Bruce Welch, M.D.	10:15 a.m.

NEW RESEARCH

Wednesday, May 26, 1993, 9:00 a.m.-10:30 a.m.

New Research 9 – Oral/Slide Session – Rooms 232/234, East Mezzanine, Moscone Center

GERIATRICS/ORGANIC MENTAL DISORDERS

Chp.: Jeffrey A. Lieberman, M.D.

NR443	Polypharmacy and Hypoalbuminemia in Delirium Lesley R. Dickson, M.D., William Fisher, M.D.	9:00 a.m.
NR444	Subjective Memory Loss and Frontal Metabolism Gary W. Small, M.D., Anna Okonek, Ph.D., Mark A. Mandelkern, M.D., Asenath La Rue, Ph.D.	9:15 a.m.

NR445	Age, Gastric Function and Ethanol Metabolism Thomas P. Beresford, M.D., L. Demo-Dananberg, R.N., J. Schwartz, M.D., J. Young, M.A., E. Hill, Ph.D., M.R. Lucey, M.D.	9:30 a.m.
NR446	Brief and Ultrabrief Pulses in Unilateral ECT Jiri Pisvejc, M.D., Vaclav Hyrman, M.D., Jan Sikora, M.D., Alena Berankova, Ph.D.	9:45 a.m.
NR447	ECT in Depressed Patients with Cardiac Disease Davangere P. Devanand, M.D., Steven P. Roose, M.D., Robert J. Zielinski, M.D., Sally Woodring	10:00 a.m.
NR448	A Placebo-Controlled Trial of Fluoxetine in Geriatric Major Depression Gary D. Tollefson, M.D., Janet C. Bosomworth, B.S., John H. Heiligenstein, M.D., Ellen J. Schatz, B.S., Raymond Albritton, M.S.	10:15 a.m.

NEW RESEARCH

Wednesday, May 26, 1993, 12 noon-2:00 p.m.

New Research 10 – Poster Session – Rooms 105/106, Exhibit Level, Moscone Center

MOOD AND PERSONALITY DISORDERS; LLPDD; SUICIDE; WOMEN'S AND MEN'S ISSUES; COGNITIVE AND BEHAVIORAL THERAPIES; PRIVATE PRACTICE ISSUES; PSYCHIATRIC EDUCATION AND HISTORY; TREATMENT TECHNIQUES AND ISSUES; AND FORENSIC PSYCHIATRY

Moderator: Katherine A. Halmi, M.D.

NR449 Antidepressant Efficacy and Severity of Depression
Mary E. Sayler, M.S., Atul C. Pande, M.D., Charles M. Beasley, M.D., Gary D. Tollefson, M.D.

NR450 Abnormal B Lymphocyte Durinal Variation in Depression
John M. Petitto, M.D., James D. Folds, Ph.D., Michael Senger, M.A., Dwight L. Evans, M.D.

NR451 Morbidity with Bipolar Disorder
Kirk D. Denicoff, M.D., Kimberly Blake, B.A., Earlian Smith-Jackson, R.N., Paula Jacob, R.N., Robert M. Post, M.D.

NR452 Catecholamine Depletion in Treated Depressives
Pedro L. Delgado, M.D., Helen M. Miller, M.D., Ronald M. Salomon, M.D., George R. Heninger, M.D., Alan J. Gelenberg, M.D., Dennis S. Charney, M.D.

NR453 High-Dose Thyroxine Does Not Decrease Bone Density
Laszlo Gyulai, M.D., Tae-Yul Lew, M.D., Lisa Rubin, M.S.N., Sharon Younkin, B.A., Jurg Jaggi, Ph.D., Peter C. Whybrow, M.D.

NR454 Recurrent Brief Depression is Disabling
Yves Lecrubier, M.D., P. Boyer, M.D., E. Wellier, M.D., J.P. Lepine, M.D., C.H. Payan, M.D.

NR455 Clozapine in the Treatment of Refractory Acute Bipolar Mania
Jonathan O. Cole, M.D., Michael D. Banov, M.D., Alan Green, M.D., Mauricio Tohen, M.D., Jay Patel, M.D.

NR456 Antidepressants and Sexual Function in Depressed Men
Eric A. Nofzinger, M.D., Michael E. Thase, M.D., Charles F. Reynolds, M.D., Ellen Frank, Ph.D., J. Richard Jennings, Ph.D., David J. Kupfer, M.D.

NR457 Depression and Death Post-Myocardial Infarction
Francois Lesperance, M.D., Nancy Frasure-Smith, Ph.D., Mario Talajic, M.D.

NR458 Risk for Depression After Myocardial Infarction
Francois Lesperance, M.D., Nancy Frasure-Smith, Ph.D., Mario Talajic, M.D.

NR459 Anticipation in Bipolar Affective Disorder
Melvin G. McInnis, M.D., Francis J. McMahon, M.D., Gary A. Chase, Ph.D., Sylvia G. Simpson, M.D., Chris A. Ross, M.D., J. Raymond DePaulo, M.D.

NR460 A Double-Blind Comparison of Paroxetine and Amitriptyline in Community Patients with Depression and Associated Anxiety
P.C. Stott, M.B., M.D. Blagden, M.B., C.A. Altken, B.Sc.

NR461 Effects of Lithium on Lymphocyte cAMP Production
Emile D. Risby, M.D., Mark Stipetic, B.S., Neal Morgan, B.S., Timothy Ely, B.S.

NR462 Antidepressant Response to Paroxetine by Gender
Martin Steiner, Ph.D., David E. Wheadon, M.D., Margaret S. Kreider, Ph.D., William D. Bushnell, M.S.

NR463 The Impact of Negative Emotions After Heart Attack
Nancy Frasure-Smith, Ph.D., Francois Lesperance, M.D., Mario Talajic, M.D.

NR464 Social Factors and Depression After Heart Attack
Nancy Frasure-Smith, Ph.D., Francois Lesperance, M.D., Mario Talajic, M.D.

NR465 Double-Blind Study of Fluoxetine Adjuncts in Major Depressive Disorder
Maurizio Fava, M.D., Jerrold F. Rosenbaum, M.D., Sarah J. Grossbard, M.S., Patrick J. McGrath, M.D., Jonathan W. Stewart, M.D., Jay D. Amsterdam, M.D., Frederic M. Quitkin, M.D.

NR466 Low CSF CRH Concentrations in Depressed Patients
Thomas D. Geracioti, M.D., Peter T. Loosen, M.D., David N. Orth, M.D., Wendell E. Nicholson, B.S., Michael H. Ebert, M.D., Dennis Schmidt, Ph.D., Nosa N. Ekhator, M.S.

NR467 The Clinician Administered Rating Scale for Mania (CARS-M)
Edward G. Altman, Psy.D., Donald Hedeker, Ph.D., Philip G. Janicak, M.D., James L. Peterson, B.S., John M. Davis, M.D.

NR468 A Double-Blind, Parallel Group, Comparative Study of the Efficacy of Paroxetine and Placebo in Preventing Recurrence of Depression
Geoffrey C. Dunbar, M.D., Dr. S.A. Montgomery

NR469 Social Adaptation in Chronic Depression
Mary Moran, M.Ed., James H. Kocsis, M.D., John C. Markowitz, M.D., Richard Friedman, M.D.

NR470 Family Studies: Correlates of Diagnosis Reliability
Michel Maziade, M.D., Guy Lanctot, M.D., Jean-Pierre Fournier, M.D., Chantal Merette, Ph.D., Maria Martinez, Ph.D., Vincent Raymond, M.D.

NR471 Cerebral SPECT Findings in Depression
Russell G. Vasile, M.D., Richard B. Schwartz, M.D., Basem Garada, M.D., B. Leonard Holman, M.D., Joseph J. Schildkraut, M.D.

NR472 Depression Versus Borderline Symptom Levels with Age
Donald Quinlan, Ph.D., Thomas H. McGlashan, M.D., William S. Edell, Ph.D., David Greenfeld, M.D.

NR473 Effects of Sertraline Antidepressant Therapy on Quality of Life: A Double-Blind Trial
R. Bruce Lydiard, M.D.

NR474 Effect of Phototherapy on the QEEG in SAD Patients
Yutaka Ito, M.D., Martin H. Teicher, M.D., David Harper, B.S., Carol A. Glod, R.N.

NR475 Epiletoid Features, Mood Disorders and Psychopathology
Nutan Atre-Vaidya, M.D., Michael A. Taylor, M.D., V. Chowdary Jampala, M.D., J. Srinivasraghavan, M.D.

NR476 Alpha-Methyl-Para-Tyrosine in Drug-Free Depressed Patients
Helen L. Miller, M.D., Pedro L. Delgado, M.D., Ronald M. Salomon, M.D., Julio Licinio, M.D., Ma Li Wong, M.D., George R. Heninger, M.D., Dennis S. Charney, M.D.

NR477 Cortisol, Depression and Smoking Cessation
Victor I. Reus, M.D., Sharon Hall, Ph.D., Dorothy Ginesberg, Ph.D., Ricardo Munoz, Ph.D.

NR478 Sleep Deprivation and Nortriptyline in Depression
Richard C. Shelton, M.D.

NR479 Fluoxetine Versus Bupropion in Geriatric Depression
William J. Giakas, M.D., Helen L. Miller, M.D., John D. Hensala, M.D., Robert Rohrbaugh, M.D., Ronald M. Salomon, M.D., Julio Licinio, M.D., Dennis S. Charney, M.D., Pedro L. Delgado, M.D.

NR480 A Survey of Clinical Depression Rates Among Vietnamese-American Men in Three Communities
Ladson Hinton, M.D., Christopher Jenkins, M.A., Ladson Hinton, M.D., Stephen J. McPhee, M.D., Ching Wong, Ky Q. Lai, M.D., Anh Le, Nang Du, M.D., Don Fordham, M.P.H.

NR481 Depression Associated with Lorazepam and Ipsapirone Treatment in Generalized Anxiety Disorder
Jerome F. Costa, M.D., John J. Sramek, Pharm.D., Neal R. Cutler, M.D., Jan M. Keppel Hesselink, M.D., Randall D. Seifert, Pharm.D.

NR482 Down Regulation of the Platelet Alpha2-Adrenoceptor-Mediated Function
Felicien Karege, Ph.D., Philippe Bovier, M.D., Jean-Michel Gaillard, M.D.

NR483 Pupillary Response to Pilocarpine in Depression
Kenneth N. Sokolski, M.D., Edward M. Demet, Ph.D., Aleksandra Demet, Ph.D.

NR484 Depressed Mood and oCRH Test in Cushing's Disease
Monica N. Starkman, M.D., David E. Schteingart, M.D., M. Anthony Schork, Ph.D.

NR485 Major Depression and the Five-Factor Model of Personality
R. Michael Bagby, Ph.D., Russell T. Joffe, M.D., James D.A. Parker, Ph.D., Anthony J. Levitt, M.D., J. Regan, Ph.D.

NR486 Comorbid Patterns in Treatment Resistant Depression
Verinder Sharma, M.B., Dwight S. Mazmanian, Ph.D., Emmanuel Persad, M.B., Karen Kueneman, B.A.

NR487 Postpartum Depression and Perceptual Defense
Francois Borgeat, M.D., Jean-F. Saucier, M.D., Helene David, Ph.D., Marc Dumont, M.Ps.

NR488 Lithium Discontinuation in Seasonal Mood Disorder
Leonardo Tondo, M.D., Francesco Silvetti, M.D., Caterina Burrai, M.D.

NR489 Age and Personality Disorder Development
Thomas H. McGlashan, M.D., Donald Quinlan, Ph.D., William S. Edell, Ph.D., David Greenfeld, M.D.

NR490 Symptom Profiles: Depression and BPD
Thomas H. McGlashan, M.D., Donald Quinlan, Ph.D., William S. Edell, Ph.D., David Greenfeld, M.D.

NR491 Mixed Manic States and the Course of Manic Depressive Illness
Alan C. Swann, M.D., Stacy Silverman, Arif M. Shoaib, M.B., Steven C. Dilsaver, M.D.

NR492 Gender Differences in Bipolar Disorder
Dale A. D'Mello, M.D., John A. McNeil, M.D., Bhekumusa Msibi, B.Sc.

NR493 Seasons and Bipolar Disorder
Dale A. D'Mello, M.D., John A. McNeil, M.D., Bhekumusa Msibi, B.Sc.

NR494 D-Fenfluramine Induced Prolactin and Cortisol Release in Major Depression: Response to Treatment
Veronica O'Keane, M.B., Timothy G. Dinan, M.D., Declan McLoughlin, M.B.

NR495 Barbiturate Anticonvulsants in Refractory Affective Disorders
Stephen G. Hayes, M.D.

NR496 The Relationship Between DSM-III Personality and Drug Use Disorders in the Community
Jack F. Samuels, Ph.D., Gerald Nestadt, M.D., Alan J. Romanoski, M.D., Marshal F. Folstein, M.D., Paul R. McHugh, M.D.

NR497 Autosomal Dominant Transmission in Tourette's Syndrome and Evidence for a Genetic Relationship with Obsessive Compulsive Behaviors
V. Eapen, M.D., D.L. Pauls, M.M. Robertson

NR498 Effect of Acute Tryptophan Depletion on Aggression
Ronald M. Salomon, M.D., Carolyn Mazure, Ph.D., Julio Licinio, M.D., George R. Heninger, M.D., Dennis S. Charney, M.D.

NR499 Impairment in Adolescent Personality Disorders
Kenneth N. Levy, B.A., Thomas H. McGlashan, M.D., William S. Edell, Ph.D., Kathy Garnet, M.A., Donald Quinlan, Ph.D., David Greenfeld, M.D.

NR500 DSM-III Personality Disorders in the Population
Gerald Nestadt, M.D., Jack F. Samuels, Ph.D., Alan J. Romanoski, M.D., Marshal F. Folstein, M.D., Paul R. McHugh, M.D.

NR501 Continuous Performance Test in Schizotypal Personality Disorder
Milton L. Wainberg, M.D., Robert L. Trestman, M.D., Richard S.E. Keefe, Ph.D., Barbara Cornblatt, Ph.D., Marie-Louise Devegvar, M.D., Larry J. Siever, M.D.

NR502 Frontal Lobe Dysfunction and Schizotypal Personality Disorder
Marie-Louise Devegvar, M.D., Richard S.E. Keefe, Ph.D., Jackie Mosokwitz, M.A., Sonia Lees, B.A., Peter Knott, Ph.D., Robert L. Trestman, M.D., Larry J. Siever, M.D.

NR503 BPD in Adolescents: Ubiquitous or Specific?
Kathy Garnet, M.A., Kenneth N. Levy, B.A., Jonathan J. Fleischacker, B.A., William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

NR504 Schizotypy: P3 Correlates of Psychopathology
Dean F. Salisbury, Ph.D., Martina Voglmaier, Ph.D., Robert W. McCarley, M.D., Larry J. Seidman, Ph.D.

NR505 Reliability of Family History Method for Axis II
Tova Ferro, B.A., Daniel N. Klein, Ph.D., Shauna K. Donaldson, B.A., Kimberly Norden, B.A.

NR506 Replicated Dimensions of Personality Pathology
Lee Anna Clark, Ph.D., Bruce M. Pfohl, M.D., Douglas Langbehn, M.D.

NR507 Hierarchy of DSM-III-R Personality Disorders
Roger K. Blashfield, Ph.D., Michael J. Herkov, Ph.D.

NR508 Borderline Psychopathology in Early Adolescent Male Sexual Offenders
Eugenio M. Rothe, M.D., Jon Shaw, M.D., Brian Greer, M.D., Sohail Punjwani, M.D., Eric Bartky, M.D., Benjamin Lahey, Ph.D.

NR509 PTSD in Borderline Personality
James J. Hudziak, M.D., Gregory Mattingly, M.D., Richard Anderson, M.D.

NR510 A Major Problem in Diagnosing Personality Disorder
Mark Zimmerman, M.D., William H. Coryell, M.D., Donald W. Black, M.D.

NR511 Increase in Reported Alcohol Use in Premenstrual Syndrome Patients
Marie B. Tobin, M.D., Peter J. Schmidt, M.D., David R. Rubinow, M.D.

NR512 Long-Term Fluoxetine Treatment of LLPDD
Teri B. Pearlstein, M.D., Andrea B. Stone, M.D., Walter A. Brown, M.D.

NR513 Estrogen Alters G Protein Ribosylation in Platelets of Women with LLPDD
Robert H. Lenox, M.D., David G. Watson, Ph.D., Uriel M. Halbreich, M.D.

NR514 Effects of M-CPP in PMS
Tung-Ping Su, M.D., Merry A. Danaceau, B.S.N., Peter J. Schmidt, M.D., David R. Rubinow, M.D.

NR515 Adolescent Panic Symptoms and Suicidal Behavior
John B. Jolly, Psy.D., Richard L. Livingston, M.D., Zarina Shah, M.D., David S. McCray, M.D., Janet M. Jolly

NR516 Hispanic Youth Suicide in Dade County: 1987-91
Jorge J. Dorta-Duque, M.D., Maria Llorente, M.D., Daniel Castellanos, M.D., Benjamin Leahy, Ph.D.

NR517 Suicide Assessment: Clinical Interview Versus Self-Report
Margaret L. Kaplan, Ph.D., Gregory M. Asnis, M.D., William C. Sanderson, Ph.D.

NR518 Family Functioning and Suicidality
Gabor I. Keitner, M.D., Christine E. Ryan, Ph.D., Ivan W. Miller, Ph.D.

NR519 Attachment Patterns in Suicidal Teenagers
Kenneth S. Adam, M.D., Malcolm West, Ph.D., Adrienne Keller, Ph.D., Mary Owens, M.D.

NR520 Access to Lethal Methods of Injury on Suicide Rates in Hospitalized Schizophrenics: A 25-Year Retrospective Analysis
Christian L. Shriqui, M.D.

NR521 Screening Women: Depression, Cigarettes and Stress
Marijo B. Tamburrino, M.D., Denis J. Lynch, Ph.D., Rollin W. Nagel, M.A., Nancy J. Stadler, Teresa Paulding

NR522 Grief and Terminating Pregnancy for Fetal Anomaly
Charles H. Zeanah, M.D., Jacquelyn Dailey, M.S., Mary-Jo Rosenblatt, M.S., Devereux N. Saller, M.D.

NR523 Sexual Harassment of Medical Students by Patients
Heather M. Schulte, M.D., Jerald Kay, M.D.

NR524 Pilot Study: Gender Bias Among New Jersey Women Physicians
Jane B. Sofair, M.D.

NR525 University Educators: Attitudes Toward Pregnancy
Kathleen N. Franco, M.D., Marijo B. Tamburrino, M.D., Nancy B. Campbell, M.D., Cynthia L. Evans, M.D., Stephen S. Jurs, Ph.D.

NR526 Assessing Competence in Behavioral Family Therapy
Marc Laporta, M.D., Ian R.H. Falloon, M.D., Shirley Glynn, Ph.D., Jim Mintz, Ph.D.

NR527 Memory Deficits in War Veterans with Chronic PTSD
Rachel Yehuda, Ph.D., Richard S.E. Keefe, Ph.D., Robert Levengood, M.D., Philip D. Harvey, Ph.D., Jennifer Geni, Ilana Schlein, B.A., Larry J. Siever, M.D.

NR528 Characteristics of the Unanxious State
Peter Roxburgh, M.D., Deborah Dobson, Ph.D.

NR529 Predicting Psychotherapy Dropout by Borderlines
Thomas E. Smith, M.D., Harold W. Koenigsberg, M.D.

NR530 Psychotherapy Dosage Effects Cocaine Dependence
Lino Covi, M.D., Judith Hess, M.A., Nancy Kreiter, M.S.

NR531 Partial Sleep Deprivation and Reduced Immunity
Heidi E. Cover, B.S., Michael Irwin, M.D., Barbara Parry, M.D.

NR532 Medical Student Attitudes Toward Behavioral Sciences
Amy C. Brodkey, M.D., Linda Nieman, Ph.D., Edward Gracely, Ph.D., Mark Fabi, M.D., Anthony Rostain, M.D.

NR533 Knowledge Mapping as a Tool for Psychiatric Education
Thomas A.M. Kramer, M.D., Jennifer L. Peel, Ph.D.

NR534 The Psychiatrist in Film: The Evolution of an Archetype
Anne I. Koplin, M.D., Charles Grade, M.D.

NR535 Career Aspirations of Tomorrow's Psychiatrists
Stevan M. Weine, M.D., Adam Darnell, M.D., Ira R. Levine, M.D., Thomas H. McGlashan, M.D.

NR536 Benzodiazepine Use in a University Hospital
Marc H. Zisselman, M.D., Barry W. Rovner, M.D., Karen G. Kelly, M.D., Celia Woods, M.D.

NR537 Expressed Emotion: Trait or State?
Judith Schreiber, M.S.W., Alan F. Breier, M.D., David Pickar, M.D.

NR538 Systematized Treatment of Schizophrenia
Anthony L. Pelonero, M.D., Anand K. Pandurangi, M.D.

NR539 Impact of Banning Smoking on a Locked Unit
Ellen Haller, M.D., Dale E. McNiel, Ph.D., Renee L. Binder, M.D.

NR540 Patient Evaluation of Venlafaxine: A New Antidepressant
Ronald Pedersen, M.S., Richard Rudolph, M.D.

NR541 Denial Among Paraphilic Patients in Medroxyprogesterone Acetate Treatment
Thomas W. Haywood, M.A., Carl Wahlstrom, M.D., Howard M. Kravitz, M.P.H., Jack R. Green, Psy.D., James L. Cavanaugh, M.D., Jonathan Kelly, M.D.

NR542 A Pilot Study: The Impact of Psychoeducation Training on a Long-Term Treatment Ward
Murray D. Schane, M.D., Robin Hamilton, M.D., Jocelyn Udasco, M.D., Jane S. Ferber, M.D., Irwin Lubell, C.S.W., Kathryn Alexander, R.N.

NR543 Long-Term Clozapine and Benzodiazepines: Eight Case Reviews
Jeffrey J. Grace, M.D., Barbara Priest, R.N., Murli Yadav, M.D.

NR544 Fluoxetine Prevents Increase of Seizure Threshold and Shortening of Seizure Duration in Depressive Patients Treated by ECT
Avner Elizur, M.D., Meir Stienbock, Yosef Levin

NR545 Non-Behavioral Factors in Seclusion and Restraint
Chandresh Shah, M.D., David Band, M.D.

NR546 The Soteria Project: New Data Analyses
Loren R. Mosher, M.D., Robert Vallone, Ph.D., Alma Menn, ACSW

NR547 Hospitalized Insanity Acquittees' Functioning
Pritesh J. Shah, M.D., Antonio Convit, M.D., William M. Greenberg, M.D.

NR548 Comparison of Consultation/Liaison Psychiatry Services Between a Suburban Community Hospital and a Metropolitan County Hospital
Kathleen P. Decker, M.D., Darcy A. Phillips, Lawrence G. Wilson, M.D.

NR549 Factors Not Closely Related to Injury and Outcome in Common Whiplash One Year After the Accident
Bogdan P. Radanov, M.D., Ayesha Schnidrig, M.A., Giuseppe Di Stefano, M.A., Matthias Sturzenegger, M.D.

NR550 Prediction Outcome in Common Whiplash Using Psychosocial Stress as Assessed at Baseline
Bogdan P. Radanov, M.D., Giuseppe Di Stefano, M.A., Ayesha Schnidrig, M.A., Matthias Sturzenegger, M.D.

NR551 Psychopathy, Personality Disorders and Behavioral Disturbances in Adolescent Inpatients
Wade C. Myers, M.D., Roger C. Burket, M.D., H. Elaine Harris, Ph.D.

NR552 Relationship Between Psychosocial Stress, Cognitive Performance, Severity of Trauma and Disability in Whiplash Patients
Ayesha Schnidrig, M.A., Bogdan P. Radanov, M.D., Giuseppe Di Stefano, M.A., Matthias Sturzenegger, M.D.

NR553 Effects of Haloperidol on rCBF in Alzheimer's Disease
Davangere P. Devanand, M.D., Marianne Gorlyn, B.A., Isak Prohovnik, Ph.D.

NR554 Nicotine Dependence and Schizophrenia
Douglas M. Ziedonis, M.D., Thomas Kosten, M.D., William Glazer, M.D.

NR555 Schizophrenic Substance Abusers: A Treatment Study
David J. Hellerstein, M.D., Richard N. Rosenthal, M.D., Christian Miner, Ph.D.

NR556 Is Schizophreniform Disorder a Valid Diagnosis?
Stephen Strakowski, M.D.

NR557 The Prevalence of Akathisia in Patients Receiving Stable Doses of Clozapine
Kadiamada N.R. Chengappa, M.D., Melvin D. Shelton, M.D., Robert Baker, M.D., Nina R. Schooler, Ph.D., James Baird, Ph.D., Joyce Delaney, R.N.

NEW RESEARCH

Wednesday, May 26, 1993, 3:00 p.m.-5:00 p.m.

New Research 11 – Poster Session – Rooms 105/106, Exhibit Level, Moscone Center

INFANT AND CHILDHOOD DISORDERS; CHILD AND ADOLESCENT PSYCHIATRY; AIDS AND HIV RELATED DISORDERS; C/L AND EMERGENCY PSYCHIATRY; SEXUAL AND SOMATOFORM DISORDERS; PSYCHOIMMUNOLOGY; STRESS; ADMINISTRATIVE, COMMUNITY, CROSS-CULTURAL AND MINORITY, AND SOCIAL PSYCHIATRY; STIGMA; VIOLENCE AND TERRORISM; ETHICS; AND ECONOMIC ISSUES

Moderator: Charles B. Nemeroff, M.D.

NR558 Behavior Disorder Subtypes in Adolescence
Daniel F. Becker, M.D., Kenneth N. Levy, B.A., William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

NR559 Validity of Behavior Disorders in Adolescence
Daniel F. Becker, M.D., Kenneth N. Levy, B.A., William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

NR560 Do Autistic Children Turn (Spin, Rotate) Left or Right?
H. Stefan Bracha, M.D., Bernadette Lange, M.D., Balkozar S. Adam, M.D., A. Jonathan Dugger, B.A., Jeffrey W. Gilger, Ph.D., Richard L. Livingston, M.D.

NR561 Depression in Children with Behavior Problems
Nicole Pawliuk, M.A., Natalie Grizenko, M.D.

NR562 Reduced Imipramine Binding in Childhood Autism
Janos Balazs, M.D., Mihaly Arato, M.D., Zsuzsa Schrott, Ph.D., Judith Gaspar, Ilona Ozoroczy, Sarah Olajos, Ph.D.

NR563 Familial Occurrence of ADHD, Reading Disorder, Mood Disorder, Sleep Disorder in ADHD With and Without Reading Disorder
Drake D. Duane, M.D., Michael E. Brennan, M.D., Steve Wallrichs, B.S., Michelle Clark, A.A.

NR564 The Etiology of Dyslexia: Current Data
Jeffrey W. Gilger, Ph.D., H. Stefan Bracha, M.D.

NR565 Homeless Mothers and Children: A Policy Perspective
Bonnie T. Zima, M.D., Kenneth B. Wells, M.D., Howard E. Freeman, Ph.D.

NR566 Obsessive Characteristics in Tourette Patients are Related to Symptoms in Their Parents
Christopher M. de Groot, M.D., Robert A. Bornstein, Ph.D., Glen B. Baker, Ph.D.

NR567 Short and Long Hospital Treatment of Adolescents
William S. Edell, Ph.D., Thomas H. McGlashan, M.D., Jonathan J. Fleischacker, B.A.

NR568 Quantitative Assessment of Fidgeting in ADHD
Martin H. Teicher, M.D., Yutaka Ito, M.D., Carol A. Glod, R.N., Paul Wallace, B.S., Natacha Barber, B.A.

NR569 Malpractice Litigation in Child Psychiatry Programs
Karen D. Wagner, M.D., Ronnie Pollard, M.D., Richard F. Wagner, Jr., M.D.

NR570 Race and Mental Health Treatment in Adolescents
Steven P. Cuffe, M.D., Jennifer L. Waller, M.S.P.H., Michael L. Cuccaro, Ph.D., Andres J. Pumariega, M.D., Carol Z. Garrison, Ph.D.

NR571 Do Depressed Teens and Mothers Agree on Symptoms?
Nga A. Nguyen, M.D., Suzanne W. Whittlesey, M.S.W., Dolores Mills, R.N., Bao Q. Bui, M.D., Kathy D. Scimeca, R.N., Alfretia L. Scarborough, M.P.H.

NR572 Stable and Unstable Adolescent Borderline Diagnoses
Jonathan J. Fleischacker, B.A., William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

NR573 Gender and Social Factors in Child Psychopathology
Sharon Silber, Ph.D., R. Connell, G. Hirsch, M.D.

NR574 Quantitative EEG in Adult Neuropsychiatry
H. Jordan Garber, M.D., Trevor R.P. Price, M.D., Christopher Starratt, Ph.D.

NR575 Quantitative EEG in Adolescent Neuropsychiatry
H. Jordan Garber, M.D., Marianne Krouk, D.O., Gregory Slomka, Ph.D., Dale Hindmarsh, M.D.

NR576 Stress Reactivity Predicted by Adaptive Style
Hans Steiner, M.D., Jane W. Chen, B.S.

NR577 Soft Signs in Children of Agoraphobics
Stuart L. Kaplan, M.D., Joan Busner, Ph.D., Richard Gallagher, Ph.D., France Chaput, M.D., Elsa Acosta, M.S., Manuel Zane, M.D., Doreen Powell

NR578 A Social Phobia Inventory for Adolescents
Duncan B. Clark, M.D., Samuel Turner, Ph.D., Rolf G. Jacob, M.D., Deborah Beidel, Ph.D., Levent Kirisci, Ph.D., John Donovan, Ph.D.

NR579 Early Trauma in Behavior Disordered Adolescents
Stevan M. Weine, M.D., Daniel F. Becker, M.D., Kenneth N. Levy, B.A., Thomas H. McGlashan, M.D.

NR580 Mental Health Assessment of Deaf Children 11-13 Years Old
Andre P. Masse, M.D., Gisele Chiniara, M.D., Marie-Jose Lacour, S.W.

NR581 Children in Crisis: Clinical Characteristics
Lonny J. Behar, M.D., Kanchan Malvade, B.A., Anthony Yancey, M.S.W.

NR582 Adult Attachment Styles and Personality Pathology
Kenneth N. Levy, B.A.

NR583 Risk and Protective Factors in Children
Natalie Grizenko, M.D., Nicole Pawliuk, M.A.

NR584 Childhood Psychosis and Organic Pathology
Jean-Georges Rohmer, M.D., Claude Bursztejn, Photis Nobelis, Anne Danion, Jean-Claude Pomes, Annick Chauvin

NR585 Anhedonia and Outcome in Young Inpatients
Kathy Garnet, M.A., William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

NR586 Fatigue and HIV Infection
Diana O. Perkins, M.D., Jane Leserman, Ph.D., Susan G. Silva, Ph.D., Stephan F. Baum, M.D., Robert A. Stern, Ph.D., Robert N. Golden, M.D., Dwight L. Evans, M.D.

NR587 Safer Sex and Substance Use Attitudes: Typology
Stephen Brown, M.D., James Weinrich, Ph.D., J. Hampton Atkinson, M.D., Joseph Davies, M.D., J. Chandler, M.D., Igor Grant, M.D.

NR588 High, Undetected HIV Positive Rate on an Alcohol Rehabilitation Unit
John C. Mahler, M.D., Samuel W. Perry III, M.D., Donna Yi, M.D., Michael Sacks, M.D., Helen Dermatis, Ph.D.

NR589 New Onset Depression in Patients with AIDS Dementia Complex is Associated with Frontal Lobe SPECT Scan Defects
Jonathan L. Worth, M.D., Perry F. Renshaw, M.D., Keith A. Johnson, M.D., J. Alex Becker, M.D., Mark H. Halman, M.D., Cary R. Savage, Ph.D.

NR590 Nine Months Experience of an HIV/AIDS Psychiatry Clinic: Demographics, Diagnoses and Outcomes
Jonathan L. Worth, M.D., Mark H. Halman, M.D., Perry F. Renshaw, M.D.

NR591 Impact of Acute Psychiatric Illness on Sexual Behaviors and Risk for HIV
Michael H. Sacks, M.D., Helen Dermatis, Ph.D., William Burton, M.A., Samuel W. Perry III, M.D.

NR592 HIV Risk Linked to Psychiatric Disorder in Injection Drug Users
David R. Gibson, Ph.D., Martin Young, B.A., Jane Lovelle-Drache, M.S.W., Margaret Chesney, Ph.D., Steven L. Batki, M.D.

NR593 HIV Illness and Sleep Disturbances
Steven L. Prenzlauer, M.D., Philip A. Bialer, M.D., Lisa Bogdonoff, M.D., Maria L.A. Tiamson, M.D.

NR594 Asymptomatic HIV Infection and Insomnia
Stephan F. Baum, M.D., Diana O. Perkins, M.D., Susan Gray-Silva, Ph.D., Robert A. Stern, Ph.D., Robert N. Golden, M.D., Dwight L. Evans, M.D.

NR595 Multiple Drug Use and Needle Sharing in Intravenous Drug Abusers
David W. Brook, M.D., P.E. Shein Wynn, M.D., Judith S. Brook, Ed.D.

NR596 Psychiatric Prevalence and the Role of Substance Abuse in an Inner- City HIV Seropositive Population
Mary Meritz, D.O., William Holmes, M.D., Carol Hudelmeyer, M.S.N., Claire Young, M.S.S., Barbara Bix, M.D.

NR597 Predictors of Suicide Attempts in HIV Seropositive and Seronegative at Risk Individuals
William Holmes, M.D., Mary Meritz, D.O., Barbara Bix, M.D., Carol Hudelmeyer, M.S.N., Claire Young, M.S.S.

NR598 A Bedside Test of Cognition in HIV Infected Patients
Beverly N. Jones, M.D., Katherine Harrison, M.D., Marshal F. Folstein, M.D.

NR599 Sleep and Light Exposure in HIV Infected Men
Andres D. Sciolla, M.D., Daniel F. Kripke, M.D., Stephen J. Brown, M.D., J. Hampton Atkinson, M.D., Wes Whitehall, M.A., Igor Grant, M.D.

NR600 AIDS Related Bereavement Themes of IV Drug Users
Julie A. London, Ph.D., James L. Sorensen, Ph.D., Kevin Delucchi, Ph.D., Laurie A. Roehrich, Ph.D., Tamara Wall, Ph.D., Ronald Stall, Ph.D.

NR601 Natural Killer Cells and Psychological Distress in HIV Infection
John A. Sahs, M.D., Jack M. Gorman, M.D., Mohan Reddy, Ph.D., Raymond Goetz, Ph.D., Judith G. Rabkin, Ph.D.

NR602 Social Support, Heterosexual Exposure to HIV Infection and Depression
Katherine L. Puder, Dr.P.H., Peter Messeri, Ph.D., Mark A. Quinones, Ph.D., Donald B. Louria, M.D.

NR603 HIV Clinic-Based Study of Psychiatric Disorders
Joyce Y. Chung, M.D., Michael K. Popkin, M.D., Frank S. Rhame, M.D., W. Keith Henry, M.D., Ross Crosby, Ph.D.

NR604 Personality Characteristics in Parasomnias
Colin M. Shapiro, M.B., Paul Draga, M.D., Lawrence Reinish, M.D.

NR605 Psychiatric Services to Older Caregivers of AIDS Patients
Peter M. Aupperle, M.D., Joan Perrkell, C.S.W.

NR606 HIV Positive Persons and Childhood Abuse
Susan E. McManis, M.D., Carol Coyle, Ph.D., Robert Zachary, Ph.D., George R. Brown, M.D., Cliff Butzin, Ph.D., Sarah Kendall, B.A.

NR607 Religiosity and Psychosocial Adjustment in AIDS
Vijaya L. Boppana, M.D., Agustin Gomez, M.D., Sonia Oquendo, M.D., Helen Hanley, C.S.W., Arthur Rifkin, M.D.

NR608 The Neglect of Psychiatric Training for Internists
Francis J. Kane, M.D.

NR609 Divergent Effects of Types of Consultation/Liaison Intervention on Length of Stay
Albert Diefenbacher, M.D., James J. Strain, M.D., Mary Eichmann, Ph.D., John S. Lyons, Ph.D., Jeffrey S. Hammer, M.D., George Fulop, M.D.

NR610 Psychiatric and Psychosomatic Consultation Delivery in Germany: A Comparative Study
Albert Diefenbacher, M.D., Christian Knorr, M.D., ECLW in Amsterdam,

NR611 Surgical Delay in Psychotic Patients
Nancy M. Speed, M.D., Joseph A. Schwartz, M.D., Jane M. Carnahan, M.D., Daniel B. Hinshaw, M.D.

NR612 Pain Perception and Beta Endorphin Level in Trauma
Lawson F. Bernstein, M.D., Bruce Kramer, M.D., Pamela E. Garzone, Ph.D., Dwight Stiff, Ph.D., Thomas Rudy, Ph.D., Andrew Peitzman, M.D.

NR613 Alcoholism Prognosis and Liver Transplantation
William R. Yates, M.D., Brian J. Masterson, M.D.

NR614 Psychiatric Issues in Liver Transplantation
Marian Fireman, M.D., Roland M. Atkinson, M.D., John M. Rabkin, M.D., C. Wright Pinson, M.D.

NR615 Depression and Eosinophilia-Myalgia Syndrome
Steven A. Epstein, M.D., Lois Krahn, M.D., Richard Goldberg, M.D., Daniel J. Clauw, M.D., Susan Weigert, M.A., Arminda P. Gomes, B.A.

NR616 Steroid-Induced Mental Status Changes in Patients Receiving Dye Contrast
Michael T. Lardon, M.D., Elisa Feingold, D.O., John Ewing, M.D., Shahrokh Golshan, Ph.D., Michael Irwin, M.D.

NR617 Adolescent Suicide Attempts Seen in a General Hospital Psychiatric Emergency Service and a Pediatric Hospital Emergency Room
Michael T. Sorter, M.D., Ole J. Thienhaus, M.D., Brian McConville, M.D.

NR618 WITHDRAWN

NR619 Bone Marrow Transplant: Impact on Family Members
Roger-Michel Poirier, M.D., Patricia L. Dobkin, Ph.D.

NR620 Body Image Changes After Cardiac Surgery: The Heart
Herman C.B. Denber, M.D., Michel Denber, M.A., Valentin Fuster, M.D.

NR621 The Course and Prediction of Outcome in Bulimia Nervosa
Allan S. Kaplan, M.D., Marion Olmsted, Ph.D.

NR622 Cleric Sexual Misconduct and Assessment of Deviance
Howard M. Kravitz, M.P.H., Mark McClung, M.D., Thomas Haywood, M.A., Susanne Liles, R.N., Linda S. Grossman, Ph.D., James L. Cavanaugh, M.D.

NR623 Diabetes, Sleep Disorders and Male Sexual Function
Raul C. Schiavi, M.D., Barbara Stimmel, Ph.D., John Mandeli, Ph.D.

NR624 Sexual Dysfunctions in HIV Positive Gay Men
Miles A. Cohen, M.D., Shelagh Emmott, Ph.D.

NR625 Sexual Dysfunction in Alzheimer's Disease Patients
Richard A. Greer, M.D., Michael J. Herkov, Ph.D.

NR626 Diagnosing Fibromyalgia in Psychiatry Patients
Douglas H. Finestone, M.D., David W. Fisher, M.D., Mary H. Berg, M.T., David L. Merrifield, Richard M. Bloch, Ph.D.

NR627 Hypochondriasis and Mental Distress in Chronic Fatigue Syndrome
Peter Manu, M.D., Glenn G. Affleck, Ph.D., Howard Tennen, Ph.D., Priscilla A. Schmidt, M.A., Javier I. Escobar, M.D.

NR628 Stress and Somatization Disorder in Adolescents
John B. Jolly, Psy.D., Richard L. Livingston, M.D., Janet M. Jolly,

NR629 Cacosmia and Somatic Disorders in Young Adults
Iris R. Bell, M.D., Claudia S. Miller, M.D., Gary E. Schwartz, Ph.D., Julie M. Peterson, B.S., Diane Amend, M.S., Howard C. Mitzel, Ph.D.

NR630 Altered Sweet Taste Preference in Bulimia Nervosa
David C. Jimerson, M.D., Debra L. Franko, Ph.D., Barbara E. Walton, M.S.N.

NR631 Cytokine Production in Major Depression
Ronit Weizman, M.D., Nathaniel Laor, M.D., Eduardo Podliszewski, Ida Notti, Meir Djaldetti, Hanna Bessler

NR632 Immune Status and Behavior in Depressive Subtypes
Arun V. Ravindran, M.D., Jenna Griffiths, M.Sc., Yvon D. Lapierre, M.D, Connie Waddell, R.N., Hymie Anisman, Ph.D.

NR633 Mood and Substance Use: Effects on Health and Immunity
Jacqueline A. Bartlett, M.D., Steven Schleifer, M.D., Steven E. Keller, Ph.D., Melissa K. Demetrikopoulos, M.S.

NR634 Diagnosis and Severity of Major Depressive Disorder: Effects on Immunity
Jacqueline A. Bartlett, M.D., Steven Schleifer, M.D., Steven E. Keller, Ph.D.

NR635 Alcohol Abusers, Cocaine Use and Immunity
Steven J. Schleifer, M.D., Yeshuchandra Dhairbar, M.D., Neena Kumar, B.A., John Martinez, B.A., Silvia Beltramini, B.A., Steven E. Keller, Ph.D.

NR636 Psychological Side Effects Induced by Interleukin-2 and Alpha Interferon Treatment
Mark J. Smith, M.D., David Khayat, M.D.

NR637 Central Noradrenergic Contributions to PTSD
J. Douglas Bremner, M.D., Chin K. Ng, Ph.D., Lawrence Staib, Ph.D., John H. Krystal, M.D., Steven M. Southwick, M.D., John P. Seibyl, M.D., James Ducan, Ph.D., Dennis S. Charney, M.D., Robert B. Innis, M.D.

NR638 Co-Occurrence of Major Mood Disorder and Personality Disorder
Alan M. Gruenberg, M.D., Reed D. Goldstein, Ph.D., Garv S. Bruss, Ph.D., Jacques P. Barber, Ph.D.

NR639 Clinical Utility of Axis-IV in the Elderly
Julia Rothe, M.Ed., Ibrahim Gunay, M.D., Eugene Somoza, M.D.

NR640 Early Trauma and Depression: Effects on Serotonin
Mark H.N. Corrigan, M.D., R. David Ekstrom, M.P.H., Linda P. Miller, M.A., Robert N. Golden, M.D.

NR641 Sertraline for PTSD with Comorbid Major Depression
Neal A. Kline, M.D., Bruce M. Dow, M.D., Sandra A. Brown, Ph.D., Jeffrey L. Matloff, Ph.D.

NR642 Predictors of Vulnerability After Trauma
Joseph A. Schwartz, M.D., John Kettley, M.S.W., Judith Rizzo, C.N.S.

NR643 Adolescent Response Bias: Impact on Assessment
David L. Pogge, Ph.D., John M. Stokes, Ph.D., Jillian Frank, M.A., Hazel Wong, M.A., Philip D. Harvey, Ph.D.

NR644 Non-Attendance at a Psychiatric Clinic
Rosemary M. Morrison, Ph.D.

NR645 Identifying Homelessness in the Mentally Ill
Linda Brady, M.D., Ann Dercole, Ph.D.

NR646 Psychiatric Consultations to Disasters
George T. Brandt, M.D., Carol S. Fullerton, Ph.D., Robert J. Ursano, M.D., Ann E. Norwood, M.D.

NR647 Quality of Care Assessment with Ethnic Groups
Vikki L. Vandiver, Dr.PH., Pablo Diaz, M.D., Kevin Corcoran, Ph.D., Carlos Castaneda, M.D., Maria Dominquez, M.D., Reinaldo Gomez, M.D.

NR648 Affective Disorders Among Jewish Ethnic Groups
Robert Kohn, M.D., Itzhak Levav, M.D.

NR649 Gay and Lesbian Patient Care in United States Psychiatric Training
Mark H. Townsend, M.D., Molle M. Wallick, Ph.D., Karl M. Cambre, M.S.

NR650 Elevated Plasma Clozapine Levels in Chinese Patients
Ching-Piao Chien, M.D., Shih Ku Lin, M.D., Wen Ho Chang, M.D.

NR651 Acculturation in Overseas Chinese Students
Madelyn J. Hicks, M.D., Ronald Wintrob, M.D.

NR652 Depressed Mood in Rural Pregnant Adolescents
Laurie L. Humphries, M.D., Teresa A. Free, Ph.D., Therese Moseley, M.S.N., Mary Stuart, Ph.D., Tracy Mullins, B.S.

NR653 Psychosocial/Psychiatric Outcome and Financing Policies: Perspectives from Cuba and Mexico
Pablo Diaz, M.D., Vikki L. Vandiver, Dr.Ph., Bernabe Ordaz, G. Castaneda, M.D.

NR654 A Longitudinal Study of Mentally Retarded Men: Predictors of Adult Adjustment
Annmarie S. McDonagh-Coyle, M.D., George E. Vaillant, M.D.

NR655 Homosexual Indentification and Psychological Health
Jane Leserman, Ph.D., Rachel DiSantostefano, B.S., Diana O. Perkins, M.D., Robert N. Golden, M.D., Dwight L. Evans, M.D.

NR656 Young Victims of Violence: At Risk and Neglected
Miriam Shuchman, M.D., Katherine Silbernagel, B.A., Sylvia Villarreal, M.D., Margaret A. Chesney, Ph.D.

NR657 Circadian Variation in Mass Slayings/Rampages
John J. Mooney, M.D., E. John Orav, Ph.D.

NR658 Towards a New Measure of Childhood Trauma: The Childhood Trauma Questionnaire
David P. Bernstein, Ph.D., Laura Fink, Ph.D., Leonard Handelsman, M.D., Jeffrey Foote, Ph.D., Meg Lovejoy, B.A., Joseph Ruggiero, M.A.

NR659 Heat and Violence Correlate Independent of Season
Michael J. Norden, M.D., David H. Avery, M.D.

NR660 Sadistic Personality Disorder Frequency in Sex Offenders
Peter Berger, M.D., Wolfgang Berner, M.D., Karin Gutierrez, M.D., Johanna Bolterauer, Ph.D., Bettina Jordan, M.D., Katharina Berger, M.D.

NR661 Patients' Comprehension of Advance Directives
Cheryl H. Yanuck, M.D., Craig Van Dyke, M.D., Sharon Hall, Ph.D.

NR662 Academic Psychiatry and Managed Care
James M. Schuster, M.D.

NR663 Managed Care: Impact on Treatment and Outcome
Susan V. Eisen, Ph.D., Lloyd I. Sederer, M.D.

NR664 The Cost of Major Depressive Episode Treatment in Switzerland
Nicole Rosset, Ph.D., Antonio Andreoli, M.D.

NR665 Evaluation of Cost Effectiveness of Major Depressive Episode: Preliminary Results of a Prospective Study
Nicole Rosset, Ph.D., Luc Balant, Ph.D.

NR666 DRG's Versus Length of Stay for Mood Disorder Referrals
Paula T. Trzepacz, M.D., Jeffrey Drayer, Donna Faett, M.S.

NEW RESEARCH

Thursday, May 27, 1993, 9:00 a.m.-10:30 a.m.

New Research 12 – Oral/Slide Session – Rooms 228/230, East Mezzanine, Moscone Center

INFANT, CHILD AND ADOLESCENT PSYCHIATRY; PHARMACOLOGY; AND NEUROENDOCRINOLOGY

Chp.: Sally R. Szymanski, M.D.

NR667	Predictors of Outcome in Panic and Depression Mark H. Pollack, M.D., Michael Otto, Ph.D., Gary S. Sachs, M.D., Andrew Leon, Ph.D., M. Katherine Shear, M.D., Jerrold F. Rosenbaum, M.D.	9:00 a.m.
NR668	Low Dose Valproate Treatment of Cyclothymia and Bipolar II Disorder Frederick M. Jacobsen, M.D.	9:15 a.m.
NR669	Double-Blind Study of Sertraline and Fluoxetine in Outpatients with Major Depression Jacqueline J. Martindale, M.D., Ernest Bennie, M.B.	9:30 a.m.
NR670	Meta-Analysis of Venlafaxine Treatment in Retarded and Agitated Depressed Patients A. Richard Entsuah, Ph.D., Virginia Upton, Ph.D., Richard Rudolph, M.D., Y. Alcorta, M.S.	9:45 a.m.
NR671	Atypical Depression: Prevalence and Biology Gregory M. Asnis, M.D., Lata Keswani, M.A., William C. Sanderson, Ph.D.	10:00 a.m.
NR672	Depression as a Predictor of Medical Outcomes in HIV Infection Constantine G. Lyketsos, M.D., D.R. Hoover, Ph.D., M. Guccione, B.S., W. Senterfitt, M.P.H., M.A. Dew, Ph.D., G.J. Treisman, Ph.D.	10:15 a.m.

NEW RESEARCH

Thursday, May 27, 1993, 9:00 a.m.-10:30 a.m.

New Research 13 – Oral/Slide Session – Rooms 232/234, East Mezzanine, Moscone Center

AFFECTIVE DISORDERS/SUICIDE

Chp.: Andrew E. Skodol, M.D.

NR673	In Vitro and In Vivo Evaluations of the Potential for Desipramine Interaction with Fluoxetine or Sertraline Sheldon H. Preskorn, M.D., Lisa Von Moltke, M.D., Jeffrey Alderman, Ph.D., Wilma Harrison, M.D., Menger Chung, Ph.D., David Greenblatt, M.D., Richard I. Shader, M.D.	9:00 a.m.
NR674	Flesinoxan as a Serotonergic Neuroendocrine Test Marc M. Ansseau, M.D., Michel Lebreeghts, M.D., Renaud Jammaer, M.D., Catherine Reel, M.D., Jacques Wauthy, M.Sc., William Pitchot, M.D.	9:15 a.m.

NR675 WITHDRAWN

NR676 Inhibited and Uninhibited Temperament at Age Two: Catecholamines and Behavior Twelve Years Later — 9:30 a.m.
Carl E. Schwartz, M.D., Jerome Kagan, Ph.D., Joseph J. Schildkraut, M.D., Rachel J. Kramer, Ph.D., Nancy Snidman, Ph.D.

NR677 Cardiovascular Effects of TCA's in Young People — 9:45 a.m.
B. Timothy Walsh, M.D., Elsa G.V. Giardina, M.D., Laurence L. Greenhill, M.D., Richard P. Sloan, Ph.D., J. Thomas Bigger, M.D., Juli A. Goldfein, B.A.

NR678 Behavioral Inhibition in Infants of Mothers with Panic Disorder — 10:00 a.m.
Lee S. Cohen, M.D., Deborah A. Sichel, M.D., Jacqueline Dimmock, B.S., Jerrold F. Rosenbaum, M.D.

NEW RESEARCH

Thursday, May 27, 1993, 12 noon-2:00 p.m.

New Research 14 – Poster Session – Rooms 100/101, Exhibit Level, Moscone Center

BIOLOGICAL AND GERIATRIC PSYCHIATRY; PSYCHOPHARMACOLOGY AND OTHER SOMATIC THERAPIES; NEUROPSYCHIATRY; AND ORGANIC MENTAL DISORDERS

Moderator: William Z. Potter, M.D.

NR679 Selective Antagonists in the Flesinoxan Test
Marc M. Ansseau, M.D., Renaud Jammaer, M.D., Catherine Reel, M.D., Jacques Wauthy, M.Sc., Michel Lembreghts, M.D., William Pitchot, M.D.

NR680 State Related Changes in Plasma and CSF Cortisol
Marie B. Tobin, M.D., David R. Rubinow, M.D., Robert M. Post, M.D.

NR681 TRH, DST, and Apomorphine Tests in Psychiatry
Fabrice Duval, M.D., Marie-Claude Mokrani, Ph.D., Marc-Antoine Crocq, M.D., Francoise Calvi-Gries, Stat., Martine Jautz, Psych., Jean-Paul Macher, M.D.

NR682 Effects of Lithium Treatment on Protein Kinase C and Gq in Alzheimer's and Control Subjects
Susan E. Molchan, M.D., Husseni Manji, M.D., Guang Chen, M.D., Li Dou, M.D., Trey Sunderland, M.D.

NR683 Distinct Decreases in Brain Serotonin Transporter Binding in Old Versus Young Depressives
Karley Y. Little, M.D., F. Ivy Carroll, Ph.D., Gary E. Duncan, Ph.D.

NR684 Multihormonal Responses to Apomorphine in Psychiatry
Marie-Claude Mokrani, Ph.D., Fabrice Duval, M.D., Marc-Antoine Crocq, M.D., Son Diep, M.D., Jean-Paul Macher, M.D.

NR685 Gonadotirlin Responses in Male Inpatients
Cesar Carvajal, M.D., Fabrice Duval, M.D., Marie-Claude Mokrani, Ph.D., Marc-Antoine Crocq, M.D., Eduardo E. De Andrade, M.D., Jean-Paul Macher, M.D.

NR686 Panic Disorder and Reactivity to Lactate During Sleep
Harold W. Koenigsberg, M.D., Charles Pollak, M.D., Jeffrey Fine, M.D.

NR687 Generalizing the Expressed Emotion Construct to Diabetes
Harold W. Koenigsberg, M.D., Ellen J. Klausner, M.A., Henry Chung, M.D., David Pelino, M.D., Robert Campbell, M.D.

NR688 Haloperidol Concentrations in Alzheimer's Patients
Maurice W. Dysken, M.D., Sue B. Johnson, M.S.W., Lori Holden, M.S., Govind Vatassery, Ph.D., J. Riley McCarten, M.D., Stacy Skare, B.A.

NR689 Personality Disorder in Geriatric Depression
Robert C. Abrams, M.D., Eileen Rosendahl, Ph.D., George S. Alexopoulos, M.D.

NR690 Cognitive Dysfunction in Late-Onset Depression
George S. Alexopoulos, M.D., Barnett S. Meyers, M.D., Steven Mattis, Ph.D., Robert C. Young, M.D., Rotimi Bajulaiye, M.D., Eileen Rosendahl, Ph.D.

NR691 Estrogen Exposure and Hallucinations in Dementia
Eve J. Wiseman, M.D., Elaine Souder, Ph.D., Pham Liem, M.D., Michael Hazelwood, Ph.D.

NR692 A Survey of Mental Health Services in Nursing Homes
Blaine S. Greenwald, M.D., Donald H. Gemson, M.D., Elisse Kramer-Ginsberg, Ph.D.

NR693 Depressive Pseudodementia: Six to Seven Year Outcome
Elisse Kramer-Ginsberg, Ph.D., Blaine S. Greenwald, M.D.

NR694 Effects of Sertraline, Amitriptyline and Placebo on Cognitive and Motor Functioning in the Elderly: A Double-Blind Crossover Study
David J. Coffey, M.D., Lawrence R. Jenkyn, M.D., Aline K. Coffey, Ph.D., Brenda Wells, B.A.

NR695 Family Care of Depressed Versus Demented Aged
Gregory A. Hinrichsen

NR696 Treatability of Depression in Dementia
Raymond J. Ancill, M.D., L. James Sheldon, M.D., Robert J. Nielsen, B.Sc., W. Carlyle, M.D.

NR697 Aggression in Dementia: Gender Differences
Elaine Souder, Ph.D., Eve J. Wiseman, M.D., Pham Liem, M.D., Michael Hazelwood, Ph.D.

NR698 MRI: Mania and Cognitive Impairment Versus Age
Robert C. Young, M.D., Rotimi Bajulaiye, M.D., George S. Alexopoulos, M.D.

NR699 Effects of Age of Onset in Post-Mortem Studies in Alzheimer's Disease
Linda M. Bierer, M.D., Varham Haroutunian, Ph.D., Philip Kanof, M.D., Lorna Carlin, M.D., Daniel P. Perl, M.D., Kenneth L. Davis, M.D.

NR700 Social and Psychological Predictors of Death After Cardiac Surgery
Thomas E. Oxman, M.D., Daniel H. Freeman, Ph.D., Eric Manheimer, M.D.

NR701 Age of Onset in Older Depressed Inpatients
Jeffrey M. Lyness, M.D., Yeates Conwell, M.D., Deborah A. King, Ph.D., Christopher Cox, Ph.D., Eric D. Caine, M.D.

NR702 Predictors of Well-Being in Alzheimer's Caregivers
Helen H. Kyomen, M.D., Andrew Satlin, M.D., Anthony Holzgang, M.D., Satoru Izutsu, Ph.D., Bernie Ledesma, M.P.H, Suzanne Yamasaki, R.N.

NR703 Prevalence of Psychiatric Disorders in Demented and Non-Demented Older Persons
Teresa A. Rummans, M.D., Glenn E. Smith, Ph.D., Siong-Chi Lin, M.D., E. Kokmen, M.D.

NR704 High Vitamin C Levels in Elderly Schizophrenics
J. Daniel Kanofsky, M.D., Barry Geller, Robert Lowinger, M.D., Edward P. Norkus, Ph.D., Paul B. Kanofsky, Ph.D., Gary J. Kennedy, M.D.

NR705 Hierarchic Scale Improves Dementia Screen in Long-Term Care
Stephen L. Read, M.D., Jennifer Duncan, Ph.D., Maria N. Ybardolaza, R.N.

NR706 Dyskinesias Secondary to Gradual Neuroleptic Drug Withdrawal in Elderly Nursing Home Residents
Salma K. Somani, Pharm.D., David R. Guay, Pharm.D., Ken D. Engberg, M.D., James L. Roerig, Pharm.D.

NR707 Depression in Alzheimer's Disease: Validity of Research Diagnostic Criteria
Stephen Vida, M.D., Pascale Des Rosiers, M.D., Louise Carrier, M.D., S. Gauthier, M.D.

NR708 Longitudinal Study of Nursing Home Activity Programs
Barry W. Rovner, M.D., Pearl S. German, Sc.D., Linda C. Burton, Sc.D., Rebecca Clark, B.A.

NR709 Prescription Drug Abuse in Nursing Home Patients: Risk Factors for Addiction
Kenneth Solomon, M.D., James Shackson, M.D., Barbara W. Brown, D.O.

NR710 Visual Processing in Alzheimer's Disease and Other Dementias
Kenneth Solomon, M.D., Carl J. Bassi, Ph.D., Dwayne Young, O.D.

NR711 Anticholinergic Toxicity in Alzheimer's Disease
Larry E. Tune, M.D., Jason Brandt, Ph.D., Tawnya Cooper, B.A., Godfrey D. Pearlson, M.D., Cynthia Steele, R.N.

NR712 Early Brain Changes in Healthy Alzheimer's Disease Offspring
Ann E. Jones, M.S., Anne M. Obringer, B.A., Robert A. Bornstein, Ph.D., Elizabeth A. Burns, Ph.D., Henry A. Nasrallah, M.D.

NR713 A Fixed Dose, Placebo-Controlled Trial of Fluoxetine in OCD
Gary D. Tollefson, M.D., Alvin H. Rampey, Ph.D., Laura A. Genduso, Pharm.D.

NR714 Nimodipine in Affective Illness
Peggy J. Pazzaglia, M.D., Robert M. Post, M.D., Terence A. Ketter, M.D., Mark S. George, M.D., Lauren B. Marangell, M.D.

NR715 Bupropion Versus Desipramine for Bipolar Depression
Gary S. Sachs, M.D., Beny Lafer, M.D., Andrew L. Stoll, M.D., Mauricio Tohen, M.D., Michael Banov, M.D.

NR716 Cardiovascular Morbidity in High-Risk Patients During ECT
Eve H. Rice, M.D., Lisa B. Sombrotto, M.D., John C. Markowitz, M.D., Andrew C. Leon, Ph.D.

NR717 CSF HVA: 5HIAA Ratios and Clozapine Efficacy
S. Craig Risch, M.D., Richard J. Lewine, Ph.D.

NR718 Neuroleptic-Induced Akathisia in the Elderly Taking Antipsychotic Medication for the First Time
Patricia I. Rosebush, M.D., Anne Hildebrand, M.D., Michael Mazurek, M.D.

NR719 Fluoxetine Versus Imipramine: Suicidal Ideation Changes
William M. Reynolds, Ph.D., Kenneth A. Kobak, M.S.W., John H. Greist, M.D., James W. Jefferson, M.D., Gary D. Tollefson, M.D.

NR720 Treatment of Major Depression with Ipsapirone
Elinore F. McCance-Katz, M.D., Jann M. Keppelhesselink, M.D., Stephen M. Stahl, M.D., Julie K. Roeschen

NR721 Clinical Trial of Haloperidol Threshold Doses
Hector A. Ortega-Soto, Anabella E. Fernandez, B.A., Hector Pinedo, M.D., Pilar De la Torre, B.A., Elizabeth Brunner, M.D., Rogelio Apiquian, M.D.

NR722 Negative Symptoms, Risperidone and Dose
Nina R. Schooler, Ph.D.

NR723 Response to Three Randomly Assigned Haloperidol Doses
Philip G. Janicak, M.D., Javaid I. Javaid, Ph.D., Anne M. Leach, M.D., Rajiv P. Sharma, M.D., Sheila M. Dowd, B.S., John M. Davis, M.D.

NR724 Risperidone Versus Clozapine in Resistant Schizophrenia
Joyce G. Small, M.D., Marvin J. Miller, M.D., Marietta H. Klapper, M.S., Jeffrey J. Kellams, M.D., Gregory C. Woodham, M.D., Iver F. Small, M.D.

NR725 A Double-Blind Comparison of Paroxetine Versus Fluoxetine in the Treatment of Depression
Geoffrey C. Dunbar, M.D.

NR726 Objectivation of Light Exposition in SAD
Dr. Stephan Ruhrmann, Siegfried Kasper, Ph.D., Dr. Gereon Hoflich, Dr. Barbara Hawellek, Dr. Peter Danos, ProfHans-Jurgen Moller

NR727 Clozapine Response in New Onset Schizophrenia
Sally R. Szymanski, D.O., Jeffrey A. Lieberman, M.D., John M. Kane, M.D., Steven Geisler, M.D., Simcha Pollack, Ph.D., A. Loebel, M.D.

NR728 Optimal Dose Conversion for Haloperidol Decanoate
Gregory B. Toney, Pharm.D., Larry Ereshefsky, Pharm.D., Linda Funderburg, M.D.

NR729 Efficacy Trial: Paroxetine and Fluoxetine in Depression
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NR730 Muscarinic Blockade May Impair ECT Efficacy
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NR732 Tardive Dyskinesia: Prevalence by Body Region
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NR738 Calcium in the Treatment of Neuroleptic-Induced Extrapyramidal Symptoms
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Dr. M.J. Stoker, Prof. L. Eric

NR741 Methylphenidate for Poststroke Depression
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NR742 Placebo Controlled Trial of Lithium Augmentation of Fluoxetine and Lofepramine
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William F. Boyer, M.D., John P. Feighner, M.D.

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NR748 Prolactin and Prostaglandin-E Responses to ECT
Mihaly Arato, M.D., Bo Aperia, M.D., Arpad Bela, M.D., Aleksander A. Mathe

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Julia K. Warnock, M.D.

NR750 A Comparison of the Hamilton Depression Scale and Cornell Dysthymia Rating Scale in Dysthymics
Camille Hemlock, M.D., Noel Taylor, M.D., Hayley Cohen, M.D., Arnold Winston, M.D.

NR751 Lithium, Sleep Deprivation and Depression Recovery
Martin P. Szuba, M.D., Lewis R. Baxter, M.D., Lori L. Altshuler, M.D., Jeffrey M. Schwartz, M.D., Barry H. Guze, M.D., Eva M. Allen, B.A.

NR752 A Comparison of Obsessive Compulsive Instruments
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NR754 Quantification of RNA in Astrocytes with Reverse Transcripton and Polymerase Chain Reaction
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NR755 Dose Response for Atropine Rat Model of Delirium
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NR756 A Retrospective Review of Psychiatric Consultations in Stiff-Man Syndrome
John L. Black, M.D., Joyce A. Tinsley, M.D., Elaine M. Barth, M.D., Donald E. Williams, M.D.

NR757 ECT Treatment for Depression in Huntington's Disease
Neal G. Ranen, M.D., Carol E. Peyser, M.D., Susan E. Folstein, M.D.

NR758 Neuropsychiatric Screening Following Head Injury
Robert B. Fields, Ph.D., Craig Taylor, M.D., Gerene Starratt, B.A.

NR759 Cognitive Screening and QEEG
Christopher Starratt, Ph.D., H. Jordan Garber, M.D., Eric Fishman, Ph.D., Trevor R.P. Price, M.D.

NR760 Traumatic Brain Injury and Schizophrenia
Jonathan M. Silver, M.D., Carol L.M. Caton, Ph.D., Patrick E. Shrout, Ph.D., Boanerges Dominguez, M.S.

NR761 Olfaction in Schizophrenia: Association with Smoot Pursuit Eye Movements
Dolores Malaspina, M.D., Anita Wray, M.D., Xavier Amador, Ph.D., Jill Harkavy Friedman, Ph.D., Charles Kaufmann, M.D., Jack M. Gorman, M.D.

NR762 The Interface Between Tourette's Syndrome and Bipolar Affective Disorder
Gary R. Gaffney, M.D., Diane Buckingham, M.D., Jessica A. Hellings, M.D.

NR763 Basic Cognitive Deficits in Back Ward Patients
Cheryl K. Cantrell, M.D., Eric S. Cole, Ph.D.

NR764 Twelve-Month Follow-Up on Cognitive Performance of Common Whiplash Patients
Giuseppe Di Stefano, M.A., Bogdan P. Radanov, M.D., Ayesha Schnidrig, M.A.

NR765 Catatonia: Symptomatology, Diagnosis and Response to Treatment
Allan George Bush, M.D., Andrew J. Francis, M.D., Max Fink, M.D., George Petrides, M.D., Frank G. Dowling, M.D.

NR766 Relationship of Seizure Focus to Psychiatric Morbidity
Rahul Manchanda, Betsy Schaefer, B.A., Richard McLachlan, M.D., Warren T. Blume, M.D.

NR767 Olfactory Deficit in Alzheimer's Relatives
Michael J. Serby, M.D., Chander Mohan, M.D., Donald Johannessen, M.D., Lisette Williams, B.A., Mohsen Aryan, M.A., Richard Mohs, Ph.D., Kenneth L. Davis, M.D.

NR768 Characterizing Organic Mood Syndrome, Manic Type
Jack R. Cornelius, M.D., Horacio Fabrega, M.D., Juan E. Mezzich, M.D., Marie D. Cornelius, Ph.D., Richard F. Ulrich, M.S.

NR769 Clinical Features of Lewy Body Dementia
Ian G. McKeith, M.D., Robert H. Perry, M.D., Elaine K. Perry, Ph.D., A.F. Fairbarn, M.D.

NR770 Psychosis After Temporal Lobectomy for Epilepsy
Norman Von Buttlar, M.D., Dietrich P. Blumer, M.D., Bruce Hermann, Ph.D.

NR771 m-RNA Changes in a Rat Model of Tardive Dyskinesia
Michael F. Egan, M.D., Yasmin Hurd, Ph.D., Thomas Hyde, M.D., Michael Knable, D.O., Joel Kleinman, M.D., Richard Jed Wyatt, M.D.

NR772 The Effects of Mecamylamine in Alzheimer's Disease
Paul A. Newhouse, M.D., Alexandra Potter, B.A., Robert Lenox, M.D.

NR773 CSF Markers of Psychotic Symptoms in Dementia
Daniel I. Kaufer, M.D., Oscar L. Lopez, M.D., Alan M. Palmer, Ph.D., Steven T. Dekosky, M.D.

NR774 First Quarter Births in Alzheimer's Disease
Brian A. Lawlor, M.D., Theresa M. Ryan, B.S., James Schmeidler, Ph.D., Richard C. Mohs, Ph.D.

NR775 Factors Influencing Admission From a Day Hospital
Brian A. Lawlor, M.D., Heidi Lee, M.D., Geraldine Hickey, R.N, Paula Walsh, R.N.

NR776 Support Groups for Early Stage Alzheimer's Patients
Andrew Satlin, M.D., Paul A. Raia, Ph.D., Sandra Cole, M.Ed., David Harper, B.S.

NR777 Sleep Disorders and Circadian Phase Shifts in Alzheimer's Disease
Andrew Satlin, M.D., Edward G. Stopa, M.D., Ladislav Volicer, M.D., David Harper, B.S.

NR778 Clinical and SPECT Findings in Psychosis in Alzheimer's Disease
Kathryn J. Kotrla, M.D., R.C. Chacko, M.D., S.G. Jhingran, M.D., R.D. Doody, M.D.

NR779 Pilot Study: Hospice Care for End-Stage Dementia
Patricia L. Hanrahan, Ph.D., Daniel J. Luchins, M.D.

NR780 Possible Pathogenesis of Alzheimer's Disease
Jack de la Torre, M.D.

NR781 Differential Induction of Early Genes in the CNS by Clozapine and Dopamine D2 Receptors Antagonists
Patrick J. Rogue, M.D., Guy Vincendon, M.D., Anant N. Malviya, Ph.D.

NR1 Monday, May 24, 9:00 a.m.-10:30 a.m.

Body Dysmorphic Disorder: Can it be Psychotic?

Katharine A. Phillips, M.D., McLean Hospital, 115 Mill Street, Belmont MA 02178; Susan L. McElroy, M.D., Paul E. Keck, Jr., M.D., Harrison G. Pope, Jr., M.D., James I. Hudson, M.D.

Summary:

Objective: Whether body dysmorphic disorder (BDD)—a preoccupation with an imagined defect in appearance—can present with psychotic features is controversial. This study addresses the following question: Is BDD, which is classified as nonpsychotic disorder in DSM-III-R, entirely distinct from its delusional counterpart—delusional disorder, somatic type? Or does BDD have a psychotic variant that overlaps with, and may even be the same diagnostic entity as, delusional disorder? *Method:* 41 patients who met DSM-III-R criteria for BDD were compared with 43 patients who met BDD criteria except that their preoccupations were of delusional intensity. Subjects were assessed with the SCID and a semistructured BDD interview; family history was blindly assessed. *Results:* Delusional patients did not significantly differ from nondelusional patients on most variables examined, including demographics, phenomenology, course, associated psychopathology, family history, or treatment response (data on treatment response have at this time been analyzed for the first 50 subjects only). For example, both delusional and nondelusional patients responded preferentially to serotonin-reuptake inhibitors: nine (56%) of 16 nondelusional patients and 10 (63%) of 16 delusional patients had a marked or moderate response to serotonin-reuptake inhibitors such as fluoxetine and clomipramine. In contrast, neither group responded to antipsychotics: none of 19 patients (including eight with delusional preoccupations) responded. *Conclusion:* Although these data are preliminary, it appears that BDD may have a closely related psychotic variant that significantly overlaps with, or may even be the same disorder as, the BDD variant of delusional disorder, somatic type. Confirmation of these findings would suggest that the inclusion of a psychotic subtype of BDD should be considered for future editions of DSM.

NR2 Monday, May 24, 9:00 a.m.-10:30 a.m.

Body Dysmorphic Disorder: 90 Cases of Imagined Ugliness

Katharine A. Phillips, M.D., McLean Hospital, 115 Mill Street, Belmont, MA 02178; Susan L. McElroy, M.D., Paul E. Keck, Jr., M.D., Harrison G. Pope, Jr., M.D., James I. Hudson, M.D.

Summary:

Problem: Body dysmorphic disorder (BDD), a preoccupation with an imagined defect in appearance, is included in DSM but has received little empirical study. *Method:* We assessed in 90 patients BDD's demographics, phenomenology, course, associated features, treatment history and response, and comorbid DSM-III-R disorders, using the SCID and a semistructured BDD interview. Family history was obtained by a blinded investigator. *Results:* The 44 men and 46 women studied reported a lifetime mean of 3.2 ± 2.0 bodily preoccupations, most commonly "defects" of the skin, hair, and nose. BDD's average age of onset was 16.3 ± 6.6 years (range four-42 years), and it had a mean duration of 16.6 ± 12.1 years. Two thirds reported ideas or delusions of reference related to their "defect;" 83%, excessive mirror checking; and 77%, attempts to camouflage the "deformity." As a result of their BDD, 96% had experienced significant impairment in social, academic, or occupational functioning; 28% had been housebound for at least one week; 31% had been psychiatrically hospitalized; and 26% had made suicide attempts. Also, 93% had an associated lifetime diagnosis of major mood disorder; 37%, a psychotic disorder; and 63%, an anxiety disorder. Patients generally responded poorly to surgical, dermatologic, and dental treatments and to most psychotropic medications, with the exception of the serotonin-reuptake inhibiting antidepressants (56% of trials led to a marked or moderate [30-100%] improvement vs 5% with all other medications [$p = .000$]). *Conclusion:* BDD is an often-secret, chronic disorder that can cause significant distress and impairment and that may respond preferentially to serotonin-reuptake-inhibiting antidepressants.

NR3 Monday, May 24, 9:00 a.m.-10:30 a.m.

Familial Sporadic Schizophrenia: A Comprehensive Study

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Summary:

Objectives: A recent review of studies comparing familial and sporadic schizophrenics identified the following trends: (1) more negative symptoms, poorer scores at the CPT, and more frequent neurological abnormalities in familial schizophrenics: (2) more obstetrical complications and winter births in sporadic cases. However, methodological limitations called for replication of these findings.

Methods: We studied 62 schizophrenic familial cases (i.e., a first-degree relative affected by schizophrenia) and 68 sporadic cases (i.e., without any severe affective or any nonaffective psychotic disorders in first-degree relatives), based on the FH-RDC. We compared them on: (1) clinical variables including premorbid adjustment, severity of positive and negative symptoms; (2) abnormal involuntary movements, neurological "soft" and "hard signs"; (3) IQ scores on the WAIS scales; (4) errors on the Continuous Performance Test and (5) environmental risk factors (winter birth and obstetrical complications).

Results: The only significant difference between the groups was an excess of winter births in sporadic schizophrenics. There was also a trend of poorer premorbid adjustment in familial cases.

Conclusions: Our results support the finding that sporadic schizophrenia is a more environmental subtype. However, we did not identify any clinical, neurological, or neuropsychological differences between the groups, which suggests that the familial sporadic distinction of schizophrenia has limited power to identify distinct subgroups.

NR4 Monday, May 24, 9:00 a.m.-10:30 a.m.

Familial/Sporadic Schizophrenia: MRI Findings

Marc-Andre Roy, Psychiatry, Bx 710 Medical Col of Virginia, Richmond, VA 23298; Michael A. Flaum, M.D., Stephan Arndt, Ph.D., Nancy C. Andreasen, M.D.

Summary:

Objectives: The distinction between familial and sporadic schizophrenia has been proposed to decrease the etiologic heterogeneity within schizophrenia and assist in studies of pathophysiology. Conceptualizing structural abnormalities as a marker for environmental injuries, investigators have hypothesized that ventricular enlargement should be more prominent in sporadic cases.

Methods: We studied 22 schizophrenic, schizoaffective, or schizophreniform cases with a first-degree relative affected by schizophrenia (familial group), 29 cases without any psychotic disorders in first-degree relatives (sporadic group), as determined from family history data (FHRDC). Using a 1.5 Tesla MRI scanner with 5mm and 3mm slice thickness, we compared the groups on the volumes of the cerebrum, ventricles, and subcortical structures, as well as measures of asymmetry between left and right ventricles.

Results: Controlling for important confounders, we found increased lenticular nuclei volume and more ventricular asymmetry (the left ventricle being larger) in familial cases, and lower IQ and

a trend for smaller cranial size in sporadic cases, but no differences on any other measures.

Conclusions: Our results suggest that equating sporadic schizophrenia with environmental pathophysiology and structural abnormalities may be an oversimplification: structural abnormalities may occur in familial cases as well, suggesting that genetic factors may also lead to brain structural abnormalities.

NR5 Monday, May 24, 9:00 a.m.-10:30 a.m.

Low Weight Discharge Causes Readmission in Anorexia

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Summary:

Until recently, standard treatment for severely underweight anorexics was inpatient hospitalization for weight restoration to a normal body weight. However, in the past three years, limitations of health care coverage have resulted in our having to discharge patients who are severely underweight. The aim of this study was to determine if patients who were discharged severely underweight did poorly compared with a group that was discharged at a normal weight.

We interviewed by telephone 23 women who met DSM-III-R criteria for anorexia nervosa 12 months or more after discharge from a specialized inpatient eating disorders treatment unit.

Seven patients had been discharged at (mean ± SD) 75 + 6% ABW (underweight) and 16 patients had been discharged at 95 + 3% ABW (normal weight). At follow-up, current weight was significantly lower for the patients discharged when underweight (81 + 11% ABW) in comparison with the patients discharged at normal-weight (94 + 7% ABW) ($p = .02$). In terms of rehospitalization, four of the patients discharged when underweight (57%) were rehospitalized in comparison to only two of the patients discharged when at normal weight (12.5%) (chisq stat 5.03, $p < .03$). Two underweight (29%) compared with 10 normal weight (67%) discharges reported regular menses (chisq stat 3.97, $p < .05$). These data suggest that anorexics who are discharged to outpatient treatment while still underweight have a greater risk of rehospitalization then those discharged after weight recovery. Importantly, such discharge decisions by managed care may not be cost effective in the long run since the underweight patients may end up with many brief hospitalizations instead of one longer hospitalization. Furthermore, these women discharged when underweight are more likely to suffer the effects of long-term malnutrition as they continued to be significantly underweight and had a greater rate of amenorrhea.

NR6 Monday, May 24, 9:00 a.m.-10:30 a.m.

Auras, Seizure Focus and DSM-III-R Diagnosis

Alison Freeland, Psychiatry, University Hospital, 339 Windermere Road, London, Ontario N6A 5A5, Canada; Rahul Manchanda, M.D., Betsy Schaefer, B.A., Richard McLachlan, M.D., Warren T. Blume

Summary:

The auras of 144 consecutive adult patients with a medically refractory seizure disorder were studied. The majority of patients 81 (73%) had simple or complex partial seizures with or without secondary generalization. A definite focus of seizure onset was determined by EEG with telemetry and subdural electrode placement when necessary. Auras were reported in 111 (77%) patients. The most common auras were viscerosensory 47 (42%) and experiential 44 (40%). A temporal lobe focus was seen in 43 patients with experiential aura and in 41 with a viscerosensory aura. Somatosensory and elementary visual auras were more likely to have a nontemporal focus. When type of aura was compared to laterality of seizure focus, viscerosensory auras were significantly associated with right sided focus, whereas cephalic auras were significantly associated with left sided focus. Patients with experiential auras were significantly more likely to have a temporal lobe focus and a *DSM-III-R* diagnosis. The localizing value of experiential auras and the lateralizing value of viscerosensory auras are in keeping with the literature. The lateralizing value of cephalic auras has not been previously reported. The findings confirm a clinical impression that patients with experiential auras are more likely to have a psychiatric diagnosis.

NR7 Monday, May 24, 9:00 a.m.-10:30 a.m.

Verbal and Visual Memory and Cortical Metabolism

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Summary:

Objective: To investigate whether verbal and visual memory are related to regional, hemispheric differences in brain glucose metabolism in healthy elderly subjects with age-consistent memory changes. *Method:* Forty-three subjects (mean age 60.1 ± 10 years) who met research diagnostic criteria for age-associated memory impairment received resting state positron emission tomography (PET) scans, and underwent neuropsychological assessment within two weeks of scanning. Metabolic left-right asymmetry ratios were calculated for frontal, parietal, temporal, and occipital brain regions. A neuropsychological asymmetry index was calculated to represent differences in verbal (Buschke-Fuld Selective Reminding Test) and visual memory (Benton Visual Retention Test). Spearman rank-order coefficients were calculated for the four cortical regions and the verbal-visual memory index. *Results:* The verbal-visual memory index was significantly correlated with the metabolic asymmetry ratio of the occipital cortex ($r = 0.40$, $p = 0.009$). Results were in the expected direction, such that relative superiority of verbal memory was associated with relatively higher metabolic activity in the left occipital region. There were no significant correlations between frontal, parietal, or temporal regions and memory. *Conclusion:* Relative superiority of verbal over visual memory may be related to changes in occipital lobe metabolism in healthy, elderly persons with age-consistent memory changes.

NR8 Monday, May 24, 9:00 a.m.-10:30 a.m.

Onset and Familial Risk in Alzheimer's Disease

Ge Li, M.D., Psychiatry 116A, Mt. Sinai Medical Center, Bronx VA 130 W. Kingsbridge Rd. Bronx, NY 10468; Jeremy M. Silverman, Ph.D., Christopher J. Smith, B.S., Michele L. Zaccario, B.S., Richard C. Mohs, Ph.D., Kenneth L. Davis, M.D.

Summary:

To investigate the relationship of onset age in Alzheimer's disease (AD) probands with the risk of primary progressive dementia (PPD) in their first-degree relatives, we successively dichotomized AD probands into early- and late-onset groups from age 55 to 70 at five-year intervals. The first-degree relatives of clinically diagnosed probable AD probands ($n = 200$; mean onset = 64.6 ± 9.6, range: 47-95) and non-demented elderly controls ($n = 179$) were recruited from the Bronx VA and Mt. Sinai Psychogeriatric clinics. Demographic and diagnostic data were collected on the relatives of both AD probands and controls through family informants. When age 70 was used as the cut-off, the cumulative risk was significantly higher in the relatives of early-onset probands (lifetime risk [LR] = 34.9 ± 4.9%) than for those of the late-onset probands (LR = 22.2 ± 5.6%; Mantel-cox log rank [MCLR]: = 8.51, $p = .004$). However, when the samples were dichotomized at

the more traditional cut-off points, age 60 and 65, the differences were not significant (age 60: MCLR = 0.98, p = .32; age 65: MCLR X^2 = 1.56, p = .21). Finally, when age 55 was used as a cut-off the risk in the relatives of the early-onset probands (LR = 50.8 ± 14.6%) was significantly higher than for relatives of late-onset probands (LR = 27.2 ± 3.8%; MCLR = 5.49, p = .02). However, unlike the relatives of probands with onset at 70+, the risk curve of the relatives of probands with onset <55 was *not* significantly different from that of the relatives of probands with onset between 55 and 69 (LR = 31.9 ± 5.1%). In addition, whereas the risk to relatives of probands with onset at 70+ was lower than that in the early onset (<70) group, it was still significantly higher than for the relatives of the controls (LR = 12.4 ± 3.4%; MCLR = 9.02, p = .003). These results suggest that age 70 may be a better cut-off age than the conventional cut-off ages, 60 and 65, to identify AD groups with differing familial/genetic risks.

NR9 Monday, May 24, 9:00 a.m.-10:30 a.m.

A PET Study of Normal Monozygotic Twins During Cognition

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Summary:

Objective and Methods: Although intelligence is known to be similar in monozygotic (MZ) twins, little is known about the degree to which heredity is involved in cognitively related physiology. We studied 10 pairs of normal monozygotic twins (five female, five male; mean age 27 years, range 18 to 54) with PET using the oxygen-15 water method for measuring regional cerebral blood flow (rCBF). rCBF was measured while each subject performed four tasks; two abstract reasoning problem solving tasks and a sensorimotor control task (CON) matched to each. The problem solving tasks were 1) the Wisconsin Card Sorting Test (WCS), a classic neuropsychological indicator of prefrontal cortex integrity, and 2) Raven's Progressive Matrices (RAV), a pattern completion task that is highly correlated with intelligence. rCBF values were normalized (i.e. expressed on a pixel-by-pixel basis as a percent of the whole brain mean). Regions of interest (ROIs) were drawn on co-planar MRIs and applied to the PET studies. For each ROI Spearman's rank order correlations between first and second born twins were calculated for each task. To assess the *overall* similarity between co-twins, the sum of the Spearman correlations across all regions examined was calculated for each task. To measure the contribution of sameness of age and sex in co-twins to these correlations, the MZ twins data were compared with data from pairs of unrelated subjects matched for age and sex who performed the WCS and WCS-CON. To determine the degree to which co-twins have similar rCBF that is specific to higher order cognitive processes, rCBF from control tasks was subtracted from task-related rCBF and correlations between co-twins were derived.

Results: For each of the four tasks considered separately, at each level of significance examined, there were more correlations between MZ co-twins than would be expected by chance. For example at a cutoff of rho = .62 (p < .05), which would account for approximately 40% of the variance in rCBF within twins, one or two of the 32 ROIs examined would be expected to be significant by chance. There were six, nine, eight and four significant ROIs for WCS, WCS-CON, RAV, and RAV-CON respectively. In unrelated pairs at this cutoff, there were only two for WCS and one for WCS-CON. When all ROIs were considered, twin pairs were found to have considerably higher sums of correlation coefficients (WCS = 11.33; WCS-CON = 12.4; RAV = 13.46; RAV-CON = 13.46) than unrelated pairs (WCS = 3.32, WCS-C = 3.0). However, when blood flow specific to cognitive activation (task-CON) was examined, there were surprisingly few significant correlations within twin pairs (two for WCS and one for RAV).

Conclusion: Taken together these data suggest that there is a heritable component of rCBF. However, the physiology underlying higher-order cognition may differ even between identical twins who have similar levels of performance. These data may help define the limits of how similar any two people may appear during PET studies involving cognitive activation.

NR10 Monday, May 24, 9:00 a.m.-10:30 a.m.

Loss of Planum Temporal Symmetry in Schizophrenia

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Summary:

The Planum temporale (PT) is the most clearly asymmetrical structure in the normal human brain, being usually much larger on the left side. Lying immediately behind Heschl's gyrus on the superior part of the temporal lobe it is approximately equivalent to Brodmann's area 21, and is intimately involved in the understanding and generation of language. It has been suggested that maldevelopment of the PT with a consequent loss of normal lateral asymmetry may occur in schizophrenia and be associated with some positive symptoms.

In this study we used high resolution MRI and 3D reconstruction techniques to measure the surface area of the PT in a group of 11 chronic schizophrenic patients and 11 controls matched for race, gender, age, height, and parental socioeconomic status. The PT is one part of the dispersed system of heteromodal association cortex, which we have recently proposed to play a key role in schizophrenia. For comparison we also measured the size of the nearby primary auditory association area: Heschl's gyrus (HG). An asymmetry index for measurements was derived by using the formula: Left-Right/[0.5x(Left + Right)]. While in the control group the left PT was large in nine subjects {asymmetry index ± SD 0.393 ± 0.615}, in the schizophrenic group the right PT was larger in nine subjects, and the group's asymmetry index ± SD was −0.289 ± 0.324; (p = 0.004; Unpaired t-test). This disturbance of normal symmetry in schizophrenia appeared to be accounted for by a relative increase in the size of the right PT. However, HG was equal in size on the left and the right of both groups. We conclude that the normal asymmetry of the PT is lost in schizophrenia, and that this effect is apparently specific to this area of heteromodal association cortex, since the primary auditory cortex is not affected.

NR11 Monday, May 24, 9:00 a.m.-10:30 a.m.

Adjunctive Clomipramine in Obsessive Schizophrenia

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Summary:

Obsessive-compulsive (OC) symptoms occurring in schizophrenic patients may suggest a poor prognosis. Pilot studies have shown that some schizophrenic patients may improve if fluoxetine is added to their neuroleptic. We have performed a pilot, double-blind, crossover study of clomipramine (CMI) and placebo (added to maintenance psychiatric medication) in six schizophrenic patients with OC symptoms. *Method:* All patients were diagnosed with schizophrenia (DSM-III-R), were taking neuroleptics, and had two or more symptoms on the Yale-Brown OC Scale (YBOCS) which lasted for more than six months and were not related to psychotic exacerbation. Patients were randomly assigned to six weeks of CMI (150 mg/day) followed by six weeks of placebo, or vice versa. CMI or placebo was added to existing medication. Positive and Negative Symptom Scale (PANSS) and a modified

YBOCS for all patients were rated. YBOCS was completed in three ways: (1) by patient self-report; (2) by patient's therapist or caretaker; and (3) by joint rating of two investigators. Analysis employed ANCOVA at endpoint with baseline scores as covariates. *Results:* Total PANSS scores improved more with CMI than placebo ($F = 3.28$; $p = .05$). YBOCS scores improved more with CMI than placebo ($F = 5.68$; $p < .02$) by investigators rating; ratings by patients or therapists both showed a trend toward significant benefit ($p < .10$) for CMI. *Conclusion:* In this pilot crossover study of CMI and placebo (added to psychiatric medication) in six schizophrenic patients with OC symptoms, CMI appeared superior to placebo in improvement of both schizophrenic and OC symptoms.

NR12 Monday, May 24, 9:00 a.m.-10:30 a.m.

Predictors of Remission of Tardive Dyskinesia in Older Patients

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Summary:

High risk of neuroleptic-induced tardive dyskinesia (TD) in older patients is well established, yet course of TD in older patients has not be systematically studied. *Methods:* In a longitudinal prospective fashion, we followed 43 middle-aged and elderly psychiatric outpatients with new-onset TD. Standardized rating scales were administered at one- to three-month intervals to measure psychopathology, cognitive impairment, and severity of TD. *Results:* TD remitted in 32 patients within three months and persisted for at least three months in 11. TD remitted in 20 patients (48%) without neuroleptic dose adjustment, in nine patients (21%) with increased neuroleptic dose, and in 13 patients (31%) with neuroleptic decrease or discontinuation. Patients whose TD remitted were older (mean $\pm$ SD age 70.2 $\pm$ 10.5 years), less educated (11.3 $\pm$ 3.2 years of education), and had greater cognitive impairment (Mini-Mental State Exam or MMSE score 22.5 $\pm$ 6.8) compared with patients in whom TD persisted (age 61.6 $\pm$ 8.5 years; education 14.8 $\pm$ 2.8 years; and MMSE 27.4 $\pm$ 3.0) ($p < 0.05$). The two groups were similar on psychiatric diagnosis, severity of psychopathology, and duration of illness. *Conclusion:* Factors associated with remission of TD may differ in older patients compared with those previously reported in younger ones.

NR13 Monday, May 24, 9:00 a.m.-10:30 a.m.

The Effect of Television Violence on Children

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Summary:

Objective: Violence continues to be one of the largest public mental health problems confronting America's youth. Our study investigated the effect of T.V. viewing on conduct and aggressive behavior of school children as measured by the Pediatric Behavior Scale (PBS). We focused on behavior changes based on the number of hours of total viewing time and also on the types of shows watched, in particular reality-based shows depicting true events. *Method:* Questionniares were sent to parents of all 1409 children aged 6 to 12 years in a Pennsylvania school district. Response rate was 81%. Questions included the PBS, number of hours of T.V. watching, types of shows watched, and emotional and behavioral changes observed. *Results:* Girls who scored higher in both the conduct and the aggressive scores watched more T.V. than those who had normal scores on the PBS ($p = .001$, $p = .005$, respectively). Boys who scored higher on the conduct scores watched more than those who did not ($p = .002$). However, in contrast to girls, the aggression score did not differ significantly in boys. Additionally, for boys, the number of hours spent watching reality-based shows differentiated males with and without conduct or aggressive problems (p's range from .008 to .026, depending on the show). For girls, the number of hours spent watching reality-based shows was significantly different for those with aggressive problems than for those without ($p = .048$). *Conclusion:* Our study is of clinical importance because it adds to the growing pool of evidence linking viewing television to violence. By using the PBS, we found that T.V. viewing hours did differentiate boys with conduct problems and girls with conduct or aggressive problems from those without such problems. The correlation between violence and behavior problems in children is further emphasized by the significantly higher conduct and aggressive scores in boys watching more hours of reality-based shows and in aggressive scores in girls watching this same type of show.

NR14 Monday, May 24, 9:00 a.m.-10:30 a.m.

Cerebral Blood Flow in Normal Aging: Spect Measurements

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Summary:

Global and regional CBF were evaluated with single photon emission computerized tomography (SPECT) utilizing both ^{133}Xenon (^{33}Xe) (54 subjects, 22-82 years old) and Tc-hexamethylpropyleneamine oxime (^{99}Tc-HMPAO) (35 subjects, 22-80 years old) to determine if any CBF changes occur during aging, and if gender differences exist. Data were collected in a cross-sectional manner. Pearson and Spearman correlations were calculated between age and CBF. The ^{133}Xe results showed: significant age-related decline in global CBF among subjects 22-82 years old ($p < 0.001$), but no age-related decline in global CBF among subjects over 45 years old; significant age-related regional CBF declines in bilateral hemispheres and in frontal, prefrontal, temporal, parietal, and occipital lobes among subjects 22-32 years old (all $p < 0.05$), but only in the occipital lobe among subjects over 45 years old ($p < 0.05$); significant age-related declines in global, frontal, temporal, occipital, and right hemisphere CBF among men over 45 years old (all $p < 0.05$); no age-related decline in global or regional CBF among women over 45 years. The ^{99}Tc-HMPAO results showed no age-related decline in either global or regional CBF. These results suggest CBF declines in normal aging are most prominent in early adulthood. Gender differences in age-related CBF changes warrant further study.

NR15 Monday, May 24, 9:00 a.m.-10:30 a.m.

Association Study of Dopamine Transporter Protein Gene and Schizophrenia

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Summary:

Objective: It is hypothesized that schizophrenia may be caused by abnormalities in the function of the dopaminergic system of neurotransmission. We have used genetic strategies (linkage studies) to test for mutations in dopamine receptor genes in schizophrenia as a first step; the dopamine transporter protein, which is the presynaptic reuptake site for dopamine, is another potential site of pathology. The dopamine transporter protein gene (DAT1) has now been cloned and a VNTR polymorphism described (Vandenbergh et al., 1992). Genetic association studies allow tests of spe-

cific hypotheses of gene-disease relationships under some circumstances; we looked for genetic association between alleles at DAT1 and schizophrenia. We note that this polymorphism has not be correlated with any physiologically different forms of the DAT gene or gene product. *Methods:* We studied 114 (99 white, 15 black) schizophrenic or schizoaffective patients in treatment at either the Pittsburgh (Highland Drive) or the West Haven DVA medical center. DNA was isolated from blood, then PCR amplified using modified versions of the primers reported by Vandenbergh et al. (1992); PCR products were size fractionated on a modified agarose gel and visualized by ethidium bromide staining and UV transillumination. *Results:* Allele frequencies in 99 Caucasians were as follows: Allele 11 (520 bp), 0.01; Allele 10 (480 bp), 0.71; Allele 9 (440 bp), 0.26; Allele 8 (400 bp), 0.01; and Allele 7 (360 bp), 0.01. These were not significantly different from allele frequencies in 129 controls reported by Vandenbergh et al (0.02, 0.70, 0.24, 0.02, and 0.01, respectively). Allele frequencies in 15 African American patients were Allele 11, 0; Allele 10, 0.60; Allele 9, 0.30; Allele 8, 0.10; and Allele 7.0. *Conclusion:* Allele frequencies at this DAT marker were the same in our schizophrenics as in previously reported controls; these data do not support the hypothesis of a mutation in DAT as a being etiologically relevant for schizophrenia.

NR16 Monday, May 24, 9:00 a.m.-10:30 a.m.

The Neuroanatomy of Facial Emotion Recognition

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Summary:

Objective: To demonstrate brain areas involved in facial emotion recognition.

Background: The functional neuroanatomy of emotion recognition is inadequately understood.

Methods: Eleven healthy controls (9 women and 2 men) had oxygen-15 water positron emission tomography rCBF studies during three conditions, each repeated twice—matching tasks involving spatial analysis (as a control)(SA), facial identity (FI), and facial emotion recognition (FE). Statistical parametric mapping (SPM) with a $p < 0.05$ significance level was used to assess group differences in activation during each of the three tasks.

Results: Most interestingly, higher-order emotion recognition (FE minus FI) (controlling for the action of viewing faces as objects) activated the right anterior cingulate and bilateral inferior frontal gyri (left > right). Spatial matching (SA minus FI) activated the superior parieto-occipital region bilaterally while the facial identity task (FI minus SA) involved the inferior occipital lobe bilaterally and the right mid-temporal lobe. Facial emotion recognition (FE minus SA) bilaterally activated the inferior occiput, inferior frontal gyrus, left mid-temporal cortex, and right anterior temporal cortex.

Conclusions: These data suggest that a functional neural network exists for facial emotion recognition, distinct from facial identification. Further, they imply that higher-order emotion recognition is medicated through the right anterior cingulate and inferior frontal lobes-areas also implicated in clinical depression.

NR17 Monday, May 24, 9:00 a.m.-10:30 a.m.

Schizo-Obsessives: A Clinical and Neuropsychiatric Study

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Summary:

Obsessive-compulsive (OC) phenomena in schizophrenia have been described for over 100 years, yet have received little systematic study. Their clinical significance and link to underlying pathophysiology remain unclear. Previously, OC phenomena were known to occur only rarely in schizophrenia and to have a comparatively benign clinical course. However, more recent studies indicate significantly higher comorbidity and poorer outcome in this subgroup. We investigated clinical, neurological, and neuropsychological profiles of ten schizophrenics with OC features (SZ + OC) compared to ten demographically matched schizophrenics without OC symptoms (SZ − OC). SZ + OC had a worse clinical course with longer hospitalization, more adjunctive medications, and lower functioning levels. On the positive and negative syndrome scale of schizophrenia, SZ + OC showed higher negative symptoms with significant impairments in impulse control, abstraction, and sterotyped thought process. In addition, they exhibited delusional qualities in their insight with minimal or no resistance to the OC symptoms. Neuropsychological profile of SZ + OC demonstrated significantly more functional impairment in frontal lobe activities (executive functioning, abstraction, perseveration, impulse control). Significant differences in neurological soft sign findings (coordination, movement) were also noted between the two study groups.

In summary, SZ + OC may constitute a distinct subgroup of schizophrenia with unique clinical, neurological, and neuropsychological features.

NR18 Monday, May 24, 9:00 a.m.-10:30 a.m.

Effects of Nortriptyline on Serotonin 1A Responses in Controls

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Summary:

Objective: To determine the adaptations of pre- and post-synaptic 5HT1A receptors to nortriptyline treatment in normal subjects.

Method: Normal volunteers were recruited by the UCSD Mental Health Research Center. All received a SCID interview, physical exam, and laboratory screening. Twelve individuals entered the study and seven completed the study (further subjects are being recruited). Subjects underwent neuroendocrine challenges on six different days: placebo, baseline, acute treatment, chronic treatment, acute withdrawal, and chronic withdrawal. Each subject began nortriptyline (75 mg QHS) after placebo and baseline neuroendocrine evaluations. Eight sampling points were obtained on each study day at 30 minute intervals. Challenges were either with placebo or with a 20 mg oral dose of ipsapirone, a selective 5HT1A agonist. Oral temperature, serum cortisol, and serum ACTH were measured at each sampling point.

Results: A hypothermic response was noted in response to ipsapirone (a previously described effect of pre-synaptic 5HT1A stimulation). Preliminary data analysis revealed significant changes in temperature course across conditions, and this supported blunting of the hypothermic response with acute nortriptyline treatment. An ANOVA with repeated measures was performed and these changes were found to be significant ($P < .05$) both in terms of area under the curve and peak response analysis. Secretion of cortisol and ACTH was also noted in response to the ipsapirone (a previously described effect of post synaptic 5HT1A stimulation). These responses were blunted in some subjects by acute nortriptyline treatment, but they did not reach statistical significance.

Conclusion: The results suggest that pre-synaptic $5HT_{1A}$ function is reduced acutely by tricyclics in controls, but function returns to baseline with chronic treatment. In contrast, depressed patients demonstrate blunted hypothermic responses to ipsapirone while untreated and an increased blunting of the hypothermic response

with chronic tricyclic treatment. Our results suggest that the presynaptic $5HT_{1A}$ receptor is under regulation in normal controls which differs from that in patients with major depressive disorder. Our study will allow further comparisons of 5HT1A receptor systems in other tricyclic responsive disorders such as panic disorder and obsessive compulsive disorder.

NR19 Monday, May 24, 9:00 a.m.-10:30 a.m.

Serotonin and Cocaine Effect in Humans

Sara C. Aronson, M.D., Psychiatry, Yale University, 34 Park Street, New Haven, CT 06519; Jed E. Black, M.D., Christopher J. McDougle, M.D., B. Ellen Scanley, M.D., Thomas R. Kosten, M.D., George R. Heninger, M.D., Lawrence H. Price, M.D.

Summary:

This study was designed to investigate the role of brain serotonin (5-HT) in the subjective and physiologic responses to cocaine in humans. Twelve cocaine-dependent subjects participated in two test sessions, separated by one week. In one session, the subject underwent acute dietary tryptophan depletion followed by intranasal cocaine at a dose of 2 mg/kg. On the other test day the subject received the same dose of cocaine preceded by a sham tryptophan depletion. The sequence of active and sham depletion was randomized and double-blind. Clinician and patient ratings for cocaine effect, vital signs, and serial tryptophan and cocaine blood levels were obtained throughout each challenge. Subject ratings of cocaine "high" were significantly lower on the active depletion test day (ANOVA with repeated measures, $p = 0.008$; paired t-test for base-to-peak change, $p = 0.01$). A similar trend was noted in the subject ratings of positive mood (paired t-test, $p = 0.09$). The active depletion group showed an earlier but less sustained rise in patient-rated nervousness (ANOVA, $p = 0.02$), while there was no difference in the baseline or base-to-peak change of this variable between the two groups. No differences were noted between active and sham tests on other subjective indicators of cocaine effect or vital signs. These data support the hypothesis that brain 5-HT may mediate the reinforcing and anxiogenic effects of cocaine in humans, either directly or by modulation of dopamine function.

NR20 Monday, May 24, 9:00 a.m.-10:30 a.m.

Early Versus Late-Onset Alcoholism in Women

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Summary:

Early-onset alcoholism in males is associated with antisocial personality, drug abuse, and genetic contribution. Are the same factors relevant in early-onset alcoholism in females? A total of 323 females with onset of heavy drinking at $\leq$ 25 years, and 182 at $>$ 25 years (in- and outpatients) were assessed at NIAA via blind-rated Schedule for Affective Disorders and Schizophrenia—Lifetime (SADS-L) yielding Research Diagnostic Criteria diagnoses. Age of onset of heavy drinking was determined from SADS-L definition and item. The following were assessed: 1) incidence and comorbidity of psychiatric diagnoses; 2) aggressive/impulsive behavior ($<$ & $>$ 15 years); 3) suicidality—a) incidence and multiplicity of attempts, b) intent, and c) lethality. Among early-onset female alcoholics, preliminary results indicate: 1) higher incidence of antisocial personality, drug abuse, anxiety (except phobia), and depression; 2) increased aggressive/impulsive behaviors ($<$ & $>$ 15 years) (both, $p = .01$); 3) no differences in suicidality—incidence, multiplicity of attempts, intent, or lethality (trend, $p = .06$). Clinical characteristics observed in early-onset female alcoholics appear to be similar to those reported in males.

NR21 Monday, May 24, 9:00 a.m.-10:30 a.m.

Enhancing Motivation To Stop Smoking Cigarettes

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Summary:

Objective: This study examined relationships of medical, psychological, and social factors associated with patients' motivation to stop smoking cigarettes.

Method: Participants in this study were 112 adult patients who smoke cigarettes. They were recruited through their physicians and nurses at a large medical center (58% female, 42% male, 79% white, 13% black, 3% Hispanic, 3% Asian, and 2% other). All patients completed self-report measures on smoking history, medical symptoms, depression, self-efficacy, motivation to stop smoking, and social network's attitudes and behavior regarding the patients' smoking.

Results: In stepwise multiple regression analyses, we found that patients' desire to comply with their social network's attitudes toward their smoking was the strongest predictor ($R^2 = .20$, $p < .0001$) of motivation to stop smoking. Also significant with motivation to stop smoking were self-efficacy ($R^2 = .14$, $p < .0001$) and history of stopping smoking ($R^2 = .10$, $p < .01$).

Conclusion: Using social networks to provide positive support for patients to stop smoking cigarettes is likely to be a particularly effective intervention stragegy.

NR22 Monday, May 24, 9:00 a.m.-10:30 a.m.

Strategies for Dosing Neuroleptics in the Elderly

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Summary:

Our *objectives* were to investigate the appropriate dosing of neuroleptics in the geriatric population as it relates to clinical response, plasma level, and side effects. We studied nine patients consecutively admitted to an inpatient psychiatric unit. Each was evaluated by a neurologist as well as a psychiatrist and the diagnosis of primary degenerative dementia of the Alzheimer type with delusions (*DSM-III-R* 290.20) or multi-infarct dementia with delusions (290.42) was established using a semi-structured interview and neuropsychiatric evaluations. Subjects not currently taking haloperidol or a mood stabilizer were administered a Washington Paranoia Scale (WPS) by a blinded psychiatry resident. If a score of two or higher was obtained, they were placed on 0.03 mg/kg of oral liquid haloperidol. At five-day intervals a WPS was administered, a serum drug level was obtained, and the haloperidol dose was increased by the resident at 0.015 mg/kg increments if clinically indicated.

Results show that all nine patients had a greater than 60% decline in their WPS ratings with an average admission score of 11 and discharge score of 0.8. Eight of the nine subjects responded to the starting dose of 0.03 mg/kg, while the remaining patient responded to a 0.045 mg/kg dose. All had a steady state serum level of less than 3mg/ml. None of the patients exhibited a clinically significant increase in side effects.

In *Conclusion,* our data suggest that doses of 0.03 to 0.045 mg/kg of haloperidol are appropriate and effective in the treatment of psychotic symptoms in demented elderly patients.

NR23 Monday, May 24, 9:00 a.m.-10:30 a.m.

Amygdala-Hippocampal Volume in Monozygotic Twins Discordant for Bipolar Disorder

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Summary:

The use of twins in psychiatric research has been a powerful research methodology. We have recently reported a series of investigations of MZ twins discordant for schizophrenia. We report herein the first MRI study of MZ twins discordant for bipolar disorder (DSM-III-R criteria. Subjects (N = 7 pairs) were screened to rule out significant medical, neurologic, substance abuse, and past or present psychiatric disorders (other than bipolar disorder). Eleven 2mm thick contiguous MRI coronal slices from T1-weighted images using a 1.5 Tesla Signa magnet were selected for measurement for each subject. These slices begin at a level 4mm rostral to the mammilary bodies and proceed caudally. On each slice the regions of interest, namely the amygdala and hippocampus in each hemisphere, were outlined, areas determined, and areas summed to yield volumetric measurements.

Our results show non within-pair differences in volumes of the regions of interest (all $p > 0.44$, paired t-tests). These data do not support an amygdalo-hippocampal morphometric abnormality as a marker of illness within discordant MZ bipolar twins. Data from normal age-matched twin pairs are being analyzed to address the possibility that abnormal amygdalo-hippocampal morphometry is a marker of genetic risk present in both twins.

NR24 Monday, May 24, 9:00 a.m.-10:30 a.m.

One-Year Follow-Up of First-Episode Psychoses

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Summary:

Objective: To provide information on the natural course of schizophrenia through the prospective evaluation of individuals early in the course of psychotic disorders.

Method: Subjects were recruited into the study if they were in the midst of their first psychiatric hospitalization for a "nonorganic" psychotic disorder. Subjects were extensively evaluated at index with a structured interview, the Comprehensive Assessment of Symptoms and History (CASH), and followed at six-month intervals. Data are presented on 35 subjects who were followed through one year.

Results: There was a significant improvement in overall symptomatology during index hospitalization, but this was accounted for primarily by improvement of positive symptoms, with negative symptoms remaining quite prominent at the time of discharge. No further improvement was noted between discharge and one-year follow-up in any of the symptom measures. Psychosocial functioning remained markedly impaired throughout follow-up.

Conclusions: These data demonstrate that 1) negative symptoms are prominent and stable early in the course of the disorder; 2) symptom severity at discharge from index hospitalization is predictive of symptom severity at one year; and 3) despite substantial overall symptomatic improvement during the first hospitalization, psychosocial functioning is markedly impaired at one year.

NR25 Monday, May 24, 9:00 a.m.-10:30 a.m.

Cloning and Localization of a Neuropeptide Y Receptor

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Summary:

Goals: Neuropeptide Y (NPI) is an important neuropeptide that exhibits a variety of physiological and pharmacological actions such as regulation of cardiovascular, gastrointestinal, and neuroendocrine function. NPY is one of the most potent endogenous stimulants of feeding behavior. Central NPY levels have been found to be significantly elevated in anorexia nervosa (1). In this study we describe cloning and localization of a rat NPY receptor mRNA for use in functional studies of NPY receptor gene expression.

Methods: We have previously shown by Northern blot analysis that NPY receptor mRNA sequenced by our laboratory from bovine locus coeruleus, referred to as LCR1, is regionally distributed in brain and in peripheral tissues (2). Spleen is a peripheral organ particularly enriched in LCR1 mRNA, and for that reason a spleen tissue library was obtained for this study. We utilized the full length LCR1 cDNA as a probe to screen a poly dT/random primed rat spleen library to isolate the rat homologue of that NPY receptor.

Results: We were able to isolate and sequence a rat LCR1 mRNA. The rat LCR1 mRNA has a sequence homology of approximately 85% when compared with the bovine clone. We localized rat LCR1 mRNA in hippocampus, cerebellum, and paraventricular nucleus of the hypothalamus.

Conclusions: We were able to clone a rat NPY receptor mRNA and describe its localization in brain. The rat LCR1 cDNA clone will be particularly useful for physiological and pharmacological studies on the regulation and function of NPY receptors.

NR26 Monday, May 24, 9:00 a.m.-10:30 a.m.

Comparison of Research Versus Non-Research Schizophrenic Patients

Bina P. Patel, M.D., Psychiatry, University of Michigan, 1500 E. Medical Ctr Drive, Ann Arbor, MI 48109; Sara B. Reddig, M.D., Rajiv Tandon, M.D., Stephan F. Taylor, M.D., John R. DeQuardo, M.D., James E. Shipley, M.D.

Summary:

In research on human subjects, the assumption that a sample is randomly drawn from the population that it is supposed to represent is challenged by the necessity that subjects give their consent to participate and their ability to participate in the research being conducted. These constraints may bias findings and can also limit their generalizability. Data suggest that samples of research schizophrenic patients may be particularly unrepresentative in this regard. Since the assumptions of representativeness and random selection are central to one's ability to make population inferences on the basis of sample findings, it is clearly important to test these assumptions. In this study, we compared 100 research schizophrenic inpatients (who participated in some research protocol-polysomnographic studies, neuroendocrine studies, etc. over a three-year period) to a random sample of 100 schizophrenic inpatients admitted to our facility over that time period but who did not participate in any research. Data were obtained on the basis of a retrospective chart review conducted by two independent raters who were blind to the research versus non-research status of the patients. No additional data (eg. from the research charts of the

patients) were utilized to assure comparability of data between the two groups. The two groups of schizoprehenic inpatients were compared on a variety of clinical, family history, sociodemographic, and treatment characteristics. Concurrent psychiatric and medical diagnoses, lengths of inpatient stay, and level of function were compared between the two groups. There were no differences between the two groups with regard to any sociodemographic characteristics; in fact, few differences were noted between the two groups on any characteristic. Our data indicate that there are no significant group differences between schizophrenic patients who do participate in research and those who do not. Prospective studies (utilizing an extensive sampling frame, recording reasons for inclusion / noninclusion of patients, etc.) addressing this question need to be conducted.

NR27 Monday, May 24, 9:00 a.m.-10:30 a.m.

Neuropeptide Modulation of Lymphocyte Function

Raga H. Malaty, M.D., Psychiatry, LSU Medical Center, 1542 Tulane Avenue, New Orleans, LA 70112; Roger W. Beuerman, Ph.D., Elaine Gavin, B.S.

Summary:

Objective: Psychosocial stress is recognized to be associated with alterations in immune competence. However, interactions between the nervous system and the immune system are not well understood. The present study investigated the proliferative response of T-cell and B-cell subsets to three neuropeptides: vasoactive intestinal peptide (VIP), calcitonin gene-related peptide (CGRP), and substance P (SP) to determine the effects of the tissue source.

Method: Lymphocytes were isolated from mouse (CBA/J) spleen (SPL), mesenteric lymph nodes (MLN), or Peyer's patches (PP) and exposed to VIP (10^{-8}M) or CGRP in combination with SP(10^{-7}M-10^{-10}M). The cells were exposed to the mitogen, concanavalin A, and then the neuropeptide. Experiments were done in quadruplicate with 6-10 replications. Proliferation was measured by flowcytometry and thymidine uptake and antibodes (L3T4, Lyt 2, Ig) used for subset identification.

Results: VIP stimulation of subsets in MLN were L3T4 −6.3%, Lyt 2 + 2%, in PP L3T4 −9.7%, Lyt 2 −% and SPL L3T4 Lyt 2 −5.2%. Variations of S-phase cells included L3T4-MLN, +2%, and −4% in PP; Lyt 2 cells in MLN, +1%, PP no effect. IG cells were stimulated in MLN by CGRP/SP, +4%, but not affected in PP.

Conclusions: These results suggest that the nervous system could selectively modulate immune function through neuropeptide contact with lymphocytes.

Supported in part by EYO7213.

NR28 Monday, May 24, 9:00 a.m.-10:30 a.m.

A Study of the Potential Confounding Effects of Diet, Nicotine, Caffeine and Lorazepam on the Stability of Plasma and UR

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Summary:

Objective: Alterations in central dopaminergic neurotransmission may contribute to the pathophysiology of schizophrenia. Plasma and urine homvanillic acid (pHVA, uHVA) measurements have been proposed as minimally invasive indicators of central dopamine turnover. This study examined the stability and potential research confounds in measuring plasma and urine HVA. *Method:* Ten inpatient subjects meeting DSM-III-R criteria for schizophrenia, stabilized on neuroleptic medication, received in random sequence one day per week over five weeks either: no intervention, four cigarettes, four Coca-colas, a high nonoamine breakfast, or lorazepam 2 mg intravenously. Plasma HVA was measured hourly from 8 a.m. to 12 noon. Four hour uHVA levels were also determined. *Results:* Baseline 8 a.m. pHVA levels remained stable in subjects across the five study weeks. Of the four potential confounding variables only the high nonoamine diet resulted in significantly elevated pHVA levels (p. 0.05). Nicotine, caffeine, and lorazepam did not significantly alter pHVA levels. Four-hour uHVA levels were not significantly different across conditions.

Conclusions: These results suggest that pHVA exhibits stability and may be reliably measured over time in clinically stable institutionalized patients. Methodological considerations for HVA research are the findings that nicotine, caffeine, and lorazepam do not appear to confound pHVA measurement, and that four-hour uHVA measurement did not appear sensitive in reflecting pHVA changes.

NR29 Monday, May 24, 9:00 a.m.-10:30 a.m.

Torsades De Pointes and Intravenous Haloperidol

Eran D. Metzger, M.D., Psychiatry, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215; Rohn S. Friedman, M.D.

Summary:

Objective: This study sought to determine risk factors for the development of torsades de pointes tachycardia in intensive care unit (I.C.U.) patients (pts.) after administration of intravenous (I.V.) haloperidol to control agitation.

Method: We performed a chart review of three pts. who developed lengthening of the QT and torsades in association with I.V. haloperidol. A literature review was also performed.

Results: Two pts. developed torsades de pointes and a third developed an abnormal QT which normalized after discontinuation of haloperidol and became abnormal again with resumption of the drug. The pts. did not have blood chemistry abnormalities and were on no other medications associated with torsades. The doses of haloperidol administered fell considerably short of maximum doses described in the literature as having been administered safely. The maximum QT_c intervals for the three pts. were 457, 500, and 538ms. The mean percent change in the QT_c was 27%. All three pts. had cardiac disease and dilated ventricles by echocardiogram. The histories of all three pts. included longstanding alcohol abuse. The three cases occurred over one year, during which 214 pts. were treated with intravenous haloperidol at our hospital.

Conclusions: Alcohol abuse and cardiomyopathy may be risk factors for the development of torsades during I.V. haloperidol treatment. Prolongation of the QT_c to greater than 450ms, or a greater than 25% increase over baseline, may herald the development of dangerous arrhythmia.

NR30 Monday, May 24, 9:00 a.m.-10:30 a.m.

Recognition and Response to Prodromal Episodes

Annette Zygmunt, M.S., Psychiatry, St. Luke's Roosevelt, 428 West 59th Street, New York, NY 10019; Peter J. Weiden, M.D., Tasha Mott, M.A., Nancy Curchio, Psy.D., Ralph Aquila, M.D., Dodi Goldman, M.A.

Summary:

Goals: Prompt recognition of the early warning signs of relapse (e.g. prodromal episodes) should help prevent full-blown psychotic relapse. However, to be useful, prodromal episodes must be recognized and a clinician notified.

Methods: Neuroleptic-responsive schizophrenic inpatients (N = 130) and their families were followed after discharge and received baseline, 1-, 6-, and 12-month assessments for prodromal signs using the ESQ and a semistructured interview of the subsequent actions taken after a prodrome occurred. Forty patients (31%) had at least one clearly defined prodromal episode; 17 were identified by both self-report and family report, 13 by family report only, and 10 by patient report only.

Results: The group reporting prodromes had better functioning on follow-up (e.g. one-month GAS score of 50 vs. 41, $p < .05$) and yet had an earlier age of onset (age of first hospitalization was 22.4 vs 26.9 years, $p < .05$). Female patients were more likely than men to identify prodromal episodes ($p < .05$). Minority families were more likely to report a prodrome ($p < .05$). Only 41% of patients and 33% of the families who identified a prodrome sought clinical assistance. Patients whose families contacted a clinician upon recognizing a prodrome had histories of fewer rehospitalizations (.42/year) than patients whose families attempted to convince the patient to seek help (1.26/year; $p < .05$).

Significance: The overlap between patient-reported and family-reported prodromal episodes suggests that they are discreet and recognizable events. The finding that two-thirds of families did not contact a clinician upon recognizing a prodromal episode suggests that family psychoeducation should emphasize the importance of prompt clinician notification.

NR31 Monday, May 24, 9:00 a.m.-10:30 a.m.

Peripheral Cholinergic Functioning in Alzheimer's Disease

Anand P. Popli, M.D., Psychiatry, SUNY HSC & VMAC, 750 East Adams Street, Syracuse, NY 13210; H.I. Ryer, Ph.D., M. Laubacher, R.N., C.V. Haldipur, M.B.

Summary:

Objective: Alzheimer's disease (AD), a major public health problem, is the most prevalent form of dementia in the elderly. Central cholinergic hypofunction is a major and consistent finding in AD. In light of the difficulties in measuring central cholinergic function in vivo, a peripheral marker of cholinergic function would be of great clinical utility. This study presents a method of measuring pre- and post-synaptic cholinergic function of sweat glands and assesses its diagnostic value in the AD population. *Method:* AD (n = 7) patients meeting NINCDS-ADRDA diagnostic criteria were compared to young (n = 12), age-matched (n = 8) controls. Subjects were injected intradermally with six doses of a cholinergic agonist (bethanechol) and three doses of an acetylcholinesterase inhibitor (neostigmine). Sweat response was recorded with a silicone impression material and analyzed using an image analysis program. Differences among groups were valuated using ANOVA for repeated measures. *Results:* All subjects showed a significant dose response. AD subjects showed an increased, although statistically nonsignificant, response to neostigmine which appeared to be largely the result of increased sweat droplet size. *Conclusions:* These preliminary findings suggest that presynaptic cholinergic changes occur in AD. This may be a compensatory reaction to peripheral neurodegeneration. Supported by NINDS Grant # NS25512.

NR32 Monday, May 24, 9:00 a.m.-10:30 a.m.

A Primate Model of Immunologic Changes in Stress

Lauren L. Wing, Ph.D., Psychiatry, University of Wisconsin, 600 Highland Ave. B6/210 CSC, Madison, WI 53792; Ned H. Kalin, M.D., Steven E. Shelton, M.S., Henrietta Kulaga, Ph.D.

Summary:

Brief psychological stress in humans has been associated with rapid immune cell changes, including release of Cluster Designation 8 (CD8), and increases in natural killer cell activity (Naliboff et al., 1991), and Interleukin-2 and CD2 in animals (Minton et al., 1992). We examined the effects of acute stress on cell surface antigen markers in peripheral blood mononucleocytes (PBMC) obtained from adult female rhesus monkeys (5.4-12.7 yrs.) and their infants (3-5 mos.). Baseline bloods were drawn. Two weeks later, mothers and infants were separated for 30 min., and blood obtained and processed for flow cytometric analysis. Samples were stained for two-color analysis of cell surface antigens, including CD3, CD4, CD5, CD8, CD20, and CD72. CD8+DR+ lymphocytes were elevated in stressed adults and infants, while CD4+CD3+ values were decreased, and in adults only. CD20+CD5+ B-cell populations were not significantly different in either the mothers or their infants. In contrast, CD72+CD3+ and CD72+CD20+ cells were decreased in both mothers and their infants. These studies showed modulation of immunologically important cell surface antigens following acute stress. Further studies of the effects of chronic stress, as well as pharmacological manipulations, are in progress.

NR33 Monday, May 24, 9:00 a.m.-10:30 a.m.

Compulsive and Impulsive Symptoms in Prader-Willi Syndrome

Dan J. Stein, M.D. Psychiatry, Columbia University, 722 W. 168th Street #85, New York, NY 10032; Jeffrey Keating, B.S., Heather Zar, M.D., Eric Hollander, M.D.

Summary:

Prader-Willi Syndrome (PWS) is a congenital disorder characterized by hyperphagia, as well as by other behavioral disturbances such as self-mutilation and temper outbursts. Some of these symptoms have been reported to respond to psychotropic medications. We conducted a systematic survey to gather information on the phenomenology and pharmacotherapy of compulsive and impulsive symptoms in PWS. Questionnaires were sent to caretakers of PWS patients, and 369 replies were analyzed. Questions focused on compulsive and impulsive symptoms and the response of these symptoms to medication. A follow-up telephone interview was done to inquire further about certain answers. Both compulsive and impulsive symptoms are frequent in this population. Although the majority of patients are not treated with psychotropics, specific medications may be helpful for particular symptoms of the disorder. PWS may constitute a chromosomal model of certain compulsive and impulsive symptoms. Pharmacotherapeutic intervention may have a significant role in the management of these symptoms, and rigorous treatment studies deserve to be undertaken in this population.

NR34 Monday, May 24, 9:00 a.m.-10:30 a.m.

Neuropsychiatry of Impulsive Aggression

Dan J. Stein, M.D., Psychiatry, Columbia University, 722 W. 168th Street #85, New York, NY 10032; Eric Hollander, M.D., Lisa Cohen, Ph.D., Maxim Frenkel, M.D., Michael R. Liebowitz, M.D., Lee S. Cohen, M.D.

Summary:

It has been suggested that impulsive aggression is associated with neuropsychiatric impairment. Neurological soft signs may be a useful marker of nonspecific brain damage, and may therefore be increased in impulsive aggressive patients compared to normal

controls. We performed a structured neurological soft sign examination on 28 patients with personality disorders characterized by impulsive aggression and 28 healthy controls. All patients met *DSM-III-R* criteria for borderline personality disorder, and 10 also met criteria for antisocial personality disorder. All patients were questioned about history of physical aggression, and a subset of 18 patients underwent selective neuropsychological testing. Left-sided soft signs were significantly increased in patients compared to normal controls. Patients with a history of aggression, however, had significantly increased right-sided soft signs than those without a history of aggression. Increased soft signs were associated with impairment on measures of complex information processing. Increased right-sided softs signs were associated with impairment on the Wisconsin Card Sort, a test of frontal lobe executive function. Specific neuropsychiatric abnormalities may characterize impulsive aggressive personality disorders.

NR35 Monday, May 24, 9:00 a.m.-10:30 a.m.

Neuroleptic Reduction in Elderly Schizophrenics

Helen Tierney, M.D., Psychiatry, WLA VAMC and UCLA, c/o K Daly 2041 Pelham Avenue, Los Angeles, CA 90025; Kathleen A. Daly, M.D.

Summary:

Objective: To determine outcome of neuroleptic dose reduction in elderly institutionalized patients with schizophrenia, chronically maintained on medication. *Method:* Neuroleptic dose was systematically reduced in ten male elderly nursing home residents with schizophrenia (median age = 72 years, median duration of illness = 42 years, median haloperidol-equivalent dose = 5mg, median Brief Psychiatric Rating Scale (BPRS) = 30). Neuroleptic dose and psychiatric symptoms were stable for at least six months. All patients had negative symptoms, while two had positive symptoms. *Results:* At one to three months, four patients have discontinued neuroleptic without relapse (two with normal serum prolactin levels and two with plasma haloperidol levels <2.5 ng/ml), and six have completed dose reductions of > = 50% without relapse. Overall BPRS scores improved in seven patients. Measures of negative symptoms improved: emotional withdrawal (6/8); motor retardation (2/9); and blunted affect (3/10). Three of four patients with akathisia improved on Barnes' Akathisia Scale and four of eight patients with parkinsonism improved on the Unified Parkinsons' Disease Scale. *Conclusions:* These preliminary data suggest that elderly, chronically institutionalized patients with schizophrenia may show improvement and not relapse when neuroleptic dose is reduced.

NR36 Monday, May 24, 9:00 a.m.-10:30 a.m.

Post-Ictal and Chronic Psychoses in Temporal Lobe Epilepsy

Daniel S. Umbricht, M.D., Psychiatry, Hillside Hospital, 75-59 263 Street, Glen Oaks, NY 11004; Gustav DeGreef, M.D., William Barr, Ph.D., Simcha Pollack, Ph.D., Neil Schaul, M.D.

Summary:

Objective: To elucidate the relationship of clinical, neuropsychological, and seizure variables with chronic and post-ictal psychoses in patients with temporal lobe epilepsy (TLE). *Method:* Of 83 patients undergoing evaluation for treatment refractory epilepsy, 44 were diagnosed with TLE. The psychiatric evaluation (clinical interview, SCID-E) diagnosed 29 patients with no psychiatric or a non-psychotic disorder (group 1), eight patients with post-ictal psychoses (group 2) and seven patients with chronic psychoses (group 3). Comparisons of clinical, neuropsychological, imaging, and seizure variables were made between group 1 and groups 2 and 3 combined, and, secondly, between groups 2 and 3. *Results:* 1.) Bitemporal seizure foci, clustering of seizures, and absence of febrile convulsions were associated with either psychosis. Older age at first seizure and a significantly shorter time lag between first seizure and epilepsy onset characterized patients with psychoses as well. 2.) Only a lower verbal IQ and a younger age at onset of epilepsy differentiated patients with chronic psychoses from those with post-ictal psychoses. *Conclusions:* 1.) TLE patients with chronic and post-ictal psychoses show similar profiles of clinical and seizure variables, suggesting shared etiological factors. 2.) A process similar to secondary epileptogenesis may be involved in the development of psychoses. 3.) Chronic psychosis in TLE may involve left-hemispheric dysfunction regardless of seizure focus.

NR37 Monday, May 24, 9:00 a.m.-10:30 a.m.

Is There Frontal Lobe Lateralization? A Study Using PET

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Summary:

Hemispheric specialization is an important element in cognitive-neuropsychological theories of brain function, in particular, language and motor asymmetry. However, the role of functional lateralization in the prefrontal cortex (PFC) remains less clear. Defective abstract reasoning in patients with left-PFC lesions has been put forward as evidence for functional lateralization in the frontal lobes. However, impaired attention, working memory, and other "executive" functions in right-PFC lesion patients has also been observed. Few studies have directly examined the relative contributions of the left and right hemispheres to these cognitive functions in normal subjects.

We attempted to identify brain regions showing lateralization related to PFC function by measuring regional cerebral blood flow (rCBF) in 18 normal volunteers (12 males and six females) using bolus injections of oxygen-15 water and PET. Subjects were scanned six times while performing six different cognitive tasks: the Wisconsin Card Sorting Task, which is sensitive to the integrity of the PFC; Delayed Alternation and Delayed Response Tasks, human analogs of classic monkey paradigms for testing PFC and working memory; and three matched sensory-motor control tasks, one for each of the above tasks. Sixteen regions-of-interest in both cerebral hemispheres were identified on co-planar MRIs from 15 transaxial slices. rCBF data were analysed with multivariate, repeated measures, and region-by-region by comparisons. Additionally, rank correlations were performed on left-right differences in activation (task-control) and task performance data.

Results indicated for all three cognitive tasks that there were no significant hemisphere effects, hemisphere-by-activation, nor hemisphere-by-region interactions, despite significant region main effects (*e.g.* on all tasks, anterior cingulate, $p < 0.001$, and inferior frontal gyrus, $p < 0.001$, bu mean contrasts) and activation-by-region interactions (*e.g.* on all tasks, inferior frontal gyrus, $p < 0.05$, by mean contrast). However, when applying a more liberal method of comparison, several left-right activation differences were noted: middle frontal gyrus (L > R), superior frontal gyrus (L > R), and hippocampus (L < R) showed evidence of lateralization during the WCS and DA tasks (paired t-tests, $p < 0.05$). Additionally, correlations were observed between regional hemispheric activation and task performance. Left-right differences in the anterior cingulate correlated negatively with Wisconsin Card Sorting performance ($p < 0.03$) and positively with Delayed Alteration perfor-

mance ($p < 0.025$). Collectively, these results suggest that, although some asymmetries may be found when using liberal methods of analysis, there is less evidence for lateralization of brain function during performance of tasks reflecting working memory and executive functions, than in language and motor systems.

NR38 Monday, May 24, 9:00 a.m.-10:30 a.m.

Dimensions of Neurobiological Abnormalities in Schizophrenia

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Summary:

Schizophrenic patients exhibit a variety of structural and functional brain abnormalities, including ventricular enlargement, reduced slow-wave sleep (SWS), and shortered rapid-eye-movement (REM) latency; and neuroendocrine abnormalities, including cortisol nonsuppression on the dexamethasone suppression test (DST). The number/s (one or several) and nature of pathophysiological processes that these abnormalities reflect is unclear; delineation of the number (and factor structure) of abnormal brain processes would help to identify the locations of specific brain pathology in schizophrenia; studying the correlates of these factors may elucidate the timing and pathological nature of these specific "schizophrenic" brain abnormalities. As an initial effort toward this objective, we studied 35 drug-free (minimum two weeks) schizophrenic inpatients (SADS/RDC and *DSM-III-R*). All patients received a two-night polysomnographic study (with only sleep staging on night 2), a 1-mg dexamethasone suppression test (DST), and a head-CT scan with measures of ventricular size obtained by video-planimetry. Comparison to a sample of normal controls on these measures revealed abnormalities on each of these measures in the schizophrenic group (ventricular enlargement, higher post-dexamethasone cortisol levels with 40% nonsuppression rates, and shorter REM latency). A factor analysis with these three measures (maximum post-dexamethasone cortisol level, REM latency, and maximum ventricle-brain ratio—VBR) in the 35 patients provided a two-factor solution: short REM latency and high post-dexamethasone cortisol levels loaded on factor 1 and maximum VBR loaded on factor 2. These data may indicate that short REM latency and ST nonsuppression may reflect one pathophysiological process (neurochemical) that is distinct from the pathophysiological process reflected by ventricular enlargement (structural). Clinical correlates (positive and negative symptoms, outcome, etc.) of these abnormalities are different as well. These data indicate that there may be unique structural and neurochemical dimensions to schizophrenic pathology developing at different timepoints in the illness.

NR39 Monday, May 24, 9:00 a.m.-10:30 a.m.

Abnormal Pulsatility of Interleukin-2 in Bulimia Nervosa

Julio Licinio, M.D., Psychiatry, Yale University, WH VAMC/116A 950 Campbell Ave, West Haven, CT 06516; Ma-Li Wong, M.D., Margaret Altemus, M.D., Peter B. Bongiorno, Aviva S. Bernat, Philip W. Gold

Summary:

Goals: Interleukin-2 (IL-2), is a major component of the immune system. We have shown that circulating IL-2 concentrations are decreased in bulimia nervosa (BN) at 0800 a.m. In this study we addressed the question: Is there an abnormality in the 24-h pulsatile patterns and basal levels of IL-2 concentrations throughout the 24-h period in BN?

Methods: Six patients meeting DSM-III-R diagnostic criteria for BN and six healthy women (comparison group, NC) were studied at the NIH Clinical Center. Subjects were 18-32 years old, within 85%-115% ideal body weight, and drug and medication free. Blood samples were collected every 15 min for 24-h, a total of 582 samples/group. IL-2 was measured by immunoassay (1). A mathematical analysis of the pulsatility of circulating L-2 concentrations was performed using Cluster, a computerized pulse detection algorithm (2).

Results: BN patients had significantly lower 24-h integrated IL-2 concentrations than NC. Mean IL-2 concentrations in BN were 1.48 $\pm$ 0.87 μg/L and 4.71 $\pm$ 2.18 μg/L in NC (mean $\pm$ SD; $P < 0.01$, nonpaired Student's t test, two tailed); mean integrated IL-2 concentrations were 2133.6 $\pm$ 1251.3 min·μg/L in BN and 6788.3 $\pm$ 3142.0 min·μg/L in NC ($P < 0.01$). Mean pulse height was 1.94 $\pm$ 1.00 μg/L in BN and 6.16 $\pm$ 2.44 μg/L in NC ($P < 0.005$), and mean pulse area was 30.5 $\pm$ 15.0 min·μg/L and 93.1 $\pm$ 28.9 min·μg/L in NC ($P < 0.001$). Pulse width, pulse number, and interpulse interval were not significantly different in BN and NC.

Conclusions: We measured circulating IL-2 concentrations at a total of 1164 time points. A detailed pulse analysis shows that BN is characterized by significantly lower concentrations of IL-2 throughout the 24-h period, and by significantly lower pulse height and pulse area, as compared with a healthy control group. These findings suggest a disruption in immune function in bulimia nervosa.

NR40 Monday, May 24, 9:00 a.m.-10:30 a.m.

Follow-up of African-American Suicide Attempters

Arden D. Dingle, M.D., Psychiatry, Emory Medical School, 80 Butler St P.O. Box 26238, Atlanta, GA 30335; Mary B. Summerville, Ph.D., Karla Doepke, Ph.D., Sheila Jones

Summary:

Objective: Despite the rise in suicide attempts among African-American youth, there is limited research. This study assessed and followed African-American adolescents who attempted suicide. *Method:* Participants included 162 African-American adolescents (mean age 15 years, 3 months) and their parents. Subjects were administered a semistructured interview, the Children's Depression Inventory, Kastan Children's Attributional Style Questionnaire, and Family Adaptability and Cohesion Evaluation Scale-III. Youth were contacted three months following their suicide attempt to assess level of suicidality and general functioning. *Results:* At presentation, 55% of the youths were hospitalized and 74% diagnosed with major depression; 32% reported a prior suicide attempt and 30% reported physical or sexual abuse. At three-month follow-up, 35% (n = 57) of the original sample were located. Of these, 32% were attending outpatient treatment. Treatment adherence was positively correlated with outpatient treatment referral ($r = .84$, $p < .001$), nondepressed attributional style ($r = .44$, $p < .05$), family adaptability ($r = .84$, $p < .01$), parental ratings of psychopathology ($r = .40$, $p < .05$), and self-reported depression ($r - .24$ $p < .05$). *Conclusions:* Results suggest the need to advocate for formal psychiatric treatment in African-American adolescents who attempt suicide.

NR41 Monday, May 24, 9:00 a.m.-10:30 a.m.

Benzodiazepines: Neuroprotective in Psychosis?

Rona J. Hu, M.D., Psychiatry, University of Calif., 401 Parnassus Ave Box 0984, San Francisco, CA 94143; S. Paul Berger, M.D., Owen M. Wolkowitz, M.D.

Summary:

Objective: The mechanisms for the effects of benzodiazepines in the treatment of schizophrenia and psychosis have been the subject of considerable speculation. Wolkowitz et al. have suggested effects on dopamine activity, especially in the mesoprefrontocortical tracts, or have noted preferentially beneficial effects in patients with radiographic signs of prefrontal atrophy. Olney et al, have suggested that the ability of the potent psychotomimetic phencyclidine to injure cingulate cortex may be relevant to schizophrenia. In administering benzodiazepines to experimental animals subsequently treated with phencyclidine, we have found a significant neuroprotective effect against cortical neuronal injury, as detected by antibodies to heat shock protein (HSP-72).

Method: Male Sprague-Dawley rats (N = 10) were used. Four were pretreated with diazepam 40 mg/kg IP 30 minutes before receiving phencyclidine 50 mg/kg IP. Six controls received phencyclidine only. All animals were then sacrificed 24 hours later, paraformaldehyde perfused, and their fixed brain sections stained for HSP-72.

Results: 100% (N = 6) of control animals showed staining for HSP-72 in neurons of the anterior and posterior cingulate and retrosplenial cortex, while only 20% (N = 4) pretreated with diazepam showed any cortical or subcortical staining.

Conclusions: As heat shock protein is a powerful marker for neuronal injury, these results suggest the therapeutic effects of benzodiazepines in psychosis may be related to a direct neuroprotective effect against cortical neuron injury.

NR42 Monday, May 24, 9:00 a.m.-10:30 a.m.

Substance Abuse and Head Trauma in the United States Military

Enid Quintero Sheeley, M.D., Psychiatry, Walter Reed Hospital, 16th Street N.W., Washington, DC 20307; Deborah L. Warden, M.D., James J. Staudenmeier, M.D., Andres M. Salazar, M.D.

Summary:

Traumatic brain injury (TBI) is the primary cause of death and disability in young Americans. Substance abuse is a significant contributor to TBI with alcohol being involved in over 50% of head injuries. In 1981, the US Military adopted stricter health promotion policies which have decreased alcohol and drug use. There are over 6,000 peacetime TBI admissions to military hospitals annually. The military setting thus offers an unique opportunity to study substance abuse and TBI in a young population. The Defense and Veterans Head Injury Program includes an ongoing, controlled randomized efficacy study of a multidisciplinary rehabilitation program versus home treatment in moderately head injured soldiers. The interaction between TBI and substance abuse is being explored within this context. Of the 27 service members enrolled thus far 41% were drinking at the time of injury and 33% had pre-injury alcohol abuse problems (versus 10% expected). These preliminary findings underscore the need for aggressive substance abuse screening, diagnosis, and treatment in the complete rehabilitation of these dual diagnosis patients.

NR43 Monday, May 24, 9:00 a.m.-10:30 a.m.

ECT in Adolescents

Terry D. Schneekloth, M.D., Psychiatry, Mayo Clinic, 200 First Street Southwest, Rochester, MN 55905; Teresa A. Rummans, M.D., Kathleen M. Logan, M.D.

Summary:

Objectives: Limited case reports are available on the use of electroconvulsive therapy (ECT) in adolescent psychiatric patients. The purpose of this study was to review the literature, evaluate the indications for ECT, and assess potential adverse effects and complications in adolescents.

Methods: We retrospectively reviewed 20 consecutive patients, aged 18 and under, who received ECT treatments at Saint Mary's Hospital between January 1983 and December 1991. Assessment of response to ECT consisted of observed change in number and intensity of target symptoms. We also noted complications and adverse effects from treatments.

Results: ECT reduced or eliminated symptoms in patients with bipolar disorder, major depression, and schizophreniform disorder. It appeared less effective in schizophrenia and schizoaffective disorder and produced no response in those with personality disorders. Treatments produced no significant adverse effects, even in patients with concomitant medical problems, including a seizure disorder, renal transplant, and septum pellucidum cyst.

Conclusions: This review suggests the safety and efficacy of ECT in the treatment of adolescents with certain severe and medication-resistant mental illnesses.

NR44 Monday, May 24, 9:00 a.m.-10:30 a.m.

Factor Analysis of the Negative Symptom Assessment

Bradley N. Axelrod, Ph.D., Research 151, VA Medical Center, Southfield & Outer Drive, Allen Park, MI 48101; Robert Goldman, Ph.D., Larry D. Alphs, M.D.

Summary:

Recent descriptions of schizophrenic symptoms have emphasized their dichotomous division into "positive" and "negative" dimensions. However, several investigators have suggested that these domains incompletely describe symptom complexes associated with schizophrenia. The Negative Symptom Assessment (NSA) has been developed to characterize symptom dimensions generally regarded as "negative." Items on this scale are behaviorally based, specifically anchored on a six-point Likert severity scale, and sensitive to changes over relatively brief periods of time. We have conducted principal components analyses of this scale on data from different samples of schizophrenic patients to establish its factor structure. Results of these studies have been similar, suggesting that the structure of the NSA is stable within populations of medicated schizophrenic patients. We now report results of confirmatory factor analyses on a new sample of 223 unmedicated schizophrenic patients, testing four different factor structure models. A theoretically based structure that includes factors for communication, emotion, social involvement, motivation, cognition, and retardation was the most successful solution. These data provide further evidence that symptoms commonly included under the rubic of "negative symptoms" are heterogeneous. More work is necessary to determine whether these factors are characterized by heterogeneous natural histories or have varied responses to antipsychotic medications.

NR45 Monday, May 24, 9:00 a.m.-10:30 a.m.

Thyroid Function in Adolescent Mood Disorders

Stephen T.H. Sokolov, M.D., Mood Disorders, Clarke Institute, 250 College Street, Toronto Ontario M5T 1R8, Canada; Stan Kutcher, M.D., Russell T. Joffe, M.D.

Summary:

Background: Abnormalities of the thyroid axis are widely documented in adult mood disorders. The most consistent findings in depression are elevations within the euthymic range of T4 or free-T4 that decrease with treatment. This suggests subtle thyroid overactivity is present in major depression. The literature on adolescents is limited, and it is unclear whether similar findings might be present in this population.

Method: A chart review was undertaken of first admissions to a university hospital adolescent psychiatry unit. Fourteen depressed and 13 manic patients satisfied inclusion and exclusion criteria. None had a history of thyroid disorder, significant medical illness, or other psychiatric illness, or were taking medications known to affect thyroid function. Basal serum TSH, T4, free-T4, T3, rT3, FTI, and TU were compared with those of a group of adolescent normal controls.

Results: There were no between-group differences in age, sex, or suicidality. T4 (but not free-T4) was elevated in depressed and manic patients compared with controls ($p < 0.05$). In manic patients, T3 was decreased and rT3 was increased ($p < 0.05$).

Conclusions: We observed significant differences in basal thyroid function in depressed and manic adolescents. Our results suggest the presence of abnormalities of thyroid function in adolescent mood disorders consistent with the adult literature.

NR46 Monday, May 24, 9:00 a.m.-10:30 a.m.

ECT in the Treatment of the Catatonic Syndrome

Barbara M. Rohland, M.D., Psychiatry, University of Iowa, 200 Hawkins Drive 1700 JPP, Iowa City, IA 52242; Brendan T. Carroll, M.D.

Summary:

Objective: To determine the efficacy of ECT in the treatment of the catatonic syndrome and to identify predictors of good response.

Method: 28 cases of catatonia in 22 patients admitted to a psychiatry or medical psychiatry inpatient unit between 1/89 and 6/92 were retrospectively evaluated. Cases were included if they met criteria for catatonia as described by Kahlbaum, i.e., four or more signs including immobility, mutism, withdrawal, staring, rigidity, posturing/grimacing, negativism, waxy flexibility, echo phenomenon, stereotypy, and verbigeration. Primary diagnoses were MDD (8), BPAD (5), schizophrenia (5), schizoaffective (2), and organic (2). Mean age was 54.5 years; sex ratio was 15F:7M. Patients received 12.0 treatments (ave) with ave seizure duration 54.2 seconds per treatment by EEG.

Results: By Kahlbaum criteria, resolution of the catatonic syndrome occurred in 26 of 28 cases. Ave number of signs present per patient prior to ECT was 5.6 vs. 0.93 following ECT ($p = .000001$). prior to ECT, 61 cardinal signs (immobility, mutism, withdrawal) were observed in 27 patients; following ECT one cardinal sign was present in one patient. A diagnosis of affective disorder (MDD or BPAD) was associated with the resolution of 5.2 signs (ave) vs. 3.9 signs for other diagnoses ($p = .01$).

Conclusions: ECT is an effective treatment of the catatonic syndrome. ECT appears to be particularly effective in the treatment of cardinal signs of ECT and resolution of catatonia in persons with affective disorder.

NR47 Monday, May 24, 9:00 a.m.-10:30 a.m.

Anxiety and Depression in Parkinson's: Comorbidity

Doreen E. Robertson-Hoffman, M.D., Psychiatry, UMDNJ-RWJ Medical School, 671 Hoes Lane, Piscataway, NJ 08854; Matthew A. Menza, M.D., Arlene S. Bonapace, Psy.D.

Summary:

Parkinson's disease (PD) is frequently accompanied by symptoms of depression and anxiety. However, the relationship between anxiety and depression has not been rigorously defined in these patients. In this study, 42 patients with PD and 21 matched medical controls were evaluated using *DSM-III-R* criteria and a variety of psychiatric rating scales.

PD patients had significantly higher scores on both depression scales (Zung Depression Scale—$P < .05$, Geriatric Depression Scale (GDS) – $P < .01$) and the anxiety scale (Zung Self-Rated Anxiety Scale – $P < .01$). A total of 12(29%) PD patients had a formal anxiety disorder diagnosis (Panic Disorder – 5, GAD – 5, Phobic Disorder – 1, Anxiety Disorder NOS – 1). An additional 17(40%) had anxiety symptoms but did not meet criteria for a formal diagnosis. Only one(5%) of the medical controls had a formal anxiety disorder diagnosis and none had anxiety symptoms without meeting criteria for a formal diagnosis.

Interestingly, of the 12 patients with PD who had anxiety disorder diagnoses, 11(92%) had a comorbid depressive disorder diagnosis. Furthermore, a stepwise regression analysis found that the depression measure GDS explained 44% of the variance in anxiety measures while the severity of illness variables did not contribute significantly to the variance.

In conclusion, we found patients with PD to be significantly more anxious than matched medical controls and that depression and anxiety are significantly related in these patients. Most of the variance in the anxiety scores was explained by depression and not illness variables. The high frequency of comorbidity in this study suggests that clinicians should carefully evaluate anxious PD patients for the presence of depression.

NR48 Monday, May 24, 9:00 a.m.-10:30 a.m.

Detecting Genetic Syndromes in Schizophrenia

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Summary:

Objective: Dysmorphic features in schizophrenic patients can provide candidate chromosomal regions for linkage analysis of families with schizophrenia. The current study assessed the ability of a standardized physical examination to identify schizophrenic subjects with chromosomal and/or genetic syndromes. *Methods:* A random sample of schizophrenic patients in a chronic psychiatric hospital was screened for congenital abnormalities using a structured physical examination by two trained examiners. All positive findings were reviewed by a medical geneticist and designated as "dysmorphic features" or "normal variants." Patients with three or more dysmorphic features received cytogenetic studies to detect chromosomal abnormalities. *Results:* 43 patients (26 males, 17 females) aged 16 to 64 years ([eu-5][su1]x[xu = 37.5 years) entered the study. Eight subjects had borderline or mild mental retardation (MR). The mean number of dysmorphic features per patient was 1.6 (SD = 1.3), and this was not significantly difference ($p > 0.9$) for the MR or non-MR patients. Nine patients had three or more dysmorphic features. Of the five cytogenetic studies completed to date, non revealed a chromosomal abnormality. However, several genetic syndromes were identified: mixed connective tissue disorder (n = 1), velo-cardio-facil syndrome (n = 1), a yet to be identified musculoskeletal disorder (n = 1), and possible neurofibromatosis (n = 1). Twenty-eight patients were found to have head circumferences above the 97th percentile of the general population. Other physical features noted were: kyphosis (n = 13), high arched palate (n = 6), hypertelorism (n = 4), simian crease (n = 4), abnormal arm span (n = 3), low set ears (n = 3). *Conclusions:* A structured physical examination was useful in detecting dysmorphic

features and genetic syndromes in schizophrenic patients. The genetic syndromes found may lead to the detection of molecular level mutations that may be important for future genetic studies of schizophrenia.

NR49 Monday, May 24, 9:00 a.m.-10:30 a.m.

Predictors of Lithium Response in Psychoses

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Summary:

Lithium has been shown to have a profound and essentially full antipsychotic effect on some psychoses (DSM-III schizophrenia and schizophreniform) We describe predictors of such a response based on a retrospective analysis.

Forty-four nonaffective psychotic patients each received a DSM-III diagnosis following a SADS interview. Negative and positive symptoms profiles were derived from BPRS ratings following a 10-day, drug-free baseline. At least four first-degree relatives of 15 patients were interviewed directly with the SADS to determine diagnostic profiles in family members. "Morbidity index" for each pedigree is the "number of first-degree relatives with a psychotic disorder or schizotypal personality "/" total number of first-degree relatives directly interviewed."

There were seven lithium responsive and 37 lithium nonresponsive patients. A paucity of negative symptoms at admission discriminated subsequent lithium responders from nonresponders. Lithium responders had baseline negative symptoms of 2.9 ± 1.3 mean ± SEM; nonresponders, 5.5 ± 0.8 ($p = 0.05$; Fisher exact 1 tail). A baseline negative symptom rating of 2.5 best discriminated between responders and nonresponders. Using this cut-off, the sensitivity of negative symptoms alone in detecting lithium responders is 71%; the specificity of negative symptoms is 65%.

Four lithium responders had a pedigree "morbidity index" of 0.0 ± 0.0; 11 nonresponsive psychotics, 0.13 ± 0.03 ($p < 0.05$). A familial "morbidity index" of 0.0 was 100% sensitive in predicting lithium response; specificity 64%.

A paucity of negative symptoms on admission and the absence of psychosis or schizotypy in first-degree relatives appeared to predict antipsychotic response to lithium alone in this retrospective study.

NR50 Monday, May 24, 9:00 a.m.-10:30 a.m.

Maprotiline in Multiple Sclerosis

Emmanuelle Pourcher, M.D., Psychiatrie, Hopital Enfant Jesus, 1401 18e Rue, Quebec QC G1J 1Z4, Canada; Roch-Hugo Bouchard, M.D., Marie-Josee Filteau, M.D., Philippe Baruch, M.D., Denis LaFond, B.Sc., Caroll Richards, Ph.D.

Summary:

Physical fatigue is common in multiple sclerosis (MS) and is often perceived as the most disabling symptom between relapses (Freal, 1984). Its relationship to disease activity, neurologic disability, and depression (which is, like fatigue, more common and more severe in MS) is still poorly understood. The authors report a placebo-controlled study of maprotiline 25 mg tid during one month in MS patients selected on the criterion of physical fatigue. *Patients and Methods:* 12 patients with a clinically definite diagnosis of MS (2 males/10 females; mean age 37.8 ± 8.5) were chosen from chronic fatigue symptomatology defined as a sense of physical tiredness, lack of energy and lack of muscular resource during a constraining effortful task. They received a fixed schedule of lorazepam 0.5 mg, 1/2 bid for two weeks; then, in a single-blind protocol: lorazepam + placebo (four weeks); then lorazepam + maprotiline (75 mg, four weeks). They were assessed monthly by a psychiatrist using Montgomery-Asberg Depression RS, by a neurologist using the Kurtzke Expanded Disability index, and by a physiotherapist who measured the patients' maximal static strength (MSS) and static endurance (SE) with Cybex II isokinetic system. Evaluators were blind to the pharmacological schedule. *Results:* Friedman's two-way ANOVA revealed a significant difference between repeated measures of MSS ($p = 0.017$) but not of SE index. Parametric two-way ANOVA followed by post-hoc comparisons revealed a significant difference between the evaluation of MSS at the end of maprotiline treatment versus initial MSS measure ($p < 0.01$) and versus MSS measure after placebo ($p < 0.05$). However, the between-groups main effect for the existence of depression was not significant. *Conclusion:* The effect of maprotiline on muscular strength seems independent of its antidepressant effect.

NR51 Monday, May 24, 9:00 a.m.-10:30 a.m.

The Cognitive Profile in Alzheimer's Disease

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Summary:

This study examined whether Alzheimer's disease [AD] patients exhibit a consistent specific profile of cognitive impairment on the 11 items of the cognitive part of the "Alzheimer Disease Assessment Scale" [c-ADAS]. Two hundred and ten patients with NINCDS-ADRDA probable AD were assessed on 810 occasions on the c-ADAS (of the 810, 167 assessments with 100% c-ADAS total error scores were excluded from the analysis). The 11 items were compared with each other to determine for each possible pair of items whether they differed in the mean % error score. Thus 55 comparisons were performed using McNemar's tests with the appropriate Bonferroni correction ($p < 0.0555 = 0.0009$). In AD patients pairs among three c-ADAS items "word recall" [10]—"orientation" [9]—"comprehension of spoken language" [2] were most consistently and significantly different from each other. Patients were most likely to have higher % error scores on item [10] than on item [9] and more likely to have higher % error scores on item [9] than on item [2]. Thus when the % error scores of all c-ADAS assessments were examined individually, the sequence [10]≥[9]≥[2] was true for 74.8% (481/643), and the sequence [10] ± 10% ≥ [9] ± 10% ≥[2] ± 10% held true for 88.6% (570/643). Significant deviations from the established pattern could identify subgroups or support the exclusion of the AD diagnosis.

NR52 Monday, May 24, 9:00 a.m.-10:30 a.m.

Influence of Neuroleptics on Natural Autoantibodies

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Summary:

Polyspecific antibodies reacting with self antigens are present in normal humans and all other animal species thus far examined. This preliminary study assessed the role of a single administration of butyrophenones on the level of autoantibodies reacting with actine, myosine, DNA, tubuline, trinitrophenyl group, dopamine, serotonin, norepinephrine, dopamin B hydroxylase. Sera of five drug naive or neuroleptic-free (> 3 months) DSM-III-R schizophrenic patients were examined prior to, two and seven days after the oral administration of 50mg of droperidol. They were compared with four healthy volunteers who received the same treatment. Groups of mice were also examined prior to, one, 24, and 48 hours after intraperitoneal injection of respectively 0.3, 1 and 3 mg/kg of haloperidol and compared with a control group of mice receiving phos-

phate buffer saline. Titers of IgG and IgM autoantibodies were determined using enzyme immunoassay. We observed:

- the presence of natural autoantibodies (IgG and IgM) reacting with all antigens of the panel humans and mice;
- no significant difference between patients and healthy volunteers;
- in the animal, a significant decrease of IgG reacting with actine, myosine, DNA, tubuline, trinitrophenyl group after haloperidol 3mg/kg at 24h and, in contrast, an increase of IgG autoantibodies reacting with dopamine, serotonin, norepinephrine agter haloperidol 0.3mg/kg at 24h. This increase exists with noradrenaline for three doses at 24h. In conclusion, the presence of autoantibodies reacting with monoamines was evidenced in our study. The influence of neuroleptics on the network of autoantibodies is discussed in light of possible autoimmune mechanism in schizophrenia.

NR53 Monday, May 24, 9:00 a.m.-10:30 a.m.

Clozapine Response in Schizoaffective Disorder

Anil K. Malhotra, M.D., ETB, NIMH NIH Bldg 10 4N214, 9000 Rockville Pike, Bethesda, MD 20892; Robert E. Litman, M.D., Tom P. Su, M.D., Cameron H. Smyser, B.A., David Pickar, M.D.

Summary:

Objective: This study was conducted to: 1) examine the reliability of the diagnosis of schizoaffective disorder between the DSM-III-R and the RDC, 2) help delineate phenomenological differences between schizoaffective disorder (SA) and schizophrenia (SC) in drug-free patients, and 3) study the efficacy of the atypical neuroleptic clozapine in this disorder. *Methods:* 35 treatment-refractory or drug-intolerant inpatients were administered structured diagnostic interviews and rated by DSM-III-R and RDC criteria. All patients underwent a drug-free period and a double-blind clozapine trial. *Results:* 11 patients met RDC criteria for SA, whereas four met DSM-III-R criteria. While drug-free, these 11 patients had significantly lower BPRS subscale scores for negative symptoms (SA = 12.18 vs SC = 14.67, $p \leq 0.05$), withdrawal/retardation (SA = 7.82 vs SC = 10.00, $p \leq 0.05$), and paranoia/suspiciousness (SA = 7.82 vs SC = 9.96, $p \leq 0.05$). Clozapine response was defined as a 30% reduction in BPRS total score on clozapine as compared with the drug-free period. The difference in response between SA and SC patients was not significant; four of 11 SA and 15 of 24 SC patients responded ($x^2 = 2.08$ p = NS). *Conclusions:* This study suggests that diagnostic criteria for SA are inconsistent between RDC and DSM-III-R, supports the validity of the RDC diagnosis of SA, and indicates that clozapine can be an effective treatment for this disorder.

NR54 Monday, May 24, 9:00 a.m.-10:30 a.m.

Depot Neuroleptic and Post-Discharge Compliance

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Summary:

Goals: Since many schizophrenic outpatients resist a depot neuroleptic route, hospitalization is a natural opportunity to begin depot. However, because the depot route is not clearly associated with better compliance, one can question the routine conversion of oral to depot.

Methods: Eighty-nine inpatients met study criteria for a longitudinal study of compliance. Patients were acutely psychotic, SCID-diagnosed, and neuroleptic responsive based on CGI criteria. Study patients received baseline demographic, symptom, and medication attitude measures. A compliance interview battery was done one-month postdischarge by a trained rater independent of the treatment staff, yielding a summary compliance score ranging from low compliance (1) to high compliance (5). Subjects were dichotomized (post hoc) into whether the depot (n = 37) or oral (n = 52) neuroleptic route was prescribed at discharge.

Results: The depot group had better one-month compliance scores (3.8 ± 1.5 for oral vs. 4.6 ± .8 for depot, $t = 2.6$, $p < .01$). Baseline demographic and symptom measures were not significantly different; but the depot group had a more negative baseline attitude toward taking medication.

Significance: Inpatient depot medication treatment was associated with better one-month postdischarge compliance that cannot be accounted for by attitudinal factors. A corollary finding is that most patients discharged on the depot route will (at least initially) stick with it. Because the groups were not randomly assigned, we do not know whether the better compliance was a direct result of the medication delivery route or was an artifact of other treatment factors.

NR55 Monday, May 24, 9:00 a.m.-10:30 a.m.

Evaluating the Anticonvulsant Hypothesis of the Antidepressant Mechanism Action of ECT

Joel L. Young, M.D., Psychiatry, University of Michigan, 1500 E. Medical Ctr Drive, Ann Arbor, MI 48109; Rajiv Tandon, M.D., Leon Grunhaus, M.D., John F. Greden, M.D.

Summary:

The biological mechanisms responsible for the antidepressant effects of electroconvulsive therapy (ECT) have yet to be defined. ECT has potent anticonvulsant effects (documented mainly in experimental animal studies, using electroconvulsive shock, ECS); one hypothesized mechanism of ECT's antidepressant efficacy implicates this anticonvulsant property. We conducted the present study to address the following questions raised by this hypothesis: 1) Does ECT have anticonvulsant effects that can be easily documented in the clinical setting? 2) Through the ECT course in a given patient, is there a relationship between two hypothesized measures of this anticonvulsant effect? 3) Is this anticonvulsant effect influenced by electrode placement and other stimulus parameters? 4) Is there any relationship between this anticonvulsant effect and clinical response? We studied 35 patients who received at least six treatments in a course of ECT for major depression. ECT stimulus parameters were clinically determined. Two measures were hypothesized to reflect anticonvulsant property: 1) reduction in seizure duration for the same stimulus (same amount of energy, etc.) in a given patient; and 2) pattern of EEG seizure termination. Preliminary analyses reveal a progressive reduction in seizure duration and no substantial change in the manner of EEG seizure termination through a course of ECT for the same stimulus parameters. No relationship between these measures was observed. Detailed analyses will be presented and the clinical and pathophysiological implications of these data will be discussed.

NR56 Monday, May 24, 9:00 a.m.-10:30 a.m.

Dopamine Receptor Subtypes in Mesolimbic Neurons

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Summary:

Although the etiology of schizophrenia is unknown, psychopharmacological treatment has relied on drugs that are antagonists for the D2 form of the dopamine (DA) receptor and thought to act in the mesolimbic pathway. Recently, five subtypes of DA receptors have been cloned (1). Localization of these receptor subtypes and characterizing their role may guide future antipsychotic drug design and also generate insight into the pathogenesis of schizophrenia.

For example, human postmortem studies have demonstrated reduced coupling between D1 and D2 receptors in striatal tissue of schizophrenic patients but not in controls (2). I will describe studies on DA receptor subtypes in cultured postnatal rat ventral midbrain (VM) neurons that form the presynaptic element of the mesolimbic pathway. In preliminary experiments, D2R mRNA but not D1R mRNA is found in VM neurons, consistent with the role of these D2 receptors as autoreceptors. We find mRNA for both D1R and D2R in nucleus accumbens cultures and are addressing the degree of co-localization in this limbic subdivision of the striatal complex.

NR57 Monday, May 24, 9:00 a.m.-10:30 a.m.

The Prevalence of Anxiety in Parkinson's Disease

Brandon H. Krupp, M.D., Butler Hospital, 345 Blackstone Blvd, Providence, RI 02906; Joseph Friedman, M.D., Robert Kohn, M.D.

Summary:

Objective: This study assesses the prevalence of anxiety in Parkinson's disease patients. This population, in our clinical experience, has a high degree of anxiety, and the published data, while minimal, support this. *Method:* 58 consecutive nondemented outpatients with Parkinson's disease completed the Beck Anxiety Inventory (BAI), after neurological examination and disease staging using the Hoehn and Yahr scale. *Results:* 72% had no more than mild anxiety on the BAI (mean = 12.8). The most frequently endorsed items on the BAI were hallmark symptoms of Parkinson's Disease ("wobbliness in legs," "unsteady," "hands trembling," and "shakey"). Neither age, sex, handedness, nor pharmacotherapy were associated with increased anxiety in these patients. Having symmetric Parkinson's symptoms, however, was associated with a significant increase in BAI score, more so than being either left or right predominant ($p < .042$ and $p < .006$), even controlling for sex and stage of illness. *Conclusions:* Our BAI findings do not support previously published data suggesting that patients with Parkinson's disease have a high degree of anxiety. Furthermore, the BAI may not be useful in assessing anxiety in this population. Symmetric symptomatology may be related to increased anxiety in Parkinson's patients. SADS-LA data, currently being collected, will be presented.

NR58 Monday, May 24, 9:00 a.m.-10:30 a.m.

Electrophysiological Habituation in Schizophrenia

Margaret Niznikiewicz, Ph.D., Psychiatry, Harvard Medical School, 116A 940 Belmont Street, Brockton, MA 02401; Brian F. O'Donnell, Ph.D., Robert W. McCarley, M.D., Louise Smith, B.S.N., Hiroto Hokama, M.D.

Summary:

Objectives: P3 component and alpha power (8 – 12Hz) have been reported to be abnormal schizophrenics. We report how such abnormalities habituate during a testing session. *Method:* 20 normals and 20 schizophrenics were tested using the P3 auditory oddball paradigm. Two hundred tone pips were delivered binaurally, over a background of 70 dB white noise. Subjects silently counted rare ($p = 0.15$) high-pitched tones (1500 Hz) interspersed among frequent low-pitched tones (1000 Hz). ERPs were analyzed from Fz (frontal), Cz (central), and Pz (parietal) electrodes and divided into four blocks of 50 tones each (40 – 42 frequent, seven or eight rare tones per block). P3 amplitude was measured as the average voltage within 300-400 msec latency window. The data were evaluated with a mixed model ANOVA (group × block × electrode). *Results:* P3 amplitudes were larger in normals than in schizophrenics across four blocks ($p < .002$). P3 amplitude habituated differently for rare stimuli in the two groups ($p < .01$). In controls, maximal decrease in P3 amplitude was from 11.4 (block 1) to 1.8 uv (block 4) at Fz, with little change at Pz (block 1: 4.3 uv; block 4: 5.4 uv). For frequent stimuli, habituation effects showed across all electrodes in both schizophrenics ($p < .04$) and normals ($p < .05$). Alpha power to rare stimuli increased over time in schizophrenics, but not in normals ($p < .03$). *Conclusions:* The localization of P3 habituation in schizophrenics at Fz rather than at Pz suggests possible structural abnormalities, as described for P300 asymmetry by us. Increased alpha activity over time in schizophrenics suggests their inability to maintain normal levels of arousal/attention, in spite of maintaining their performance levels.

NR59 Monday, May 24, 9:00 a.m.-10:30 a.m.

Neuroleptics and Male Sexual Functioning

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Summary:

Neuroleptics have been associated with male sexual dysfunction. Neuroleptic-induced changes in hormones that affect sexuality may affect sexual function. In a completed study of 20 schizophrenic men receiving fixed doses of haloperidol or fluphenzine, reported sexual dysfunction proved to be significantly correlated with severity of EPSE and prolactin elevation.

In an ongoing prospective study during which haloperidol dose is sequentially decreased (20, 10, 5, 2.5, 0 mg daily) at two-week intervals, we obtain repeated measures of reported sexual function and nocturnal penile tumescence (Rigiscan) with EEG (Oxford Monitor). Three serum samples for LH, testoterone (T), and prolactin (PRL) are obtained at 15-minute intervals at each dose level via an intravenous cannula placed in the morning at least 90 minutes after awakening and 24 hours after last oral haloperidol dose.

At present four patients have reached an end point in the study: three who developed exacerbations of psychosis (one at 10mg/d and two at 4mg/d), and one who completed all dose decrements. An additional two patients are currently in trial.

PRL levels declined by at least 50% from levels obtained at haloperidol 20mg/d in the four completed patients. Testosterone levels increased by 20%-30% in three of the four patients as PRL levels fell, including in the two patients who reported improved sexual function. LH levels showed no consistent change or relationship with the other hormones or with sexual functioning. NPT records are presently being scored.

NR60 Monday, May 24, 9:00 a.m.-10:30 a.m.

Romanian Orphans: Developmental and Health Status

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Summary:

The December 1989 revolution which toppled the Ceausescu dictatorship led Romania to be opened to the West for the first time since the 1940's. This openness revealed many orphanages for the handicapped, containing 40,000 deprived and malnourished "irrecuperable" children. Since 1990, Western volunteer organizations have worked to improve the barbaric conditions in these hospitals.

In July 1992 a multidisciplinary team of psychiatrists, pediatricians, nurses, and dieticians completed assessments in three Romanian orphanages that had received Western aid since January 1991. The purpose of this study was to determine the developmental and health status of these children, as well as identify characteristics of their care that impact on their development.

All children were developmentally delayed, reaching developmental milestones six or more chronological years later than average in the U.S. For example, none of the 6-9 y.o., and only 33% of the 10-13 y.o. spontaneously used two to three word sentences. Over 90% of the children were between the 50th and 70th percentile of ideal body weight by age. Less than 50% of 5-13 y.o. could regularly eat solid food. Ambulatory children consistently achieved more advanced developmental milestones and had better nutritional status than their nonambulatory peers. The specific findings and their implications for future interventions will be discussed.

NR61 Monday, May 24, 9:00 a.m.-10:30 a.m.

Dissociation in Incarcerated Adolescents

Malcom Cunningham, M.D., Psychiatry, UCLA, 11130 Rose Avenue Apt. 407, Los Angeles, CA 90034; Kip Cunningham, M.D., Nancy Hornstein, M.D.

Summary:

Objective: Multiple personality disorder (MPD) can develop after exposure to prolonged childhood trauma. We postulated that incarcerated adolescents are likely to have experienced significant childhood trauma and consequently may be at risk for dissociative experiences. This study was undertaken to investigate if there is an increased prevalence of dissociative experiences in this population. *Methods:* Subjects were ethnically diverse, incarcerated adolescents in East Los Angeles. Ninety-three subjects, 49 males and 44 females, aged 13 to 18, provided written informed consent and completed the Dissociative Experiences Scale (DES). The DES is a 28-question visual analogue scale that provides quantification of dissociative experiences and is a useful screening instrument for MPD. A sign test was used to compare the DES scores with previously published reports. *Results:* The median DEs score for all subjects was 31.96. This is significantly higher than previously reported DES medians for nonincarcerated adolescents (14.11, $p < 0.01$) and for adolescent psychiatric inpatients (14.6, $p < 0.01$). In our subjects, 83% were above previously reported median scores. *Conclusions:* In previous studies DES scores greater than 20 indicate a population at risk for MPD. Our results suggest that incarcerated adolescents may be at risk for dissociative disorders. Investigations for specific dissociative disorders, particularly MPD, are indicated in this population.

NR62 Monday, May 24, 9:00 a.m.-10:30 a.m.

Naltrexone Augmentation in Schizophrenia

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Summary:

Naltrexone has been alleged to possess antipsychotic properties. However, the studies reported thus far have been difficult to interpret, with conflicting results and methodologic limitations. This study was designed as a double-blind, placebo-controlled evaluation of naltrexone as an adjunct to neuroleptics in the treatment of schizophrenia. *Method:* Eight inpatients and 15 outpatients with DSM-III-R schizophrenia in the Clinical Neuroscience Research Unit of the Connecticut Mental Health Center completed the study. Weekly BPRS ratings were obtained while patients received placebo (three weeks) and naltrexone 200 mg/day (three weeks) in a double-blind fashion in addition to ongoing neuroleptic. *Results:* There was no significant difference between BPRS values at baseline (55 ± 19.5), and in the third week on naltrexone (55.5 ± 14.4, $p > .82$) or placebo (54.9 ± 14.6, $p = .99$). There was also no difference at three weeks between the naltrexone and placebo treatment. *Discussion:* In 23 patients with schizophrenia, the addition of naltrexone 200 mg/day as an adjunct to neuroleptics did not result in any significant change in the total BPRS. This finding would suggest that naltrexone, at this dosage, is not an effective neuroleptic adjunct. Further data on other measures will be presented.

NR63 Monday, May 24, 9:00 a.m.-10:30 a.m.

Non-Epileptic Seizures After Epilepsy Surgery

Lois E. Krahn, M.D., Psychiatry, Mayo Clinic, 200 First Street Southwest, Rochester, MN 55905; Teresa A. Rummans, M.D., Frank W. Sharbrough, M.D., Max R. Trenerry, Ph.D., Sheila G. Jowsey, M.D., Gregory D. Cascino, M.D.

Summary:

Objective: Nonepileptic seizures (pseudoseizures) occur in patients with and without documented complex partial epilepsy. Neurosurgical treatment of intractable epilepsy has become increasingly common with the development of prolonged video EEG monitoring and quantitative MRI, which allow precise localization of the seizure focus. However, there is a need to better understand the effect of epilepsy surgery on coexisting nonepileptic seizures.

Method: We retrospectively reviewed a case series of six patients who underwent epilepsy surgery for medically intractable complex partial epilepsy who developed postoperative nonepileptic seizures. All patients received a preoperative comprehensive epilepsy evaluation, including neurologic examination and prolonged video EEG studies, to confirm the epilepsy diagnosis and determine that they were candidates for seizure surgery. The nonepileptic seizures were confirmed with EEG monitoring. All patients underwent an inpatient psychiatric assessment postoperatively.

Results: Patients with a history of nonepileptic seizures postoperatively had several common characteristics including: long duration of epilepsy, relatively low I.Q., history of nonepileptic seizures preoperatively, reduction in epileptic seizure frequency after surgery, tendency to somatize, and poor social skills.

Conclusions: These findings suggest that psychiatric consultation may help identify nonepileptic seizures and permit appropriate treatment for intractable epilepsy patients with coexisting epileptic and nonepileptic seizures.

NR64 Monday, May 24, 9:00 a.m.-10:30 a.m.

Some Social Competence Predictors in Schizophrenia

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Summary:

Social competence plays a critical role in schizophrenia. It covaries with strength of genetic linkage, with negative symptomatology (Dworkin, Lenzenweger, Moldin, & Cornblatt, 1987), and with long-term outcome (Knight & Roff, 1991). In vulnerability samples it predicts specificity to schizophrenia (Asarnow, 1988). Despite mounting evidence for the diagnostic and prognostic utility of poor social competence in schizophrenics, its development, maintenance, and unique contribution to schizophrenia remain elusive. Our seven-year follow-up study of 132 young male veteran psychiatric inpatients (schizophrenic, mood-disordered, and nonpsychotic) addressed these concerns via definitional, developmental, and diagnostic indices. Current, retrospective, and follow-up multimethod assessments (interview, self-report, chart review, and behavioral ratings) evaluated the cross-temporal stability and predictive validity of components of social competence. Follow-up measures included hospitalization, employment, social relationships, symptoms, and diagnosis. Among schizophrenics, early measures predicted not only domain specific (i.e., social compe-

tence) behaviors, but were more pervasive predictors of global adaptation and chronicity. Whereas in the mood-disordered patients, social competence failed to predict global outcome, in the nonpsychotics it contributed to symptomatology, but not to global outcome. The results supported the hypothesis that social competence plays a differentially important role in the course of schizophrenia and suggested that it covaries with core elements of the disorder.

NR65 Monday, May 24, 9:00 a.m.-10:30 a.m.

Drug Use in Schizophrenia

Daniella David, M.D., Psychiatry, University of Miami, 1400 NW 10th Ave #304-A D-79, Miami, FL 33136; M. Pilar Somoza, Ph.D., Aitala Giron, M.D., Lourdes M. Mendoza, M.D., Richard Douyon, M.D., Thomas A. Mellman, M.D.

Summary:

Drug abuse, including that of cocaine, appears to be prevalent among schizophrenic patients. It has not been clear, however, how schizophrenics are affected by their drug use.

We assessed 54 consecutive admissions of male schizophrenics to a VAMC service. Illness course and drug use histories, AIMS, and urine toxicology were obtained at admission. The Positive and Negative Symptom Scale (PANSS) was rated by a clinician blind to drug status at admission and two weeks into the hospitalization.

Thirty patients (55.6%) reported lifetime drug use and 18 (33.3%) reported recent use (past six months) and/or had positive urine toxicology. Of the recent users, 13 (72,2%) used cocaine, 11 (61.1%) marijuana (MJH), and eight (44.4%) alcohol. Recent drug users had less severe PANSS-rated general psychopathology at admission ($t = 2.3$, $p < .03$) and at two weeks ($t = 2.5$, $p < .02$). There were no differences in AIMS scores, positive and negative symptom scales, or mean CPZ-equivalent neuroleptic dose. While the number of admissions in the past 12 months did not differ, the drug use group had more elopements (5 vs. 1, $x^2 = 7.6$, $p < .01$) and rehospitalizations since the study assessment ($.9 \pm 1.1$ vs. $.3 \pm .9$, $t = 2.0$, $p < .05$). Reported age of onset of psychotic symptoms was earlier in the drug users (19.9 ± 3.3 vs. 25.5 ± 6.7, $t = 2.7$, $p < .01$) but did not precede the mean onset of drug use (18.8 ± 4.3). All of these associations held when comparing by cocaine use, but not by alcohol or MJH use.

We conclude that schizophrenic patients using cocaine may be less severely ill at baseline, but compromise their prognosis with drug use.

NR66 Monday, May 24, 9:00 a.m.-10:30 a.m.

Fluoxetine in Haloperidol-Stabilized Schizophrenics

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Summary:

Objective: To examine the clinical interaction between dopamine and serotonin, nine haloperidol-stabilized schizophrenic patients have been given adjunctive fluoxetine in an open label design for up to five months.

Methods: Measures of positive and negative symptoms, clinical and machine measures of motor behavior, plasma blood levels of fluoxetine and norfluoxetine (both enantiomers) and haloperidol, and whole blood serotonin have been performed at baseline (on haloperidol alone) and then biweekly.

Results: Both plasma haloperidol (mean 45% increase) and reduced haloperidol (mean 183% increase) rose after the addition of fluoxetine. Seven patients had an improvement in negative symptoms whereas two became hostile to the point of premature discontinuation from the study. Positive symptoms minimally improved in all nine patients. Depression improved substantially in two of the patients. Parkinsonian symptoms, particularly rigidity and tremor worsened in two of the patients. Four had worsening of akathisia which was related to the ratio of the R and S enantiomeric forms of norfluoxetine (i.e. subjects with relatively more R-norfluoxetine had greater akathisia). Tardive dyskinesia (TD) ratings worsened moderately in six of the patients and improved moderately in three patients. *Conclusions:* These early results suggest that adjunctive fluoxetine may improve depressive symptoms and perhaps some negative and positive symptoms, but it may worsen hostility, akathisia, and some aspects of drug-induced parkinsonism. Pharmacokinetic interactions and the relative plasma levels of the enantiomers of norfluoxetine may account for these findings.

NR67 Monday, May 24, 9:00 a.m.-10:30 a.m.

Alzheimer's Dementia and Associated Psychopathology

Amanda A. Weiss, M.D., Psychiatry, University of Miami, 4300 Alton Road, Miami Beach, FL 33140; Maria Llorente, M.D., Ranjan Duara, M.D., David Loewenstein, Ph.D.

Summary:

The two mose prevalent psychiatric disorders that coexist with Alzheimer's dementia are depression (10%-20%) and delusional disorders (30%-38%). This study seeks to further elucidate the relationship of psychopathology in Alzheimer's to cognitive impairment, MRI findings, and psychiatric rating scales.

Ninety patients were evaluated at Wein Center Memory Disorders Clinic and diagnosed with Alzheimer's. Evaluations included psychiatric interviews, MRI scans, Folstein Mini Mental State Exam (MMSE), Blessed Dementia Scale (BDS), Hamilton Depression Scale (HAMD) and Cornell Depression Scale (CDS). Three groups were identified: (1) Alzheimer's dementia alone, (2) Alzheimer's with depression, (3) Alzheimer's with delusions.

Patients with coexisting delusional disorders were more cognitively impaired ($p < 0.05$). The HAM-D and CDS could distinguish between patients with and without psychopathology, but could not differentiate those patients who were depressed from those with delusional syndromes. There were no differences in MRI findings. This study confirms that Alzheimer's patients with delusions are more cognitively impaired than those with no psychiatric diagnosis or depression. The HAMD and CSD were not specific for depression. Therefore, these scales may have less clinical and theoretical utility in evaluating depression coexisting with dementia. MRI studies are not useful in supporting a clinical diagnosis of psychopathology in Alzheimer's disease.

NR68 Monday, May 24, 9:00 a.m.-10:30 a.m.

Command Hallucinations in Schizophrenic Outpatients

Desiree Byrd, Psychiatry, UCSD Outpatient, 3427 Fourth Avenue, San Diego, CA 92103; Julie Kuck, M.A., Sidney Zisook, M.D.

Summary:

Objective: Clinical lore suggests command hallucinations in schizophrenia require aggressive treatment and close monitoring. However, surprisingly few research studies have addressed their clinical and prognostic significance. This study assessed the prevalence and relevance of command hallucinations in outpatients with schizophrenia. *Method:* 85 outpatients meeting DSM-III-R and RDC criteria for schizophrenia were evaluated for hallucinatory thoughts in a retrospective chart review. Sociodemographic information was collected along with information on symptom severity (BPRS, SANS, SAPS), course of illness (Strauss Carpenter Prognostic Scale), and history of violent behavior. *Results:* Command

hallucinations were identified in 41.2% of the sample. No significant differences were found on illness severity, duration, or degree of negative and positive symptoms among groups with or without command hallucinations. There also were no differences in total hospital duration, daily neuroleptic dose, and lifetime history of suicide attempts or impulsive acts. *Conclusions:* Overall, schizophrenics with command hallucinations are similar on several important clinical dimensions, including history of suicide attempts, to other schizophrenics without command hallucinations. Whether specific types of commands have prognostic implications will be discussed.

NR69 Monday, May 24, 9:00 a.m.-10:30 a.m.

Chronic Fatigue Syndrome Study of Cannabinoid Users and Normal Controls

Dominique E. Musselman, M.D., Psychiatry, Emory University, 1701 Uppergate Drive, Atlanta, GA 30322; R.R.J. Lewine, Ph.D., S. Craig Risch, M.D., Catherine Haden, M.A., Jane Caudle, M.Ln.

Summary:

Objective: Do human subjects repeatedly use cannabinoids in an effort to regulate mood via alterations in levels of brain monoamines?

Method: In a retrospective study, cerebrospinal fluid (CSF) was collected from ten cannabinoid users and compared to CSF parameters in age- and sex-matched normal controls.

Results: Cannabinoid users showed no statistically significant differences in their CSF measures to normal controls in levels of HVA, MHPG, 5-HIAA, ACTH, and CRH within 30 days of last cannabinoid use.

Conclusions: These data would support any of the following conclusions: a) cannabinoid use has no chronic effect on levels of brain monoamines, b) those who use cannabinoids have subnormal levels of brain monoamines which are normalized over long periods of time with cannabinoid use, or c) cannabinoid users have normal levels of brain monoamines which are transiently increased with cannabinoid use and then return to normal levels.

NR70 Monday, May 24, 9:00 a.m.-10:30 a.m.

Heterogeneity in Schizophrenia: DSM-III-R Subtypes

Julia Kuck, M.S., Psychiatry, UCSD Outpatient SVS, 3427 Fourth Avenue, San Diego, CA 92103; John T. Moranville, M.D., Sidney Zisook, M.D., Robert K. Heaton, Ph.D., Lou Ann McAdams, Ph.D., David L. Braff, M.D.

Summary:

Objective: With DSM-IV approaching, it is important to evaluate the utility of subtype classifications for schizophrenia as outlined in DSM-III-R. We assessed the validity of DSM-III-R subtypes through differential clinical and neuropsychological patterns. *Method:* 85 outpatients who met DSM-III-R and RDC criteria for schizophrenia underwent diagnostic interviews (SCID-P) with clinical subtyping (according to DSM-III-R) and psychiatric assessments (BPRS, SANS, SAPS). An expanded Halstead-Reitan neuropsychological test battery also was administered. *Results:* Subtype diagnoses were: paranoid ($n = 20$), undifferentiated ($n = 39$), and disorganized ($n = 26$). Both disorganized and undifferentiated patients experienced more negative symptoms ($p < .0001$) than paranoid patients. More global psychopathology ($p < .0001$), positive symptoms ($p < .0001$), and neurocognitive dysfunction ($p < .01$) were observed for the disorganized subtype. Negative and positive symptom ratings were the most important factors in discriminating among the three subtype classifications. *Conclusions:* DSM-III-R paranoid and disorganized subtypes can be easily distinguished from each other on both clinical and neuropsychological measures. The undifferentiated subtype shows more overlap with the other two subtypes on neuropsychological measures. Implications for DSM-IV criteria will be presented.

NR71 Monday, May 24, 9:00 a.m.-10:30 a.m.

Prevalence of ADHD in a Military Inpatient Sample

Robert A. Alonso, M.D., Psychiatry, Portsmouth Navy Hospital, Portsmouth Naval Hospital, Portsmouth, VA 23708; Deanna S. McNeil, M.D., Howard C. Wetsman, M.D.

Summary:

Objective: Studies of attention deficit hyperactivity disorder (ADHD) describe a natural history that can extend into adulthood with sequelae including impulsivity, unstable lifestyles, poor academic performance, increased drug use, and increased criminality. These characteristics are often cited as contributing factors to admission in the military inpatient setting. This study assesses the prevalence of ADHD in a military inpatient psychiatric unit and examines the relationship of ADHD to demographic and clinical variables.

Method: Forty-five consecutive patients admitted to the Portsmouth (VA) Naval Hospital Crisis Intervention Psychiatric unit were asked to participate in the study. Thirty-six (80%) agreed and were evaluated for ADHD utilizing the Utah Criteria. Additionally, demographic and clinical data were collected by systematic review of the patient's record.

Results: Ten (27%) subjects met criteria for ADHD. The presence of ADHD was significantly associated with antisocial personality disorder, relationship difficulties, poorer grades, multiple school dismissals, and learning disabilities.

Conclusions: The data suggest the prevalence of ADHD in this population may be as high as 27%. This may account for previously unrecognized morbidity.

NR72 Monday, May 24, 9:00 a.m.-10:30 a.m.

Alcohol Recidivism Risk in Transplant Candidates

Brian J. Masterson, M.D., Psychiatry, University of Iowa, 200 Hawkins Drive #2887 JPP, Iowa City, IA 52242; William R. Yates, M.D.

Summary:

Alcoholic liver disease (ALD) is the most common reason for liver transplantation. An assessment of the potential for alcoholic relapse would help rank candidates for transplantation.

The purpose of this study was to estimate the relative risk of alcoholic relapse in a series of liver transplant candidates.

Thirty-two patients with ALD were assessed to determine the severity of their alcoholism prior to transplantation. Subjects were rated as low, medium, and high-risk for relapse based on an estimate of severity factors including: duration of alcoholism (d), tolerance (t), and rehabilitation (r) responsiveness. Relative risk was estimated using an equation developed and validated in previous studies: $RR = e^{[(d * 0.3228) + (t * 0.5129) + (r * 0.6290)]}$.

The mean (s.d.) age was 44.1 (9.6) years. Fifteen (47%) were female. Mean (s.d.) duration of sobriety was 7.5 (15.6) months. Mean (s.d.) relative risk for alcohol relapse was 6.13 (5.4), with a range of 1.00 to 18.71. Alcohol relapse risk did not correlate with age, gender, duration of sobriety, or non-selection for liver transplantation.

In summary, alcoholic liver transplant candidates display significant heterogeneity in their risk for relapse to alcoholism.

NR73 Monday, May 24, 9:00 a.m.-10:30 a.m.

Inhibitory Attention Mechanisms in Schizophrenia

Edward Huey, B.A., c/o Bruce Wexler, Psych Yale University, 34 Park Street, New Haven, CT 06519; Bruce Wexler, M.D.

Summary:

When a visual cue is presented at the same location but 100 msec prior to presentation of a visual stimulus, reaction time to the stimulus is decreased. However, in healthy subjects, if the interval between the cue and the stimulus is between 500 and 1500 msec, reaction time is increased ("inhibition of return"). The present experiment compared inhibition of return in 11 medicated and clinically stable schizophrenic outpatients and 13 healthy control subjects screened by SADS-L. Stimuli could appear in boxes in the upper or lower right or left visual fields. On some trials the stimulus occurred at a cued site (true cues) while on others it appeared at a site other than the cued site (false cues). Stimuli appeared 100, 200, 700, or 1200 msec after cues. Subjects fixated on the center of the field while awaiting cues and stimuli. Healthy subjects responded faster to true cues than false cues when the interval between cue and stimulus was 100 msec, but were equally fast in the two conditions with a 200 msec interval and were faster to false than true cues at 700 and 1200 msec intervals. Schizophrenics, in contrast, were faster to true than false cues at both 100 and 200 msec intervals and showed lower than normal advantages on false as compared to true cues at 700 and 1200 msec intervals (group x cue type x interval interaction $p < .01$). Thus while schizophrenics showed "inhibition of return," it did not begin until greater than normal intervals between cue and stimulus and was blunted in magnitude. This suggests failure of inhibitory mechanisms that are important in very rapid and automatic aspects of normal attentive function.

NR74 Monday, May 24, 9:00 a.m.-10:30 a.m.

Evaluation of Novel D1 Dopamine Receptor Ligands

Terry Rabinowitz, M.D., Psychiatry, Mailman Research, 115 Mill Street, Belmont, MA 02178; Rose J. Baldessarini, M.D., Michael Hartmann, Ph.D., Nora S. Kula, M.S., Francine Benes, M.D., John L. Neumeyer, Ph.D.

Summary:

Dopamine (DA) receptors have long been of intense interest in psychiatry, following association of D_2 receptor blocking effects with actions of most neuroleptic agents, some of which also interact with D_1 receptors. D_1 receptors were described earlier and are more abundant than D_2 receptors, but their physiologic and psychopharmacologic significance is less clear, although at least one selective D_1 antagonist (a phenylbenzazepine) is now in clinical trials. As a contribution to understanding central D_1 receptors, we are studying novel phenylbenzazepines as D_1 antagonists. Their potency was evaluated by loss of D_1 binding in coronal histological sections of rat brain preincubated with test agents and assayed with ^{3}H-SCH-23390, followed by scintillation counting or autoradiography. Phenylbenzazepines p-phenyl-substituted with alkylating groups (eg, isothiocyanato- and chlorethyl-) had high D_1 affinity and selectivity, and occupied D_1 sites with high (sub-μM) potency and regional anatomical selectivity, and were not removed by extensive washing. Such compounds and their congeners should contribute to further characterization and design of drugs aimed at D_1 receptors, the most abundant of the growing family of DA receptors. [Supported by NIMH grants 31154, 34006, 47370; and awards from the Bruce Anderson Foundation and the Deutsches Forschungsgemeinschaft.]

NR75 Monday, May 24, 9:00 a.m.-10:30 a.m.

Factors Affecting Time of Consultation Requests

Marian A. Ormont, M.D., Psychiatry, St. Luke's Roosevelt, Amsterdam Ave & 114th Street, New York, NY 10025; Henry W. Weisman, M.D., Richard Shindledecker, M.A., Stanley S. Heller, M.D.

Summary:

Objectives: Psychiatric consultation results from the interaction of multiple systems that may be understood by exploring the timing of consultation requests. Does the timing reflect psychiatric and medical diagnoses, reasons for consults, and the accrual of clinical experience by medical housestaff? The purpose of this study is to investigate the relationships between these factors.

Methods: 145 consecutive psychiatric consultations at a 700-bed New York City teaching facility between July 1991 and July 1992 were examined. These were assessed by demographic criteria, medical and psychiatric diagnoses, reasons for consultation, hospital day of consult, and the timing with respect to the academic year.

Results: 29 out of 145 (20%) consultations examined occurred on day one, with 76 of 145 (52.4%) occurring in the first five days of hospitalization. Consultations to schizophrenic patients were called for earlier than for other diagnoses ($p < 0.02$). There were no correlations between nonpsychiatric diagnoses, reasons for consultation, and the day a consultation was called, nor did this vary over the course of the year.

Conclusion: Psychiatric consultation is an early phenomenon, implying that consultation/liaison interventions play an important role in the initial work-up of nonpsychiatric patients.

NR76 Monday, May 24, 9:00 a.m.-10:30 a.m.

Stiffman Syndrome, Interviews and Psychometrics

Elaine M. Barth, M.D., Psychiatry, Mayo Clinic, 200 Second Street Southwest, Rochester, MN 55905; John L. Black, M.D., Donald E. Williams, Ph.D., Joyce A. Tinsley, M.D.

Summary:

Ten patients with stiff-man syndrome were studied utilizing the Minnesota Multiphasic Personality Inventory, the Self Administered Alcoholism Screening Test, the State Trait Anxiety Scale, and telephone interviews. The paper-and-pencil tests showed no significant trend except that the MMPI of our patients was similar to that commonly seen in medical patients. The small sample size and a large amount of variability between patients with stiff-man syndrome on these three instruments may have eliminated any statistical significance. The results of our telephone interview, however, revealed that 80% of our patients had been given a psychiatric diagnosis, and 40% either abused or were dependent upon alcohol. Only one of our patients had a psychiatric diagnosis that preceded the onset of symptoms of stiff-man syndrome. Clinicians treating patients with stiff-man syndrome must be alert to the potential presence of comorbid psychiatric illness in this patient population.

NR77 Monday, May 24, 9:00 a.m.-10:30 a.m.

Alpha-Theta EEG Brainwave Training and Obesity

Lee A. Kelley, M.D., Psychiatry, Univ of Kansas Med Center, 3901 Rainbow Blvd, Kansas City, KS 66160; Fowler C. Jones, Ed.D., William F. Gabrielli, Jr., M.D., Elizabeth C. Penick, Ph.D.

Summary:

Objective: Studies have shown the efficacy of EEG brainwave (Alpha-Theta) training in the treatment of alcoholism. The experimenters postulated that brainwave training might also help in the

treatment of obesity. This study tested the hypothesis that obese females receiving Alpha-Theta training would lose more weight than a similar group who did not receive brainwave training.

Method: The experimental group consisted of six psychiatrically healthy self-selected females. Three females who volunteered for the study but could not meet time demands served as controls and received no treatment. All subjects weighed at least 25 kg over ideal bodyweight. The experimental group received 10 thermal biofeedback sessions and 20 Alpha-Theta sessions in the outpatient offices of a university medical center psychiatry department. Verbal suggestions for weight loss were given at each session. The experimental group was weighed monthly for six months, and the control group was weighed at the beginning and end of six months. *Results:* Each member of the control group had gained weight at six-month follow-up. Five of six experimental subjects had lost weight ($p < .007$) *Conclusions:* Alpha-Theta brainwave training may help some obese patients lose weight.

NR78 Monday, May 24, 9:00 a.m.-10:30 a.m.

Problems in Creating a Geropsychiatry Ward

Jeffrey D. Meyerhoff, M.D., Psychiatry UHN-80, Oregon Health Sci Univ, 3181 SW Sam Jackson Pk Rd, Portland, OR 97201; David M. Smith, M.D., Thomas R. Hansen, M.D.

Summary:

Objective: This project reviews the integration of a geropsychiatry team into a general psychiatry ward. *Method:* As part of a fellowship training program, one half of a psychiatry ward was designated for elderly patients. It was in operation for three months and then disbanded. Staff recommendations and feelings were assessed during a debriefing session at the end of the three months. Demographics and work load statistics were reviewed before, during, and after the formation of the new team. *Results:* Ward staff expressed significant affect over increased workload and perceived changes in the mission of inpatient psychiatry. One-to-One nursing care previously dispersed among four teams was concentrated into one. There was a fear that the therapeutic milieu would be altered if psychiatry became a permanent resource for demented, medically ill, and difficult-to-place elderly. The need for increased nursing care was supported by data on age, length of stay, and medical comorbidity. The belief that the case mix would become permanently skewed toward dementia was not supported by data gathered during and after this experience.

Conclusions: Staff frustration was only partially accounted for by increased work load. Preconceptions about geropsychiatry patients appeared to contribute to staff discontent.

NR79 Monday, May 24, 9:00 a.m.-10:30 a.m.

Haloperidol Effects on Conditioned Cocaine Craving

Stephen E. Hall, M.D., Psychiatry, San Francisco VA UCSF, 4150 Clement Street 116N, San Francisco, CA 94121; Stephen P. Berger, M.D., Sharon M. Hall, Ph.D., Cynthia C. Crawford, Ph.D.

Summary:

Studies of cocaine dependent humans have shown that reexposure to environmental cues previously associated with cocaine use produces a strong conditioned response characterized by intense desire or "craving" for the drug. In the present study, Childress' conditioned craving paradigm and the dopamine antagonist, haloperidol, were used to determine the role of dopamine in human cocaine craving. We studied hospitalized, cocaine-dependent patients using a randomized, single-dose, crossover, placebo-controlled, double-blind design, with a three-day interval between the active and placebo conditions. Craving was measured pre- and post-cues with subjective scales for desire to take cocaine and for mood changes. Physiological measures of craving were also assessed by measuring serum cortisol, ACTH, HVA, and DOPAC levels. Six patients have completed this ongoing protocol. When premedicated with haloperidol, two of these patients experienced a decrease in cue-induced craving; two had a decrease in baseline (pre-cue) craving only; one had worse craving; one patient showed no effect. Data on approximately 20 subjects will be presented at the meeting. While preliminary, the clear finding on these data is that haloperidol does not exacerbate cocaine craving in most subjects. This is inconsistent with the dopamine depletion theory of craving.

NR80 Monday, May 24, 9:00 a.m.-10:30 a.m.

Alexithymia and Somatization: Clinical and Psychometric Issues

Michael Bach, M.D., Psychiatry, Univ of Vienna, Waehringer Guertel 18-20, A-1090 Vienna, Austria/Europe; Doris Bach, Ph.D., Franz Boehmer, M.D., Detlev O. Nutzinger, M.D.

Summary:

In previous studies, results from psychometric measures suggested an association between alexithymia and somatization. However, alexithymia has not been evaluated in relation to somatoform disorders and other standard psychiatric diagnoses. Using a structured clinical interview (SCID) in the present study, the lifetime prevalence of DSM-III-R disorders was determined among 45 psychiatric inpatients with functional somatic syndromes. In addition, the Toronto Alexithymia Scale (TAS) and the SCL-90R were administered. Of the patients in our sample, 42.2% scored in the alexithymic range of the TAS. In line with previous studies, the alexithymic patients presented significantly more psychological turmoil and overall psychopathology on the SCL-90R. However, there was no significant association of alexithymia with any of the determined DSM-III-R diagnoses nor with the clinical course. These results suggest that assessing clinical features in addition to psychometric data seems to be necessary for further validating the alexithymia construct and for evaluating its potential role in the formation and maintenance of functional somatic symptoms.

NR81 Monday, May 24, 9:00 a.m.-10:30 a.m.

Self-Reported Prescribing Patterns in Schizophrenia

Uriel Heresco-Levy, M.D., Psychiatry, Albert Einstein Coll. Med, 1500 Waters Place Bronx Psy Ct, Bronx, NY 10461; Jean-Pierre Lindenmayer, M.D., Ilana Zylberman, M.D., Sandra Grochowski, B.A.

Summary:

Objective: Prescription records surveys have suggested that polypharmacy and dissimilar dosing with high and low potency neuroleptics are used in schizophrenia although they may carry an excess of risk over unproved benefit. The objective of this study was to evaluate whether these patterns are confirmed on the basis of prescription habits data obtained directly from treating physicians. *Method:* A 35-question "Schizophrenia Prescribing Practices Questionnaire" was developed to anonymously investigate prescribing patterns. As part of an ongoing survey, 38 of the 46 psychiatrists serving a university-affiliated State Psychiatric Center completed the questionnaire. *Results:* High potency neuroleptics were the drugs of choice for all phases of treatment. A total of 8% of respondents used more than one neuroleptic drug simultaneously; 50% used antiparkinsonian drugs prophilactically. The mean maximum daily haloperidol dose was 54.2 ± 19.1mg. The dose equivalencies derived from the dosages reported for typical neuroleptics and clozapine did not differ significantly from dose equivalencies previously suggested by researchers. However, the mean chlorpromazine-equivalent dose of high potency neuroleptics was three times as high as that of low potency agents ($p < .01$). *Con-*

clusions: These preliminary findings support chart based reports. This study draws attention to the persistence of the habit of prescribing doses of high potency neuroleptics which may be unnecessarily high.

NR82 Monday, May 24, 9:00 a.m.-10:30 a.m.

Economics of Antihypertensive Compliance in Elders

Daniel P. Chapman, Ph.D., Aging Branch, Center for Disease Contr., Mail Stop K-51, Atlanta, GA 30333

Summary:

A MEDLINE search identified empirical studies published since 1970 referenced to antihypertensive compliance among samples with an average age of at least 60 years (N = 12). Between 1.3% and 40% of older hypertensives investigated were categorized as failing to comply with antihypertensive medication regimens as directed in these studies, with unweighted noncompliance prevalence averages of 13.4 for participants in community trials and 15.5 of patients in clinical practice studies. In addition to being associated with cognitive and affective symptomatology, economic factors may foster noncompliance with antihypertensive medications. Insurance coverage for antihypertensive medication is frequently inadequate, with about 25% of hypertensives surveyed reporting they experienced problems paying physicians' fees or for antihypertensive medications. While the stepped care approach to the management of hypertension recommends the use of relatively inexpensive diuretics or beta blockers as initial monotherapy in the treatment of hypertension, a recent increase in the use of newer and more expensive agents such as ACE-inhibitors has been reported. As subsequent research has revealed hypertensive patients indicating financial difficulties are more apt to report being in poor health or having experienced a stroke, assessment of financial resources as well as affective and cognitive status are important considerations in antihypertensive compliance promotion.

NR83 Monday, May 24, 9:00 a.m.-10:30 a.m.

Alpha-2 Adrenergic Antagonism and Opioid Dependence

Faiq A. Hameedi, M.D., Psychiatry, Yale University, 34 Park Street, New Haven, CT 06519; Marc I. Rosen, M.D., H. Rowland Pearsall, M.D., Michelle L. Sullivan, R.N., Thomas R. Kosten, M.D., Scott W. Woods, M.D.

Summary:

Objective: Preclinical data suggest that chronic alpha-2 adrenergic antagonist administration may reduce opioid tolerance. We initiated the present ongoing studies in methadone-maintained patients to investigate possible dosing strategies utilizing the alpha-2 antagonist yohimbine to reverse opioid dependence. *Method:* Methadone-maintained patients consent to participate in a crossover study in which they receive chronic yohimbine and chronic placebo, each for one week. Opioid dependence is assessed at the end of each arm by administration of the opioid antagonist naloxone followed by structured ratings of opioid abstinence symptoms and physiologic measures. *Results:* Four inpatients receive yohimbine in the usual clinical dose of 5 mg PO TID. In three of these four there was evidence of somewhat less severe withdrawal during yohimbine. Four additional patients received a yohimbine dose of 20 mg PO once daily as outpatients. Two could not tolerate this dose due to anxiety or autonomic hyperactivity, while neither of the other two experienced less severe withdrawal during yohimbine. *Conclusions:* The data suggest some promise for efficacy using a TID schedule at a higher dose than that in Study 1. Data from Study 3 using a yohimbine dosing strategy of 10 mg PO TID on inpatients will also be presented. (Supported by P50-DA04060, R18-DA06190, K01-DA0112).

NR84 Monday, May 24, 9:00 a.m.-10:30 a.m.

Clozapine Agranulocytosis Treated With Granulocyte-Colony Stimulating Factor

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Summary:

Three patients being treated with clozapine at Napa State Hospital for their treatment-resistant schizophrenia received Filgastrim (Granulocyte-Colony Stimulating Factor or G-CSF) for clozapine-induced agranulocytosis. They recovered despite absolute granulocyte counts of less than 30/m^3 with possible infection, whereas seven reported fatalities have occurred in the United States in similar circumstances without Filgastrim use. Filgastrim (G-CSF) may be a safe and effective drug for managing clozapine-induced agranulocytosis.

These patients recovered in 8.3 days, on average, rather than the expected two weeks. This suggests additional benefits in decreased morbidity and expense of treatment, particularly in reduced intensive care unit days. These findings support three case histories already in the literature regarding this application of G-CSF.

NR85 Monday, May 24, 9:00 a.m.-10:30 a.m.

Neurological Signs at the Onset of Psychosis

Russell Scheffer, M.D., Psychiatry, DDE Army Medical Center, Fort Gordon Highway, Fort Gordon, GA 30905; Elizabeth Correnti, M.D., Richard Costa, M.A., Sukdeb Mukherjee, M.D.

Summary:

While neurological signs have been described in patients with schizophrenia and major mood disorders, it is not known whether, and to what extent, such abnormal signs are present at the onset of psychosis. In an ongoing study at the DDE Army Medical Center, we are assessing neurological "soft" signs in drug-naive first-break psychotic patients using the Neurological Evaluation Scale (Buchanan & Heinrichs 1989).

Of the first ten patients examined, including two with a diagnosis of bipolar disorder, all had neurological signs indicating problems with sensory integration, motor coordination, and sequencing of complex motor acts, with no subject showing less than two abnormal signs; 50% of the patients had a positive glabellar sign. However, prominent "frontal" release signs described in chronic schizophrenic patients were not observed. The presence of neurological signs was not related to the severity of psychosis or negative symptoms, or to age of onset.

These initial findings indicate that some neurological signs are present at the onset of psychosis prior to pharmacological treatment, which suggests a developmental basis for these abnormalities. Additional data will be presented also on the relations of neurological signs to history of premorbid functioning and obstetrics complications.

NR86 Monday, May 24, 9:00 a.m.-10:30 a.m.

Neuropsychological Performance and Psychopathological Processes in Chronic Schizophrenia

Jorge Barros-Beck, M.D., Psychiatry, Montefiore Medical Center, 210th St Klau Basement, Bronx, NY 10467; Sandra Grochowski, B.A., Nigel M. Bark, M.D., Daniel J. Javitt, M.D., Jean-Pierre Lindenmayer, M.D.

Summary:

Introduction: Neuropsychological deficits have been recognized as part of the clinical description of schizophrenia since Kraepelin. In recent years neuropsychological, neurophysiological, and imaging studies have been employed to identify specific dysfunction and localized cognitive deficits in schizophrenic patients. These efforts have been hindered by the fact that the nature of the cognitive deficit evidenced by most chronic schizophrenics has not been consistently described. Specific correlation of newer descriptions of psychopathological processes and neuropsychological performance has not received enough attention. *Objective:* This study aims to define correlations between standardized assessment of behavioral psychopathology (i.e., positive and negative symptoms) and standardized neuropsychological performance. Additionally, relationships among test performances are analyzed to better understand neuropsychological profile relationships of chronic schizophrenics. *Method:* 24 chronic schizophrenic (DSM-III-R) inpatients were evaluated clinically on the PANSS, the California Verbal Learning Test, the Wisconsin Card Sorting Test, and the Quick Test IQ. *Results:* Positive symptoms were not correlated with short-term, long-term, or recall memory deficits. Negative symptoms correlated with order of memory recall on the CVLT ($p = .03$). Response bias on the CVLT correlated inversely with IQ ($p = 0.002$). Perseverative responses and errors on the WCST correlated with a greater amount of intrusion responses on the CVLT ($p \leq 0.001$).

NR87 Monday, May 24, 9:00 a.m.-10:30 a.m.

Discharge Predictors of VA Elderly Schizophrenics

Haim Y. Knobler, M.D., Psychiatry, FDR VA Hospital, P.O. Box 100, Montrose, NY 10548; Richard Silverman, M.D. Ileana Berman, M.D., Richard Donn, M.D., Edward R. Allan, M.D., Miklos F. Losonczy, M.D.

Summary:

The ongoing demand to discharge elderly mental patients from hospitals argues for better discharge criteria. This pilot study's aim was to find predictors for good outcome in the community among chronic schizophrenic patients.

Forty-three schizophrenic outpatients (mean age: 62.3), well adjusted to a VA community care project, were compared with a group of 20 schizophrenic inpatients (mean age: 61.2), hospitalized continuously for years, who were not candidates for discharge. The evaluation included psychiatric and medical history, current medication, the Brief Psychiatric Rating Scale (BPRS), and the Mini-Mental State Examination (MMSE).

The outpatients had lower rates of: 1) symptoms on the BPRS (non-paired t test, $p < .001$). 2) cognitive impairment on the MMSE (non-paired t test, $p < .001$). 3) medical illness ($x^2 = 5.67$, $p < .02$). The inpatients were less cooperative than the outpatients on the cooperativeness subscale of the BPRS (x^2 leq 15.82, $p < .001$).

In conclusion: The BPRS and the MMSE were found helpful in defining chronic schizophrenic patients who adjusted well in the community. According to these tests, such patients had a lower score of psychiatric symptoms, had higher cognitive functioning, and were highly cooperative. Such tests may serve as predictors for the outcome of discharged elderly schizophrenic patients.

NR88 Monday, May 24, 9:00 a.m.-10:30 a.m.

General Hospital Consultations: An Evaluation

Julie Farrington, M.D., Psychiatry, Emory-Crawford Long, 490 Peachtree St. Ste 561-C, Atlanta, GA 30308; Francis J. Kane, M.D.

Summary:

Purpose: Psychiatric consultations were evaluated for documentation of 1) correlation of diagnosis and MSE; 2) adequacy of MSE; 3) suicide risk; 4) therapy; 5) diagnostic recommendations. *Methodology:* Study material consisted of three samples from two hospitals. Hospital A sample consisted of 44 charts of patients committed elsewhere and 25 charts of routine consults. A second community hospital furnished a second 25-patient sample. *Results:* Only a minority of all three samples showed good correlation between the data presented and the diagnosis. Especially noteworthy was the incompleteness or absence of the formal mental status exam in a majority of the sample. Cognitive function was especially poorly documented; assessment of suicidality was very infrequent (circa 30%). Appropriate diagnostic recommendations (folate, B12, thyroid function tests) were absent in a majority of the sample (68%) Two patients had drugs prescribed contraindicated for their illness. Eleven patients were discharged AMA, seven of whom had doubtful capacity to make such a judgment due to evidence of delirium or suicidality not addressed in their consults. Our data suggest the need for periodic review for 1) quality of documentation and 2) quality of care issues.

NR89 Monday, May 24, 9:00 a.m.-10:30 a.m.

Clozapine as a Diagnostic Tool for Parkinsonism

Mark A. Frye, M.D., Psychiatry, UCLA NPI, 760 Westwood Plaza, Los Angeles, CA 90024; William C. Wirshing, M.D., Donna Ames, M.D.

Summary:

Objective: To delineate the utility of clozapine as a diagnostic tool for clarification of parkinsonism (idiopathic vs. iatrogenic) in a chronic, neuroleptic-requiring patient with intolerable EPS. *Methods:* The patient was a 72-year-old male with a 45-year history of schizoaffective disorder most recently managed on thioridazine 50 mg po qd and Sinemet® 25-250, 5/12 tablets po qd. Over a nine-month period he was longitudinally evaluated during treatment with clozapine 75 mg po qd—a pharmacologic setting free of parkinsonian liability. Several rating scales were employed including the BPRS, UPDRS, AIMS, and an instrument measure of bradykinesia—the "Knob Twist" (elderly normals score 5-9). *Results:* There was marked improvement (UPDRS 11 from 35 and "Knob Twist" 4.5 from 2) only 1.5 weeks after clozapine was instituted. Eventually, there was a plateau at a total UPDRS score 16-18 suggesting his parkinsonism was due to an idiopathic and drug induced combination. His emergent choreiform dyskinesia (AIMS 21 from 0) again was multifactorial including neuroleptic withdrawal TD and unmasked levodopa induced dyskinesia. The dyskinesia clinically improved (AIMS 12 from 21) after a 50% Sinemet® dose reduction. *Conclusions:* This case experience suggests that clozapine and careful motoric evaluations can help disentangle complex parkinsonian syndromes.

NR90 Monday, May 24, 9:00 a.m.-10:30 a.m.

Exercise Patterns in Indigent Psychiatric Patients

Mirella P. Auchus, Ph.D., Psychiatry, Emory University, 80 Butler St. SE Grady Hosp 8C, Atlanta, GA 30335; Keith A. Wood, Ph.D.

Summary:

Objective: To examine exercise patterns in indigent psychiatric inpatients.

Methods: Fifty indigent psychiatric inpatients at an academic teaching hospital completed an exercise inventory (questionnaire) designed to elicit type, frequency, and intensity of exercise, plus emotions experienced after exercising. Subjects completed the inventory for the year prior to this hospitalization and for the imme-

diate two weeks prior to this hospitalization. Patients' primary psychiatric diagnosis included schizophrenia, mood disorders, personality disorders, and substance abuse/dependence.

Results: Eighty-two percent of the subjects reported participating in at least one form of exercise over the past year. The most frequently reported exercise was walking. Most subjects exercised one to five times per week at a moderate level of intensity, and most reported an improved emotional state after exercising. Fewer patients (66%) exercised during the two weeks immediately prior to hospitalization compared with the past year (82%).

Conclusions: Indigent psychiatric patients do exercise, primarily by walking, and many report psychological benefits from exercise. Patients' exercise activity declines during the two weeks immediately prior to hospitalization. Lack of exercise may contribute to symptom relapse and to the need for hospitalization in indigent psychiatric patients.

NR91 Monday, May 24, 9:00 a.m.-10:30 a.m.

The Reliability of Video Dementia Diagnosis

Irvin P. Brock III, M.D., Psychiatry, Johns Hopkins Hospital, Osler 320 600 N. Wolfe Street, Baltimore, MD 21287; Marshal F. Folstein, M.D.

Summary:

Cognitive impairment affects 5% to 10% of those over 65 and greater than 30% over 85. Many of these individuals live far from diagnostic centers. We developed a brief video assessment system whereby a technician administers a brief format and obtains information from a telephone interview. A physician can view only the videotape and interview data to make a diagnosis. We examine here the reliability and validity of this system.

Methods: 80 patients from the diagnostic categories of NINCDS Alzheimer's disease, DSM-III-R major depression, Parkinson's disease, post stroke, and normal controls were obtained from dementia clinics, neurology clinics, outpatient/inpatient psychiatry clinics, and nursing homes. A five-minute interview format was videotaped and there was a telephone interview using the Psychogeriatric Dependency Rating Scale, the Information Questionnaire on Cognitive Decline in the Elderly, and the Dementia Symptoms Scale by a technician. The diagnoses made by viewing the videotape were compared to the on-site diagnoses made by a physician. Five physicians who had never seen the patients rated the tapes as Demented, Unsure, Abnormal Non-Demented, Depressed Non-Demented, Depressed Demented, and Normal.

Reliability and validity will be determined. This pilot study suggests that remote video assessment is a promising tool for the diagnosis of dementia.

NR92 Monday, May 24, 9:00 a.m.-10:30 a.m.

Competency Evaluations in Patients With Organic Mental Disorders Seen by the Psychiatric Consultation Service

Tarak Vasavada, M.D., Psychiatry, SUNY HSC, 750 East Adams Street, Syracuse, NY 13210; George Nasra, M.D., Prakash Masand, M.D.

Summary:

Objective: Organic mental disorders are among the commonest psychiatric diagnoses in medical-surgical patients evaluated for competency. The purpose of this study was to determine whether there were clinical and/or socio-demographic differences in two groups of patients with organic mental disorder (delirium, dementia, or both); one group of patients who were evaluated for competency and the other group who were seen for reasons other than competency evaluation. *Method:* The authors retrospectively evaluated the charts of patients seen by the psychiatric consultation service from January 1, 1989, through December 31, 1991. A total of 74 patients had a diagnosis of organic mental disorder delirium, dementia, or both). Of these, 32 patients were evaluated for competency (study group) while the remaining 42 were evaluated for reasons other than competency (control group). *Results:* Patients in the study group were more likely to be black and less likely to be prescribed psychotropics compared to the control group. The majority of patients with organic mental disorders (87.5%) evaluated for competency were judged to be incompetent. There were no significant differences between the two groups on other demographic variables. *Conclusions:* Most patients with organic mental disorders were judged to be incompetent. Patients evaluated for competency were less likely to be prescribed psychotropics and more likely to be black.

NR93 Monday, May 24, 9:00 a.m.-10:30 a.m.

Response to Stress in Juvenile Anorexia Nervosa

Jane W. Chen, B.S., Child Psychiatry, Stanford University, 725 Welch Road, Palo Alto, CA 94304; Hans Steiner, M.D.

Summary:

This preliminary study involves 14 girls with the diagnosis of anorexia nervosa. These adolescents (age range between 13 and 19) were recruited from a well-established eating disorder program. The standardized protocol included: psychometrics and a previously described stress-inducing speech task (SIST), which consisted of two conditions administered to each subject in randomized order: specific stress (SIST-SSTR), i.e., a discussion of personal problems and nonspecific stress (SIST-NSSTR). Pulse rate, obtained at baseline, and five, and 10 minutes into each task, was the dependent measure. Comparison of pulse rates across time show that the subjects in the SSTR reacted to the stressor within five minutes (i.e., mean pulse increased from 60 beats per minute to 68 and then relaxed back to their baseline by 10 minutes (i.e., mean pulse of 59). Yet, in the NSSTR there were no significant fluctuations in pulse rates (i.e., mean pulses of 60, 60, 61 at baseline, 5, and 10 minutes, respectively). These results show similar trends to those found in normal subjects with an "over-socialized" adaptive style. These results are consistent with the theory that juveniles with anorexia nervosa find discussion of personal problems stressful like other psychosomatic patients. Stress response could be useful in identifying individuals at risk for anorexia nervosa.

NR94 Monday, May 24, 9:00 a.m.-10:30 a.m.

Haloperidol Plasma Levels, Fixed Doses and Clinical Response: The Brazilian Experience

Marco A. Marcolin, M.D., Psychiatry, Universidade Spaulo, Pedro De Toledo 276, Sao Paulo, SP 04039, Brazil; Javaid I. Javaid, Ph.D., Zaira Motta, M.D., John M. Davis, M.D.

Summary:

It is well established that patients treated with the same doses of haloperidol will achieve different steady state plasma levels. This wide variability in part is due to differences in kinetics.

The present study was designed to investigate the relationship between plasma levels of haloperidol achieved at fixed doses in schizophrenic patients. We used chronic schizophrenic patients during acute relapses, all of them were hospitalized and kept drug-free for at least two weeks. Diagnosis was based on a structured interview (SCID DSM-III-R) and traditional symptom evaluation scales were used to monitor clinical outcome. Fixed doses of haloperidol (5, 10, 20 mg/day) were used and blood was drawn for steady state haloperidol levels after the first and second week of treatment. Haloperidol levels were measured using gas liquid chromatography method.

Preliminary results based on 27 patients show wide inter-individual variabilities in plasma levels with the same doses as reported by others. Initial observations indicate that patients at high blood levels may have poorer outcome.

NR95 Monday, May 24, 9:00 a.m.-10:30 a.m.

Violence and Substance Abuse in the Emergency Room

P. Murali Doraiswamy, M.D., Psychiatry, Duke University Med Ctr, Box #3215 Psych Dept, Durham, NC 27710; Devon Binder, M.S., Laura J. Havrilesky, M.S., Everett H. Ellinwood, Jr., M.D., Leeland Dennis, M.D., K. Ranga Rama Krishnan, M.D., Larry A. Tupler, Ph.D.

Summary:

Homicidal, suicidal, and violent behaviors associated with substance abuse (SA) are an important cause of morbidity in our society. The emergency room (ER) represents a crucial entry point into the mental health system for substance abusers with violent behavior. Analysis of ER data on SA has the potential to provide important information on the characteristics and precipitants of these crises. In this study we reviewed approximately 900 consecutive patients evaluated in a tertiary care ER over a six-month period for such behaviors. A total of 215 patients met criteria for injurious behaviors. A high proportion of these were young, black (60%), uninsured (73%), unemployed (60%) and lived with spouse or family (63%). Additionally, 24% lived alone and 12% had no fixed abode. Targets of injury were self-directed in 74%, at spouse or family in 22%, and at multiple targets in 12%. Knives (17%), guns (11%), and drugs (26%) were the common means of violence. Precipitants included family/spousal conflicts (46%), pharmacologic effects (58%), illegal activities (9%), and coexistant psychiatric conditions (33%). Sixty-two percent behaved appropriately in the ER, whereas 28% were agitated and 9% were somnolent. These data will be elaborated and discussed with a view to providing ER psychiatrists demographic data to help assess and deal with violent substance abusers.

NR96 Monday, May 24, 9:00 a.m.-10:30 a.m.

Axis II Pathology and Recidivism in Schizophrenia

Orlando J. Cartaya, M.D., Psychiatry, Harbor-UCLA, 1000 West Carson St D-5 Annex, Torrance, CA 90509; Karl S. Burgoyne, M.D., Michael Kelley, Ph.D., John Richard Elpers, M.D.

Summary:

This study was undertaken to assess the impact of Axis II comorbidity on recidivism of patients with chronic schizophrenia. Using a case-control design, the authors compared 30 schizophrenic patients from a pool of Los Angeles County's "High Utilization" survey, with a demographically similar control group of 30 schizophrenics followed through the outpatient clinic at Harbor-UCLA Medical Center. The prevalence and severity of personality disorder (PD) was assessed using the Millon Clinical Multiaxial Inventory II. The severity of Axis I pathology was evaluated using the Brief Psychiatric Rating Scale (BPRS) and the Scale Assessment of Negative Symptoms (SANS). The data suggest that PD adversely influences the severity and prognosis of schizophrenic illness. The expression of such comorbidity may require novel behavioral interventions and treatment protocols to ensure compliance and more favorable outcomes.

NR97 Monday, May 24, 9:00 a.m.-10:30 a.m.

Referral Trends to a Geriatric Psychiatry Clinic

Jill S. Myer, M.D., Psychiatry, University of Minnesota, VAMC 1 Veterans Drive, Minneapolis, MN 55417; Gary L. Falk, M.D., Gabe J. Maletta, M.D., Dana Hazel, M.D., Laura Lathrop, M.P.H.

Summary:

There is often the need for psychiatric evaluation of geriatric patients seen for nonpsychiatric problems. Our study addresses the question of whether appropriate referrals are made from other clinics to the Geriatric Psychiatry Clinic at the Minneapolis VAMC. The referring clinics include admissions, medicine, neurology, urology, gynecology, post-traumatic stress disorder (PTSD), geriatric research education and clinic center (GRECC), and extended care center. A total of 243 new patients, aged 55 and over were seen at the Geriatric Psychiatry Clinic between January and December 1992. Admissions clinic and medicine clinic were the most frequent referrers, with 68% of the referrals. Psychiatric evaluation was assessed with regard to urgency of evaluation, psychiatric diagnosis, treatment recommendations, and compliance. Symptoms of depression, anxiety, and somatization were the most common reasons for referrals for psychiatric evaluation. The time interval between the referring clinic's appointment and the Geriatric Psychiatry Clinic consultation ranged between three and 49 days. The vast majority of referrals were considered appropriate.

NR98 Monday, May 24, 9:00 a.m.-10:30 a.m.

Alcoholism Among People in Methadone Programs in Vienna

Norbert Loimer, M.D., Search Society, Austrian Narcotics Res, Stadtgraben 7, Horn A 3580, Austria; Herbert Vedovelli, M.D., Bettina Rauch, Ph.D.

Summary:

It has repeatedly been shown that methadone maintenance programs have the highest retention rate of all the treatments for opiate addiction. Methadone maintenance therapy, however, remains controversial. Since the 1987 and 1991 supplements to the narcotic drug law, methadone has been legal for therapeutic use in Austria. After prescribing a permanent prescription for methadone for the patient, the prescription has to be validated by the district officer of health in the district where the drug addict lives. After this procedure and not earlier, the patient is allowed to procure oral methadone at any pharmacy of his choice and to drink it there in the presence of the pharmacist. In Vienna, 141 patients on methadone maintenance have been investigated (91 men, 50 women) during a 40-month period: *age:* 30.2 ± 4.9 years; bodysize 175.4 ± 7.4 cm, *body weight:* 69.6 ± 14.4 kg, *methadone dose/day:* 85.1 ± 32.9 mg, *methadone plasma level:* 524.6 ± 333.2 ng/ml, *treatment duration:* 20 months, 59.6% HIV-1 negative, 40.4% HIV-1 infected. *alcoholism:* 15.2% of the patients reported alcoholism before and 9.3% during MMT.

As the Viennese study shows, methadone has an impact on reducing risk behavior, illegal income, emotional weakness and craving, as well as alcohol intake.

NR99 Monday, May 24, 9:00 a.m.-10:30 a.m.

Follow-up of Open Trial of Interpersonal Psychotherapy With Depressed Adolescents

Janet M. Fairbanks, M.D., Clinical Epidemiology, NYS Psych Inst., 722 West 168th Street Unit 14, New York, NY 10032; Laura H. Mufson, Ph.D., Jaqueline Martin, R.N., Donna Moreau, M.D., Myrna M. Weissman, Ph.D.

Summary:

A follow-up study was done of 14 adolescents who were initially treated in an open clinical trial of interpersonal psychotherapy modified for depressed adolescents (IPT-A). IPT is a brief, 12-week treatment which focuses on reducing depression and improving interpersonal conflicts associated with the onset of depression. IPT has proven efficacious in treating depressed adults. IPT-A is modified to address the developmental issues common to adolescents and these modifications are specified in a manual. We report on the status of the adolescents who participated in the original study one year after their initial treatment. We report on a one-year follow-up of their current mood, *DSM-III-R* diagnosis, overall level of functioning, as well as social functioning, attitude toward treatment, whether there has been any intervening treatment, and we assess the impact of life events on them over the past year. We will discuss the comparison of their pre- and post-treatment status with their current status at follow-up.

NR100 Monday, May 24, 9:00 a.m.-10:30 a.m.

The Forgotten Evaluation: Taking Competence Seriously

Seth E. Tabb, M.D., Psychiatry, UNC Hospitals, 6123 Farrington Road #K-5, Chapel Hill, NC 27514; Scott A. West, M.D., John J. Worthington, M.D.

Summary:

The medical literature devotes little attention to the application of competency to the general medical patient. Commonly, the only cases recognized as necessitating a competency evaluation are overtly psychotic patients, patients requiring written informed consent, and patients who refuse treatment strongly recommended by their physician. Clarifying terminology and redefining competency provides a practical screening method for assessing competency in all patients. We examined a series of patients, selected from admissions to a general hospital. A high percentage were found to lack any documentation of competency evaluation despite evidence of cognitive impairment, known mental illness influencing decision making, and apparent "irrational" thinking. We propose the term "reactive paternalism" as a common physician response to patients who refuse a suggested medical treatment. When physicians neglect to evaluate competency, patient autonomy is compromised. Not only are all physicians capable of performing a competency evaluation, they are ethically and professionally required to do so.

NR101 Monday, May 24, 9:00 a.m.-10:30 a.m.

Disruptive Behavior in a Special School for Emotionally Disturbed School Boys

Lucie Viau, M.D., Psychiatry, Hosp Riviere Des Prairies, 7070 Perras Mercier Clinic, Montreal Quebec H1E 1A4, Canada; Michel Boulanger, M.D.

Summary:

This study explored the characteristics of schoolboys with a marked need for crisis intervention during school time. *Method:* For 11 boys aged 8-11, who were specifically referred for crisis intervention in a special school for the severely emotionally disturbed, the teacher's report form (Achenbach & Edelbrock) and conduct disorder symptomatology were evaluated (Diagnostic Interview Schedule for Children). This is an urban school related to a university child psychiatric hospital. This cross-sectional study included a control group of children of that school with no need for crisis intervention. Socioeconomic factors were evaluated with the Hollingshead scale.

Results: The boys in need for crisis intervention lived in a more disturbed environment. They also showed more diagnostic criteria of conduct disorder and hyperactivity. Our sample was small and results did not reach statistical significance. *Conclusions:* The teacher-child relationship appears to play a major role in the decision to refer a child to crisis intervention. More disturbed boys also seem to come from more chaotic families.

NR102 Monday, May 24, 9:00 a.m.-10:30 a.m.

Temporal Lobe Epilepsy and Psychiatric Disorders

Rita A. Shaughnessy, M.D., Psychiatry, University of Illinois, 912 S. Wood St MC913, Chicago, IL 60612; Rita A. Shaughnessy, M.D., Kandace Atkins, M.D., Moises Faviria, M.D., Don Penney, M.D., Nadine Acacia, B.A.

Summary:

Psychiatric complications and sequelae of temporal lobe epilepsy (TLE) are now well documented. In addition, carbamazepine, the drug of choice for TLE, is structurally related to tricyclic antidepressants and is very effective in the treatment of some forms of bipolar disorder. To elucidate the relationship between TLE and psychiatric disorders, interactions among significant variables must be examined. We assessed the following variables in patients diagnosed with TLE: age, sex, marital status, handedness, medication history, perinatal complications, abnormalities on brain MRI, abnormalities on SPECT, location of seizure focus or foci, age of seizure onset, history of infantile febrile seizures, history of status epilepticus, seizure frequency, number and types of seizures, family history of seizures, current and lifetime psychiatric diagnoses, family history of psychiatric diagnoses, substance use, personality characteristics, and strength of social supports. Patients undergoing temporal lobectomy for treatment of refractory TLE were evaluated both preoperatively and six months postoperatively. We are using multivariate statistical techniques to develop models of vulnerability to psychiatric disorders among patients with TLE and to more accurately characterize those patients most likely to benefit from temporal lobectomy with respect to both seizure control and psychological functioning. Results of these analyses will be presented and discussed.

NR103 Monday, May 24, 9:00 a.m.-10:30 a.m.

Dissociation in Patients With PTSD

Glenn N. Saxe, M.D., Psychiatry, Mass General Hospital, ELMHC/25 Staniford Street, Boston, MA 02114; Bessel A. van der Kolk, M.D., Michael Michaels, B.A., Rita Fisler, B.A., Daniel Dreyfuss, M.D., Robert L. Berkowitz, M.D.

Summary:

This study investigates the role of dissociation in patients with PTSD by comparing patients with PTSD who report many dissociative symptoms with those who report few dissociative symptoms. Sixty-four patients with a DSM-III-R diagnosis of PTSD were given the Dissociative Experiences Scale (DES), the Clinician Administered PTSD Scale (CAPS), and the SCID-Complex PTSD Instrument. Patients who scored above the median on the DES (High DES Group) were compared with those who scored below this median (Low DES Group) on such variables as demographic data, trauma history, CAPS score, and Complex PTSD score. The mean and median DES score was 23.7 and 20, respectively. There were no differences in age and gender between the two groups. Patients who had a high DES score had higher CAPS scores for intrusive symptoms (20.0 vs. 15.1, $p < .002$), numbing and avoidance symptoms (38.9 vs. 30.9, $p < .0002$), and hyperarousal symptoms (33.0 vs. 27.8, $p < .02$) than patients who had a low DES score. Total CAPS score was also significantly greater in the High DES Group (91.9 vs 73.8, $p < .0001$). Patients with high DES scores also had many more Complex PTSD symptoms (affect instability, relationship difficulties, somatic symptoms). These results

suggest that dissociation is an important factor in the psychopathology of PTSD.

NR104 Monday, May 24, 9:00 a.m.-10:30 a.m.

Mortality and Axis I Diagnosis in Inpatients: A Five-Year Follow-Up

Anelis E. Muhlebach, M.Sc., Psychiatry, Consultation Vollandes, 69 Rue Des Vollandes, Geneva 1207, Switzerland; Charles Rebetez, M.D., Antonio Andreoli, M.D.

Summary:

Significance. Previous works indicated increased mortality and suicide in subjects referred for inpatient care. DSM-III-R Axis I diagnosis predicts mortality (Tsuang et al., 1978). New research calling for reliable diagnostic assessment should address this question in Switzerland. Methods: We investigated all patients (n = 204) referred for psychiatric hospitalization in a Geneva (Switzerland) catchment area (105,000 inhabitants) during one year (1985). Causes of death were determined by the Swiss Register of Deaths. Interrater reliability for DSM-III-R diagnoses (psychotic disorders, PD; mood disorders, MD; substance abuse/dependence, PSAI; other disorders, OD) was satisfactory (Kappa: 0.69; $p < 0.0001$). *Results:* At five-year follow-up, 30 subjects (14.7%, SMR: 10.8) had died. A significant excess in mortality was observed in MD (20.0%, SMR: 14.7), PSAI (17.7%, SMR:13), and PD patients (8.9%, SMR:6.6). The main causes of mortality were significantly associated ($p = 0.003$) with DSM-III-R diagnosis. Accident, suicide, and death by natural cause were increased, respectively, in PD (7.1%, SMR:67.4), MD (11.4%, SMR:83.4), and PSAI (11.3%, SMR:10). We found less increased suicide in PD (1.8%, SMR:13.1) and PSAI (4.8%, SMR: 35.3), and less increased natural death in MD (8.6%, SMR: 7.6) patients. No natural death was found in PD and no death at all in OD. *Comment:* The observed increase of mortality risk in inpatients may depend on distinct causes of death in each diagnostic subgroup.

NR105 Monday, May 24, 9:00 a.m.-10:30 a.m.

Chronic Fatigue Syndrome Therapy: Mechanism and Response

Paul J. Goodnick, M.D., Psychiatry, University of Miami, 1400 NW 10th Avenue #304-A, Miami, FL 33136

Summary:

Chronic fatigue syndrome, whose etiology is uncertain, includes symptoms of pain, fatigue, and dysphoria. Some CFS patients meet criteria for major depressive disorder. Due to the variety of other symptoms of the disorder, pharmacotherapy includes: immunoglobulins, mismatched RNA (Ampligen), etc. Psychotropics, esp. the antidepressants, have been used extensively. Some, e.g., amitriptyline, have relatively greater effects on catecholamines than serotonin (CA/5HT agents); others, e.g., clomipramine, more on 5HT than catecholamines (5HT/CA agents). All available studies were evaluated in terms of patterns of symptoms response. Including drug comparison studies, detailed results were available for five double-blind and five open trials. In regard to pain, CA/5HT agents were effective in two of five (mean improvement or benefits over placebo = 17%), whereas 5HT/CA agents produced significant improvement in 5/5 (mean = 52%). One study showed ratings improved by 38% to clomipramine but only 16% to maprotiline. In contrast, CA/5HT agents led to reductions in depression in 4/5 (mean change or benefit over placebo = 35%) but in none of four trials with 5HT/CA agents (mean = 22%). Positive results are: 20% to clomipramine, 38% to maprotiline, and 36% to bupropion. Results will be discussed in terms of the biology of CFS' varied symptoms and deficiencies, with focus on therapeutic strategies.

NR106 Monday, May 24, 1:00 p.m.-2:30 p.m.

The Outcome of Schizophreniform Disorder Five Years After Onset

Jiahui Zhang, M.Sc., Culture, Community Hlth, Clark Institute, 250 College Street 7th Floor, Toronto, Ontario M5T 1R8, Canada; Morton Beiser, M.D., Graham Bean, Ph.D.

Educational Objectives:

To recognize that schizophreniform has a better prognosis than schizophrenia. Schizophreniform is a distinct concept from schizophrenia.

Summary:

The diagnosis of schizophreniform psychosis requires a prodromal period, clinical course, and residual phase of illness to be less than six months. In the present study, patients who met *DSM-III-R* criteria for schizophreniform (clinically recovered within six months N = 8), non-recovered schizophreniform (symptoms remained at the six-month cut-point N = 18), schizophrenia (N = 60), and affective disorder (N = 73) were compared to determine the course of outcome following a first episode of psychosis. Each subject was interviewed with standardized instruments to measure clinical course and social functioning prior to and following intake. The premorbid functioning of the schizophreniform subjects was better than the non-recovered schizophreniform and schizophrenic subjects but similar to the affective disorder subjects. In comparison with non-recovered schizophreniform and schizophrenic subjects, schizophreniform subjects were more likely to show expansive mood and ideation, grandiose ideas and action, delusion of reference, thought broadcasting, and thought insertion. Schizophreniform subjects were less likely to experience negative symptoms. The absence of negative symptoms was associated with better response to antipsychotic treatment. Five years after intake, schizophreniform subjects had best occupational and social functioning among all groups. At this time, 71% of the schizophreniform subjects were gainfully employed and none were in psychiatric halfway houses. In comparison, 15% of the non-recovered schizophreniform subjects, 25% of the schizophrenic subjects, and 60% of the affective disorder subjects were gainfully employed. The present findings indicate that schizophreniform subjects experience a better prognosis than schizophrenics five years after initial diagnosis. The outcome of schizophreniform subjects was more similar to affective disorder subjects but the family history of mental illness and presenting symptoms were different from affective disorder subjects. The findings support the conceptual distinctiveness of schizophreniform diagnosis from schizophrenia.

References:

1. Beiser, Morton: Redefining the diagnosis of schizophreniform disorder *Am. J. Psychiatry* 145(6)695-700 1988.

2. Helzer, J.E.: Contributions to the six month criterion to the predictive validity of the DSM-III definition of schizophrenia *Arch. Gen. Psychiatry* 40:1277-1280, 1983.

NR107 Monday, May 24, 1:00 p.m.-2:30 p.m.

Mitochondrial Inheritance in Mood Disorders

Francis J. McMahon, M.D., Psychiatry, Johns Hopkins, Meyer 3-181 600 N. Wolfe St, Baltimore, MD 21287; O. Colin Stine, Ph.D., Sylvia G. Simpson, M.D., J. Raymond DePaulo, Jr., M.D.

Educational Objectives:

To recognize the clinical features suggestive of mitochondrial inheritance; to understand the implications of the possible role of mitochondrial genes in mood disorder.

Summary:

Objective: Recent case reports implicate mitochondrial genes in mood disorder. Inherited mitochondrial disorders are characterized by matrilineal transmission and a high rate of affected relatives. We assessed these characteristics in families collected for a linkage study of bipolar disorder. *Method:* Thirty unilineal families were ascertained through a bipolar proband with ≥2 affected 1° relatives. Subjects were examined by psychiatrists using the SADS-L and diagnosed by RDC. Criteria for matrilineal transmission: 1) proband's mother or none of the mother's sibs or parents is affected; 2) no instances of paternal transmission anywhere in pedigree. *Results:* Fifteen families met criteria for matrilineal transmission. Nonmatrilineal families included nine in which proband's father was affected and six in which proband's mother was or was not affected but instances of paternal transmission were seen in pedigree. Among the 20 families with complete family history data, significantly more relatives were affected in the matrilineal than in the nonmatrilineal families (72.2% vs. 60.1%, $x^2 = 5.02$, df = 2, p = 0.025), due to five matrilineal families in which all at-risk relatives are affected. Three affected males in the matrilineal families have children; none are affected. *Conclusion:* The matrilineal transmission and high rate of affected relatives seen in some of these families is consistent with mitochondrial inheritance of mood disorder.

References:

Suomalainen A, Majander A, Haltia M, et al: Multiple deletions of mitochondrial DNA in several tissues of a patient with severe retarded depression and familial progressive external opthalmoplegia. J. Clin Invest 90:61-66, 1992).

Wallace DC: Mitrochondrial genes and disease. Hosp Prac 15:77-92, 1986.

NR108 Monday, May 24, 1:00 p.m.-2:30 p.m.

Psychiatry and Organ Transplantation: Why Post-Operative Evaluations Are Too Little, Too Late

Susan A. Van Meter, M.D., Psychiatry, Duke Medical Center, Box 3837, Durham, NC 27710; Sara D. Atkinson, M.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to tell how critical psychiatric involvement can be in predicting postoperative outcome as well as reducing medical and psychiatric morbidity.

Summary:

Objective: This study examined the role of psychiatric morbidity in organ transplant outcome by reviewing patient histories. *Method:* A retrospective review of all transplant patients (n = 52) at a tertiary care hospital from 1985-1990 was conducted. Past psychiatric history, psychiatric diagnosis, and postoperative course were documented. Most patients (91%) received kidney transplants, the rest heart transplants. Psychiatric evaluation was requested by the primary care physician with DSM-III-R criteria utilized to define psychiatric morbidity. *Results:* No patient received preoperative psychiatric evaluation. Each patient averaged five hospital admissions during the first postoperative year, almost as many for no identifiable organic disease (40%) as for graft rejection (50%). No patient had a documented past psychiatric history, yet all met criteria for an Axis I diagnosis (52% anxiety disorder, 39% major depression, 29% adjustment reaction, 29% substance abuse), and 20% for an Axis II diagnosis. All patients experiencing graft rejection had a psychiatric diagnosis (77% major depression, 15% BPD, 8% ASPD), with rejection related primarily to medication non-compliance or substance abuse. *Conclusion:* Although no patient received preoperative psychiatric evaluation, by one year postoperatively all patients required psychiatric intervention with psychiatric disorders and graft rejection highly correlated. Preoperative psychiatric involvement can be a critical factor in predicting postoperative outcome as well as reducing medical and psychiatric morbidity.

References:

1. Freeman AM, Folks DG, Sokol RS, et al.: Cardiac transplantation: clinical correlates of psychiatric outcome. *Psychosomatics* 29:47-54, 1988.

2. House RM, Thompson TL: Psychiatric aspects of organ transplantation. *JAMA* 260:535-539, 1988.

NR109 Monday, May 24, 1:00 p.m.-2:30 p.m.

Are Sleep Panic Attacks a Marker of an Anxiety Disorder?

Lawrence A. Labbate, M.D., Psychiatry, Mass General Hospital, 15 Parkman Street WACC 815, Boston, MA 02114; Mark H. Pollack, M.D., Michael W. Otto, Ph.D., Shani Langenauer, B.A., Jerrold F. Rosenbaum, M.D.

Educational Objectives:

At the conclusion of this presentation, the participant should recognize that sleep panic attacks may represent an autonomous manifestation of central neurophysiologic dysregulation in panic disorder associated with early difficulties with anxiety, chronicity, and comobidity in panic disorder patients.

Summary:

Introduction: Sleep panic attacks may represent an autonomous manifestation of central neurophysiologic dysregulation in panic disorder as they appear to be spontaneous entities without apparent antecedent environmental, cognitive, or conditioned processes. This study examines whether the presence of sleep panic attacks identifies a subgroup of panic patients characterized by a constitutional predisposition or diathesis for panic disorder. *Methods:* Subjects (N = 95) were consecutive patients with panic disorder participating in the MGH longitudinal study of panic disorder. Patients were evaluated with structured interviews, the SCID-R, to establish adult anxiety and affective disorders, and the K-SADS and DICA-P to determine the presence of childhood anxiety disorders. Patients were queried whether they had ever experienced at least one panic attack during sleep. *Results:* Forty percent reported at least one sleep panic attack. Patients with a history of sleep panic had significantly higher rates of comorbid anxiety disorders ($p < .03$) and depression ($p < .005$), longer length of illness ($p < .05$), and were more likely to have a history of an anxiety disorder during childhood ($p < .005$). *Conclusion:* The presence of sleep panic attacks is associated with early difficulties with anxiety, chronicity, and comorbidity in panic disorder patients. This finding adds to the converging evidence that, for some, panic disorder during adulthood may be one manifestation of an underlying constitutional vulnerability or diathesis to anxiety first presenting in childhood.

References:

1. Mellman TA, Uhde TW: Sleep panic attacks: New clinical findings and theoretical implications. *American Journal of Psychiatry* 146:1204-1207, 1989.

2. Rosenbaum JF, Biederman J, Gersten M. et al: Behaviorial inhibition in children of parents with panic disorder and agoraphobia. *Arch Gen Psychiatry* 45:463-470, 1988.

NR110 Monday, May 24, 1:00 p.m.-2:30 p.m.

Patterns of Familial Risk in Alzheimer's Disease

Jeremy M. Silverman, Ph.D., Psychiatry, Mt. Sinai Medical Center, Bronx VA 130 W. Kingsbridge Rd, Bronx, NY 10468; Ge

Li, M.D., Michele L. Zaccario, B.S., Christopher J. Smith, B.S., Richard C. Mohs, Ph.D., Kenneth L. Davis, M.D.

Educational Objectives:

To present recent results on the familial characteristics of Alzheimer's disease (AD) with implications for an inverse relationship between age and risk of dementia in first degree relatives of AD probands.

Summary:

To examine the cumulative risk and age-specific hazard rates (HR) of primary progressive dementia (PPD) in relatives of Alzheimer's disease (AD) probands, demographic and diagnostic data were collected on the first-degree relatives of 200 clinically identified probable AD probands and two non-demented control groups—179 elderly ascertained through the Mt. Sinai and Bronx VA psychogeriatric clinics (clinic-controls) and 427 elderly ascertained from community senior centers (community-controls). The PPD risk curve in the relatives of AD probands (lifetime risk [LR] = 29.6% ± 3.7%) was significantly higher than both the relatives of the clinic (LR = 12.4% ± 3.4%; Mantel-Cox log rank [MCLR] = 31.78, $P < 0.0001$) and community controls (LR = 11.7% ± 2.0%; MCLR = 67.32, $P < 0.0001$). The HRs of PPD were calculated in the three groups of relatives for each five-year interval from ages 45-49 to 85-89. The HRs were significantly higher in the relatives of AD probands than the two control groups through the 80-84 interval. However, in the 85-89 interval, the HR of PPD in the relatives of AD probands (HR = 1.60% ± 0.7%) did not significantly differ from either the relatives of the clinic controls (HR = 1.66% ± 0.7%; z = 0.06, n.s.) or community controls (HR = 0.78% ± 0.3%; z = 1.07, n.s.), despite still adequate numbers of at-risk relatives (60+) in all three groups. Furthermore, the relative risk (RR) of PPD in the relatives of AD probands began to steadily diminish from the 75-79 interval (RR = 13.49) to the 85-89 interval (RR = 0.96) compared to the relatives of clinic controls, and from 60-64 interval (RR = 16.15) to the 85-89 interval (RR = 2.03) compared to the relatives of the community controls. These data indicate that, for relatives of AD probands, while the lifetime risk of PPD is greater than relatives of controls, the age-specific relative risk of PPD decreases with increasing age and that the higher risk may be substantially diminished or even eliminated by the end of the ninth decade.

References:

1. Li G., Silverman JM, Mohs RC: Clinical genetic studies of Alzheimer's Disease. *Psych Cl of North Amer,* 14:267-287, 1991.

2. Breitner JCS, Silverman JM, Mohs RC, Davis KL: Familial aggregation in Alzheimer's disease: similarity of risk among relatives of early and late onset cases, and among relatives of successive generations and of both sexes. *Neurology,* 38:207-212, 1988.

NR111 Monday, May 24, 1:00 p.m.-2:30 p.m.

Blunted Plasma Adrenocorticotropin Hormone Responses to the Ovine Corticotropin-Releasing Hormone Stimulation Test in S

Michael D. De Bellis, M.D., Bldg 10 3S233, NIH NIMH CNE, 9000 Rockville Pike, Bethesda, MD 20892; George P. Chrousos, M.D., Lorah Dorn, Ph.D., Karin Helmers, Penelope K. Trickett, Ph.D., Frank W. Putnam, M.D.

Educational Objectives:

At the conclusion of this presentation the participant will learn the results suggest dysregulation of the HPA axis in sexually abused girls.

Summary:

Background. Childhood sexual abuse (CSA) is associated with an increased incidence of age-concurrent and adult psychopathology. Little is known, however, about the biological manifestations and sequelae of CSA. This study was done to characterize the hypothalamic-pituitary-adrenal (HPA) axis of a self-selected sample of sexually abused and control girls recruited from a prospective longitudinal study.

Methods. Plasma adrenocorticotropin (ACTH) and cortisol responses to ovine corticotropin-releasing hormone (oCRH) stimulation were measured in 13 sexually abused and 13 control girls between 7- to 15-years-old. Psychiatric profiles and 24-hour urinary free cortisol (UFC) measures were also obtained.

Results. Greater incidence of suicidal ideation ($X^2 = 4.51$; df = 1, $p < .05$), suicide attempts ($X^2 = 4.51$; df = 1, $p < .05$), and dysthymia ($X^2 = 8.85$; df = 1, $p < .01$) was seen in sexually abused than in control subjects. Sexually abused girls secreted significantly less basal ($t = 2.1$; df = 24, $p < .05$), oCRH stimulated ($t = 2.2$; df = 24 $p < .05$), and total ACTH than control subjects ($F = 2.93$; df = 12, $p < .001$). Their plasma cortisol responses to oCRH stimulation and 24-hr UFC measures were similar to those of controls.

Conclusions. These results suggest dysregulation of the HPA axis in sexually abused girls. This may reflect chronic intermittent CRH hypersecretion and resultant hypertrophy/herpsensitivity of the adrenal cortices.

References:

1. Gold, PW, Goodwin, FK, Chrousos, GP: Clinical and Biochemical Manifestation of Depression: Relationship to the Neurobiology of Stress. *New Eng J Med* Vol 319, pp 413-420, 1988.

2. Dahl, RE, Siegel SF, Williamson DE, Lee, PA, Perel J, Birmaker B, Ryan ND: Corticotropin releasing hormone stimulation test and nocturnal cortisol levels in normal children. *Pedia Resch.* Vol 32, pp 64-68, 1992.

NR112 Monday, May 24, 3:00 p.m.-5:00 p.m.

Stimulant Treatment in Children With Tourette's and ADHD

F. Xavier Castellanos, M.D., Child Psychiatry, NIMH Bldg. 10 RM 6N240, 9000 Rockville Pike, Bethesda, MD 20892; Judith H.L. Rapoport, M.D., Gail Ritchie, M.S.W., Charles S. Gulotta, B.S., Jo Elia, M.D., June Tanaka, B.S.

Summary:

Because of the striking comorbidity of attention deficit hyperactivity disorder (ADHD) and Tourette's syndrome (TS), the need for concurrent treatment is not unusual. For many patients, drugs that benefit tics do not sufficiently control hyperactivity; while stimulants, which control ADHD have been reported to worsen tics.

As part of an ongoing comparison of dextroamphetamine (DEX) and methylphenidate (MPH) treatment, 10 boys aged six to 13 with concurrent diagnoses of TS and ADHD underwent a nine-week, double-blind, crossover comparison of the two stimulants and placebo, each given for three weeks in increasing doses. Intermediate doses of MPH (mean 0.7 mg/kg) and intermediate and high doses of DEX (0.4, 0.65 mg/kg) produced a significant ($p < 0.01$) worsening of tics, but continued treatment with a higher dose (mean 1.2 mg/kg/dose) of MPH was accompanied by a return to placebo level of tic severity.

This study was limited by the small sample size, and the results may be confounded by dose and time effects. However, long-term clinical follow-up (mean 12 months, range 2-26; three patients currently on haloperidol), shows continued benefit of stimulants in eight of the 10, with a tendency for tic severity to improve from baseline ($p < 0.09$).

NR113 Monday, May 24, 3:00 p.m.-5:00 p.m.

Mood Response to Cholinergics in Personality Disorder Patients

Bonnie J. Steinberg, M.D., Psychiatry, Mt. Sinai School of Medicine, One Gustave Levy Place Bx 1230, New York, NY 10029; Susan Weston, M.D., Robert L. Trestman, M.D., Julia Temple, M.D., Damon Mitchell, B.A., David Gold, M.A., Orna Guralnik, M.A., Larry J. Siever, M.D.

Summary:

Affective instability is characteristic of many patients with personality disorders, most notably patients with borderline personality disorder. Cholinergic supersensitivity, as indicated by dysphoric response to cholinergic challenge, has been demonstrated in major depressive disorder patients. Cholinergic supersensitivity also may be associated with affective instability as suggested by studies of REM sleep disturbances and more rapid onset of REM sleep following cholinomimetics in patients with borderline personality disorder. This hypothesis was tested using a physostigmine challenge paradigm in *DSM-III* personality disordered patients with and without affective instability. Either 0.014 mg/kg of intravenous physostigmine or placebo was administered on two separate days following glycopyrollate infusion to block the peripheral effects of physostigmine. The Profile of Mood State (POMS) was obtained at baseline and following placebo or physostigmine infusion, with patient and raters blind to the infusion. Preliminary results of this ongoing study indicated that the placebo-corrected peak POMS depression subscale response to physostigmine of 9.8 $\pm$ 3.4 in affectively unstable personality disordered patients was significantly greater than the response of personality disordered patients without affective instability, 2.5 $\pm$ 3.5 ($p < 0.05$). These same patients did not respond to serotonergic, noradrenergic, or placebo challenge with a depressive response, implying relative specificity. These preliminary data suggest that personality disorder patients with affective instability, as compared to affectively stable patients, are more sensitive to increased cholinergic availability. The trait of affective instability may thus have a biological correlate in increased sensitivity of the cholinergic system.

NR114 Monday, May 24, 3:00 p.m.-5:00 p.m.

Blunted Cerebral Blood Flow With Emotion Recognition in Depression

Mark S. George, M.D., Bio Psychiatry, NIMH RM 3N212 Bldg 10, 9000 Rockville Pike, Bethesda, MD 20892; Terence A. Ketter, M.D., Debra S. Gill, Lauren B. Marrangell, M.D., Peggy J. Pazzagglia, M.D., Robert M. Post, M.D.

Summary:

Objective: To investigate whether depressed subjects compared to healthy controls differentially activate brain regions involving emotion recognition. *Background:* Performance deficits in facial emotion recognition have been found in depression. *Methods:* Nine medication free inpatients with mood disorders (six bipolar and three unipolar) and nine age- and sex-matched controls had oxygen-15 water PET rCBF studies during three conditions, each repeated twice. These conditions were a facial emotion recognition task and control tasks of spatial recognition and facial identification. Statistical parametric mapping (SPM) was used to assess group differences in activation during each of the three tasks. *Results:* During facial emotion recognition, mood disordered subjects had significantly blunted activation of the right anterior cingulate and left frontal gyrus compared to controls, despite similar performance and nearly identical activation patterns during the control tasks. *Conclusions:* These data suggest that mood disorders are associated with specifically blunted activation of the right anterior cingulate and left frontal lobe during facial emotion recognition and normal activation during non-emotional control tasks. Disturbances in these brain regions in depression may mediate problems with external emotion recognition, internal emotion recognition (alexithymia), and even possibly emotion regulation.

NR115 Monday, May 24, 3:00 p.m.-5:00 p.m.

Noradrenergic Dysregulation in Panic Disorder Following Fluoxetine Treatment

Jeremy D. Coplan, M.D., Psychiatry, Columbia University, NYSPI, 722 West 168th Street Box 24, New York, NY 10032; Laszlo A. Papp, M.D., Jose Martinez, M.A., Leonard Rosenblum, Ph.D., Jack M. Gorman, M.D.

Summary:

To assess the impact of chronic serotonin reuptake blockade on noradrenergic function in panic disorder, 13 patients and 13 healthy controls were challenged twice with clonidine .15 mg p.o. 12 weeks apart. Patients received open fluoxetine, whereas controls received no treatment between challenges. Ten patients showed at least moderate responses to fluoxetine. For the first trial, patients showed a trend for greater baseline MHPG levels than controls and had blunted GH responses and greater maximal MHPG and cortisol decrements compared with controls in response to clonidine. For the second trial, patients showed reductions in baseline MHPG compared with the first trial, but these reductions were accompanied by parallel baseline reductions between trials in the control group. In the patient group, the blunted GH responses and enhanced MHPG and cortisol decrements in response to clonidine persisted despite fluoxetine treatment. Controls showed similar clonidine responses for both trials. The results of the current study were not attributable to blood clonidine levels. The implications of the current study are two-fold: 1) serotonin reuptake inhibition probably mediates antipanic effects through nonadrenergic mechanisms, and 2) in light of the clinical improvement of the patient group, noradrenergic dysregulation may represent a trait characteristic of panic disorder patients.

NR116 Monday, May 24, 3:00 p.m.-5:00 p.m.

Biochemical and Physiological Antecedents of Lactate-Induced Panic: An Extended Sample

Jeremy D. Coplan, M.D., Psychiatry, Columbia University, NYSPI, 722 West 168th Street Box 24, New York, NY 10032; Raymond Goetz, PH.D., Laszlo A. Papp, M.D., Donald F. Klein, M.D., Jack M. Gorman, M.D.

Summary:

To delineate further the determinants of lactate-induced panic, we report data collected during the baseline period beginning 30 minutes prior to the infusion of sodium lactate from 164 panic disorder patients (95 of whom panicked) and 37 normal controls (0 panic rate). Three groups were defined: normal controls (NC), patients who would not panic (PT-NP) during the lactate infusion, and patients who would panic (PT-P). PT-P showed greater acute panic inventory and fearfulness scores than PT-NP, who had higher scores than controls. Both patient groups showed higher diastolic pressure and pulse rates than controls. With respect to pooled venous and arterial data, PT-P showed high pH, low pCO2, low phosphate and high cortisol compared with PT-NP, who were indistinguishable from NC. Only in the PT-P was pCO2 positively (and pH negatively) correlated with phosphate and bicarbonate. pCO2 was negatively correlated with cortisol only in the PT-P group. The implications of the study are; 1) lactate-sensitive subjects are specifically those who are most fearful and hyperventilate most during the prelactate period, and 2) respiratory stimulation in the PT-P is accompanied by HPA axis activation, suggesting a potential link between these two systems in lactate-sensitive subjects.

NR117 Monday, May 24, 3:00 p.m.-5:00 p.m.

Thyroid Abnormalities in Outpatient Depression?

Lawrence A. Labbate, M.D., Psychiatry, Mass General Hospital, 15 Parkman Street WACC 815, Boston, MA 02114; Maurizio Fava, M.D., Rafael Ornstein, M.D., Melissa Abraham, B.A., Jerrold F. Rosenbaum, M.D.

Summary:

We evaluated the prevalence of thyroid abnormalities among depressed outpatients and examined if depressed patients with relatively low or high thyroid hormone levels showed a differential response to treatment. We studied 201 outpatients (mean age: 37.3 ± 10.5; 142 women and 59 men) meeting DSM-III-R criteria for major depression determined by the SCID-R and having a score ≥ 16 on a 17-item Hamilton Rating Scale for Depression. Thyroid function was assessed with the following tests: T3, T4, Free T4 Index (FT41), T3 Uptake (T3U), and TSH. Of the 201 patients, six (3%) had slightly elevated TSH levels (ranging from 4.7 to 8.2), of which none had T4 levels below normal. Some patients had decreased levels of T3 (7.6%) and T3U (14.4%), but only one had elevated TSH. No patient had TSH below normal, and three subjects had elevated T4 levels. No relationship was found between response rate (assessed as either change in HAM-D-17 or remission of depressive symptoms to a HAM-D-17 score <7) and each thyroid tests, even after adjusting for baseline severity of depression. This lack of association was also observed when patients were stratified into three groups based on their thyroid hormone levels (≤10th percentile, 11-89th percentile, ≥90th percentile). In conclusion, for depressed, non-treatment-refractory outpatients, hypo- and hyperthyroidism are extremely uncommon. Further, the presence of subtle thyroid function abnormalities does not have an impact on treatment outcome.

NR118 Monday, May 24, 3:00 p.m.-5:00 p.m.

Short-Term Group Therapy in AIDS Related Grief

Jacquelyn Summers, M.S.W., Psychiatry, University of Calif San Diego, 2760 Fifth Avenue #200, San Diego, CA 92103; Renee Robinson, M.A., Sidney Zisook, M.D., Daniel D. Sewell, M.D., J. Hampton Atkinson, M.D., J. Chandler, M.D.,

Summary:

Objective: To assess the impact of short-term group therapy on mood bereaved men. *Methods:* Men (n=34; CDC IV=6, CDC II-III=25, HIV− =3) in a longitudinal cohort study who reported bereavement within the previous 12 months were examined using the Texas Revised Inventory of Grief (TRIG), Hamilton Depression Scale, and Hamilton Anxiety Scale. Men reporting a death were offered a 12-week group treatment program focusing on their loss. Comparisons of mood and anxiety in men selecting group therapy compared with randomly matched bereaved controls without group therapy were made using T tests. *Results:* The two groups were not significantly differently with respect to baseline mood measures. After the 12-week option of group intervention, the following differences were noted:

	Pre-Therapy (n=17)	Post-Therapy (n=17)	p
Treatment Group			
Ham-Depression	13.0	3.5	.001
Ham-Anxiety	8.7	3.1	.001
Control Group			
Ham-Depression	8.8	6.8	ns
Ham-Anxiety	6.6	5.6	ns

After treatment, bereaved men who selected group treatment reported decreased levels of depressions and anxiety. Distress levels of bereaved men not receiving group therapy remained unchanged. *Conclusion:* Short-term group therapy may be highly effective in alleviating distress among bereaved men. Randomized studies of this intervention for bereavement are indicated.

NR119 Monday, May 24, 3:00 p.m.-5:00 p.m.

Familial Effects on Attempted Suicide and Depression

Kevin M. Malone, M.D., Western Psych Inst Clin., 3811 O'Hara Street, Pittsburgh PA 15213; Gretchen L. Haas, Ph.D., John A. Sweeney, Ph.D., John J. Mann, M.D.

Summary:

Attempted suicide is a major public health problem, a serious complication of major depression, and may predate a completed suicide. Studies of clinical differences between those with depression who have and have not attempted suicide have hitherto not employed structured interviews for DSM-III-R Axis I or Axis II diagnoses. We report on 94 inpatients with a SCID-Diagnosed DSM-III-R major depressive episode: 49 who had attempted suicide, and 45 who had never attempted suicide. A parental history of bipolar illness or schizophrenia, a loss of either parent before age 18, or a history of attempted suicide in either patient was more likely in the attempters versus the nonattempters. Suicide attempters had a younger age of first hospitalization, more previous hospitalizations, but not a younger age of onset of depression. At hospitalization, attempters had higher suicidal ideation, lifetime aggression, hostility, impulsivity, and reported fewer reasons for living than nonattempters, but were not more hopeless or depressed. Psychotic symptoms, severe current alcohol abuse, lifetime drug addiction, and personality disorders were more frequent in suicide attempters. This study found multiple family, state, and trait differences in patients who attempt suicide versus nonattempters during moderate to severe major depressive episodes.

NR120 Monday, May 24, 3:00 p.m.-5:00 p.m.

Psychiatric Comorbidity and Chronic Fatigue

Ilhan L. Yargic, M.D., c/o Mark Demitrack, M.D., U Mich. Dept. of Psych., 1500 E. Med Ctr Dr. UH8D 8806, Ann Arbor, MI 48109; Jon K. Zubieta, M.D., Cary N. Engleberg, M.D., Mark A. Demitrack, M.D.

Summary:

The CDC case definition for chronic fatigue syndrome (CFS) was developed, in part, to select a unique group from among the larger population of fatigued patients. The usefulness of this definition, however, has been criticized as selecting only for increasing risk of psychiatric morbidity, therefore obscuring rather than improving its diagnostic specificity. In this study, we examined: 1) whether patients who are fully syndromal for CFS show characteristic clinical differences from patients who fail to meet full criteria, and 2) whether concurrent psychiatric morbidity affects the overall symptom presentation of CFS.

Thirty-one patients (four males, 27 females; mean age = 36.1 years, range = 20-58) with a primary complaint of chronic, unexplained fatigue were studied. Two age- and sex-matched groups, comprised of patients with primary diagnoses of either major mood disorder or anxiety disorder were used for comparative purposes. Fully syndromal patients with CFS (n=26) had similar frequencies of psychiatric diagnoses as well as comparably severe dimensional measures of behavioral distress compared to subsyndromal CFS patients (n=5). Patients meeting the full case definition more commonly reported myalgias and an abrupt onset of symptoms as part of their symptom presentation. Within the overall group of fatigued patients, those with a concurrent psychiatric illness reported strikingly higher levels of anxiety (p = .0007), and higher activity scores (p = .013). Compared to the matched group of primary depressives, fatigued patients with concurrent major depression showed an increase in somatization scores (p = .0018), which persisted even when the items that were part of the definition for CFS were eliminated from the computation of this score (p = .053). Similar differences were evident when comparing fatigued patients with a

concurrent anxiety disorder to matched subjects with a primary anxiety disorder.

We conclude that the CDC definition for CFS fails to distinguish a descriptively unique subgroup of patients. On the other hand, chronic fatigue patients display an array of unexplained physical symptoms that are not accounted for by the presence of a concurrent psychiatric history alone. Longitudinal follow-up, treatment response patterns, and correlation with biological markets of disease severity may be helpful in the causes and consequences of these differences.

NR121 Monday, May 24, 3:00 p.m.-5:00 p.m.

Functional Effects of Basal Ganglia Changes in Tourette's Syndrome

Yanki Yazgan, M.D., Psychiatry, Room 234, Yale University, 34 Park Street, New Haven, CT 06519; Bruce Wexler, M.D., Bradley Peterson, M.D., James F. Leckman, M.D.

Summary:

We examined functional accompaniments of brain structural alterations in a group of Tourette's syndrome (TS) patients who were previously found to lack asymmetry in basal ganglia (BG) compared with normal controls with left>right total BG volumes(1).

Our neurobehavioral assessment included tests of motoric asymmetry (rotational bias), motoric and perceptual aspects of attentional bias (line bisection, letter cancellation, visual signal detection), auditory perceptional asymmetry (fused-word) dichotic listening tests), and task-related activation patterns (Kinsbourne's dual task).

Thus far, we evaluated nine TS and 10 normal control subjects. In tests of rotational asymmetry, TS subjects had a slight clockwise bias, while controls showed a more pronounced and counterclockwise bias ($p = .03$). In line bisection, patients were closer to the midline than controls, who showed a general leftward deviation ($p = .014$). In Kinsbourne's dual task, concurrent language activity selectively impaired right-hand performance in controls, but equally affected right- and left-hand performances in TS subjects ($p = .003$). In all tests in which the groups differed, TS patients failed to show the normal extent of lateralization. These findings parallel the structural findings and suggest that the latter are of functional significance. Five additional subjects will be given the battery, and correlations between BG asymmetry and functional asymmetry measures will be determined for full groups of 13 patients and 11 controls.

NR122 Monday, May 24, 3:00 p.m.-5:00 p.m.

Drugs and HIV: Relation to Childhood Disorders

Jennifer F. Havens, M.D., Child Psychiatry, NY State Psych Inst., 722 West 168th Street Unit 78, New York, NY 10032; Agnes H. Whitaker, M.D., Judith F. Feldman, Ph.D., Anke Ehrhardt, Ph.D.

Summary:

Objective: To examine the contribution of HIV-infection to behavioral disorder in prenatally drug exposed children. *Methods:* Among a group of prenatally drug-exposed, five- to 12-year-old children in foster care, 26 HIV+ children were compared to 20 HIV− and 14 seroreverted children on measures of behavioral disorder. Psychiatric evaluation included: 1) Parent report—the DISC-P-2.1; the Vineland Adaptive Behavior Scales; the CBCL-4-16 yrs; 2) Child report—the Dominique, a pictorial instrument assessing mental health symptoms. *Results:* There was no significant difference between HIV+ and HIV− children in rates of disorder on parent report measures. A total of 58% of HIV+ and 52% of HIV− children met criteria for disruptive behavior disorder (ADHD, ODD); 25% of HIV+ and 17% of HIV− children met criteria for separation anxiety. On the Dominique, HIV+ children reported significantly greater levels of somatization, anxiety, and overall mental health problems. *Conclusions:* High rates of psychiatric disorders, particularly disruptive behavior disorders and separation anxiety, were found in this sample of high risk children, independent of HIV serostatus. Only the child report measure differentiated the HIV+ children from the HIV− children.

NR123 Monday, May 24, 3:00 p.m.-5:00 p.m.

A Linear-Systems Model of OCD

Gregory S. Berns, Ph.D., CNL, Salk Institute, P.O. Box 85800, San Diego, CA 92186

Summary:

Objective: Develop a mathematical model of obsessive-compulsive disorder based on known neural pathways that leads to oscillatory behavior after lesioning the basal ganglia. *Methods:* Three regions of the brain presumed to be involved in OCD were interconnected in a linear-system model. The frontal cortex gave excitatory inputs to both the thalamus and the basal ganglia; the basal ganglia gave inhibitory input to the thalamus; and the thalamus gave reciprocal excitatory input to the frontal cortex. Each of the three regions also had self-inhibition. The set of coupled differential equations was analyzed for stability (activity ultimately returning to zero) vs. instability (activity oscillating with increasing amplitude). Three parameters were varied: the amount of cortical self-inhibition, basal ganglia self-inhibition, and the amount of basal ganglia inhibition to the thalamus. *Results:* With decreased basal ganglia inhibition of the thalamus, the cortex must maintain a minimum level of self-inhibition for stability, regardless of basal ganglia self-inhibition. With moderate basal ganglia inhibition of the thalamus, decreases in basal ganglia self-inhibition can be compensated for by increases in cortical self-inhibition. *Conclusions:* Caudate lesions in OCD may result in either loss of basal ganglia self-inhibition or loss of thalamus inhibition, resulting in oscillatory behavior of the circuit. Mathematical analysis reveals that this unstable behavior can be suppressed by increasing self-inhibition in the frontal cortex. This simple model may explain how basal ganglia deficits lead to compensatory increases in frontal lobe activity, possibly representing conscious suppression of innate behaviors.

NR124 Monday, May 24, 3:00 p.m.-5:00 p.m.

Health Care Workers' Attitudes Toward Mandatory HIV Testing

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Summary:

Purpose: To ascertain the relationship of one's profession and perception of risk of HIV infection to health care workers since 1986. *Procedure:* A 72-item anonymous questionnaire was distributed to all HCWs at Wilford Hall Medical Center, the Air Force's largest tertiary care referral hospital. *Results:* 48.7% of the 1077 surveys distributed were returned. The respondents consisted of 51% physicians, 47% nurses, and 2% other providers; 34% of physicians and 43% of nurses worked in areas with a significant risk of exposure to HIV. Most of the respondents (78%) believed that it was important for them to know the HIV status of their patients, with no significant difference between MDs and nurses on this subject ($F = 1.92$, $p = NS$). There were no significant differences between MDs and nurses on the issue of being obligated to treat HIV-positive patients, with 82% of the respondents believing they were morally/ethically obligated to treat such patients. MDs, however, had a significantly stronger desire than nurses that their own patients be HIV negative ($t = 4.57$, $p < .001$). Furthermore, although

67% of all providers felt that mandatory screening of health professionals in their career field was merited, MDs were more reluctant than nurses to submit themselves to HIV screening ($F = 1.42$, $p < .01$; $t = -7.42$, $p < .001$). Our objective assessment of occupational risk and reported nonoccupational risk (only 5% of the respondents endorsed significant nonoccupational risk behaviors) did not significantly correlate with attitudes on testing patients and HCWs. However, the respondents' perception of occupational risk positively correlated with a desire that (1) their patients be HIV testing prior to treatment ($r = .093$, $p < .05$), (2) their patients be HIV negative ($r = .114$, $p < .01$) and, (3) the respondents should be HIV tested themselves ($r = .194$, $p = < .001$). *Conclusions:* Profession and perception of occupational risk appear to influence HCWs attitudes toward HIV testing and their knowledge of their patients' serostatus. These data from a population of hospital-based HCWs with the most experience with mandatory HIV testing should prove useful in the ongoing dialog concerning HIV testing of both patients and HCWs in civilian hospitals.

NR125 Monday, May 24, 3:00 p.m.-5:00 p.m.

Phototherapy for SAD: A Blind Comparison of Three Different Schedules

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Summary:

Objective: To compare the antidepressant efficacy of three different phototherapy schedules for the treatment of Seasonal Affective Disorder (SAD). *Method:* 28 drug-free subjects (20 women and 8 men) meeting *DSM III-R* criteria for major depressive disorder, seasonal pattern, and a 31-item Hamilton Depression Rating Scale (HDRS) $\geq$ 20 participated in the study. Patients were randomly assigned to receive two hours of light (2500 lux) each morning, evening, or alternate treatment between morning and evening. Subjects were blind to the study hypothesis and raters were blind to the patients' treatment schedule. Treatment efficacy was assessed after seven days using two measures of outcome: change in HDRS scores and response to treatment (HDRS $\leq$ 10). *Results:* Ten patients were randomized to morning, six to evening, and 12 to variable time schedules. Mean change $\pm$ SD in HDRS scores were: morning = 16 ± 8, evening = 15 ± 7 and alternate schedule = 13 ± 9 ($p > .80$). Treatments were not significantly different for response criteria ($p > .60$). *Conclusions:* The results suggest equivalent antidepressant efficacy for each treatment schedule. Since timing of the treatment did not influence the results, it seems unlikely that phototherapy acts through a specific phase-sift mechanism on circadian rhythms.

NR126 Monday, May 24, 3:00 p.m.-5:00 p.m.

Training Psychiatry Residents in Suicide Care

Marcia R. Morris, M.D., 1161 York Avenue Apt. 4N, New York, NY 10021

Summary:

Objective: This study examines how psychiatry residents are trained in the prevention of and reaction to patient suicide. This training is essential, as studies show up to 30% of residents have a patient suicide. *Method:* Surveys were distributed to residency training directors as listed by the American Association of Directors of Psychiatry Residency Training (AADPRT). Questions in the survey were based on the guidelines for suicide care formulated by AADPRT in 1986. No study has examined compliance with these recommendations. *Results:* Of the 193 surveys distributed, 112 (58%) were returned. Guidelines for training residents in interviewing skills, emergency room management, and understanding subjective responses to suicidal patients are followed in greater than 70% of programs. A resident whose patient commits suicide always attends a psychological autopsy in 58% of residency programs. Fewer than 50% of residency programs have all residents attend at least one psychological autopsy or hear faculty members talk in a didactic setting about an experience with patient suicide. *Conclusion:* Psychiatry residency programs follow most of the recommended guidelines for training in suicide care, but could improve in having residents attend psychological autopsies and giving residents the opportunity to hear faculty talk about experiences with patient suicide.

NR127 Monday, May 24, 3:00 p.m.-5:00 p.m.

Antidepressant-Associated Mania

Andrew L. Stoll, M.D., McLean Hospital, 115 Mill Street, Belmont, MA 02178; Pierre V. Mayer, M.D., Mauricio Tohen, M.D., Eric Goldstein, Meridith Kolbrener, B.A., Bruce M. Cohen, M.D.

Summary:

Objective: To examine whether antidepressant-associated manic states (AAM) differ in any way from spontaneous mania (SM). *Method:* 51 consecutive cases of AAM were compared with 51 matched control cases of SM, in a blind, retrospective inpatient chart review. *Results:* Across virtually every clinical measure examined, patients with AAM experienced a milder and time-limited manic episode than those patients with SM. Patients with AAM remained on frequent nursing checks ($p = 0.02$, Wilcoxon) and hall restriction ($p = 0.04$) for a significantly shorter mean period of time than patients with SM. Patients with AAM also had significantly less severe mean levels of delusions ($p = 0.01$), hallucinations ($p = 0.02$), agitation ($p = 0.03$), and lack of insight ($p = 0.01$), when compared to patients with SM, using a standard rating instrument. Individual antidepressant classes were also compared. Mania associated with tricyclics ($n = 18$), fluoxetine ($n = 13$), MAO inhibitors ($n = 8$), and bupropion ($n = 6$) were identified. No differences between antidepressant classes were observed in any measure. *Conclusions:* Antidepressant-associated mania appears to be a milder and time-limited syndrome than spontaneous mania, and may represent a distinct clinical entity.

NR128 Monday, May 24, 3:00 p.m.-5:00 p.m.

Using Survival Analysis to Analyze Acute Clinical Trials

Zhengyu Wang, M.S., Research, Ill. State Psych Inst., 1153 North Lavergne, Chicago, IL 60651; John M. Davis, M.D., Phillip G. Janicak, M.D.

Summary:

Survival analysis is the appropriate methodology for analyzing maintenance medication trials. Since relapse is discontinuous, ethical considerations require patients be treated rather than doing nothing and measuring how much they deteriorated. But what happens if such a method is used to analyze acute clinical trials? We will compare survival statistics currently being used for testing acute clinical trial outcome with several other models based on the continuous scale of clinical improvement, such as last observation carried forward models, endpoint analysis, linear transformations, etc. We do these by simulating data sets of a variety of circumstances that mimic actual clinical data in antipsychotic, antidepressant, and antimanic trials, etc., and we also reanalyze several data sets of existing clinical trial data such as the NIMH Clinical Trial of Antipsychotic versus Placebo. Empirically, with real or simulated data, the continuous clinical trial statistics are markedly more sensitive to drug/placebo differences than survival analysis. We argue that survival analysis is inappropriate in a variety of circumstances

when there is a range of degree of improvement produced by drug in comparison with placebo or standard drugs. Survival analysis dichotomizes this, discards useful information, and renders the analysis of the trial quite substantially insensitive.

NR129 Monday, May 24, 3:00 p.m.-5:00 p.m.

ICTAL EEG Markers of Therapeutic Efficacy With ECT

Andrew D. Krystal, M.D., Psychiatry, Duke University, Box 3309 Duke University Med Ctr, Durham, NC 27710; Richard D. Weiner, M.D., C. Edward Coffey, M.D.

Summary:

Recent data indicate that unilateral (UL) ECT administered at just above seizure threshold may be a less effective antidepressant than moderately suprathreshold UL ECT. However, administering BL or maximal intensity UL ECT is undesirable because of greater adverse cognitive effects. Unfortunately, the variable rise in seizure threshold which occurs over the ECT treatment course and the inapplicability of multiple seizure threshold determinations make assuring "adequate" UL stimulus intensity uncertain at best. In order to address this problem, we have worked to develop ictal EEG measures of therapeutic adequacy with ECT. Based on two previous pilot studies in which ictal EEG measures differentiated ECT treatment types reported to differ in efficacy, we studied the relationship between ictal EEG parameters and treatment outcome as part of an inter-individual comparison of two UL ECT stimulus dosing levels in patients with major depression.

We found that several types of ictal EEG parameters were significantly different in therapeutic responders (N = 16) and non-responders (N = 8) after the first 5 ECT treatments. In particular we found greater early ($p<0.02$) and mid-ictal ($p<0.05$) amplitude, and morphologic regularity ($p<0.05$) in the responders. This work supports the further study of ictal EEG markers of ECT seizure therapeutic adequacy.

NR130 Monday, May 24, 3:00 p.m.-5:00 p.m.

ICTAL EEG Effects of Different ECT Types

Andrew D. Krystal, M.D., Psychiatry, Duke University, Box 3309 Duke University Med. Ctr., Durham, NC 27710; Richard D. Weiner, M.D., W. Vaughn McCall, M.D., Frank E. Shelp, M.D., Pamela Smith, Rebecca Arias

Summary:

The therapeutic adequacy of ECT seizures has generally been determined by deciding whether a minimum seizure duration cutoff is exceeded. Recent data, however, suggest that seizure duration is a poor predictor of therapeutic adequacy and point to the importance of electrode placement (ELPL) and the degree to which stimulus dosage exceeds seizure threshold (DOSE). As a result of this work, and previous studies reporting ictal EEG differences between unilateral (UL) and bilateral (BL) ECT, we performed a 19-subject intra-individual crossover study of the effects of both DOSE and ELPL (barely suprathreshold (T) vs. 2.25 times threshold (2.25T) stimuli for both UL and BL ECT) on manually-rated and computer-derived ictal EEG measures.

We found ictal EEG evidence of greater seizure intensity with BL than UL ECT and with 2.25T compared with T stimuli (greater early ictal amplitude ($p<0.01$), mid-ictal amplitude ($p<0.01$), post-ictal suppression ($p<0.001$, DOSE only), early coherence ($p<0.03$), and morphologic regularity ($p<0.03$, DOSE only)). Seizure duration was not longer with BL than UL ECT and actually decreased with increased DOSE. Since UL and BL ECT differ in efficacy as a function of DOSE these EEG measures show promise as markers of treatment adequacy.

NR131 Monday, May 24, 3:00 p.m.-5:00 p.m.

Neurologic Dysfunction in BPD and Axis II Patients

Catherine R. Kimble, M.D., Psychiatry, McLean Hospital, 115 Mill Street, Belmont, MA 02178; Mary C. Zanarini, Ed.D., Amy A. Williams, B.A.

Summary:

Objective: The purpose of this study was to investigate the prevalence of neurologic dysfunction in borderline patients and to determine whether neurologic dysfunction is associated with a childhood history of physical or sexual abuse. *Method:* The charts of 162 inpatients meeting DIB-R criteria for BPD and 134 controls meeting DSM criteria for another Axis II disorder were reviewed blind to diagnostic status for data on head injury history, seizure history, neurologic examination, CT or MRI, and EEG. Childhood abuse histories were obtained by other raters blind to diagnostic status. *Results:* Head trauma was found in 40.2% of BPD patients, seizure histories in 31.6%, neurologic exam abnormalities in 27.6%, CT or MRI abnormalities in 39.4%, and EEG abnormalities in 46.1%. Overall, 67.8% of BPD patients and 62.7% of Axis II controls were found to have some type of neurological abnormality. No between-group differences were statistically significant. In addition, significantly more borderlines than controls had histories of physical (56.2% vs 18.1%, $p<.001$) and sexual abuse (46.9% vs 18.1%, $p<.001$). However, neither univariate nor multivariate analyses showed any significant relationship between a childhood history of abuse and adult neurologic dysfunction. *Conclusion:* Neurologic dysfunction is common but not discriminating in borderline patients when they are compared with Axis II controls. In addition, neither physical nor sexual abuse seem to be associated with neurologic dysfunction in borderline patients.

NR132 Monday, May 24, 3:00 p.m.-5:00 p.m.

Cortisol Fast-Feedback on ACTH in ECT

Holly B. Rogers, M.D., Psychiatry, Duke University Med., 2321 Huron Street, Durham, NC 27707; Paul Kim, M.D., Bernard Carroll, M.D.

Summary:

The regulation of the limbic-hypothalamic-pituitary-adrenal (LHPA) axis involves both a delayed feeback system as well as a less well studied "fast-feedback" (FFB) system. The mechanism of FFB and how it operates in depression remains unknown.

ECT activates the LHPA axis and therefore provides a model for examining stimulus-induced activation and regulation of the axis. By measuring serum cortisol, ACTH, and vasopressin, a putative ECT-association ACTH secretagogue at frequent intervals following the ECT stimulus, it is possible to characterize FFB. In this study, subjects undergoing ECT are studied during their second and eighth treatment. Through an intravenous catheter, blood is sampled at baseline and at 3, 6, 9, 12, 15, 20, 30, 40, 50, and 60 minutes post-stimulus. Serum cortisol, ACTH, and vasopressin are determined from each sample. Initial results (based on two subjects, four data sets) show a rapid surge in vasopressin with an associated increase in ACTH by the three-minute mark. Cortisol begins to rise by six minutes and peaks around 20 to 30 minutes post-stimulus. ACTH drops off rapidly after nine minutes, possibly in response to the rapidly rising cortisol levels (fast-feedback). No clear differences between early and late treatments are yet apparent. These early data suggest FFB may be operating post ECT. Additional data are being collected and will be presented.

NR133 Monday, May 24, 3:00 p.m.-5:00 p.m.

Lifetime BPD Symptoms and Childhood Sexual Abuse

Elyse D. Dubo, M.D., Psychiatry, The University of Chicago, 5743 South Drexel Avenue, Chicago, IL 60614; Mary C. Zanarini, Ed.D., Ruth E. Lewis, M.A., Amy A. Williams, B.A.

Summary:

Objective: The purpose of this study was to assess the relationship between lifetime symptoms of borderline personality disorder and various parameters of childhood sexual abuse. *Method:* Forty-one inpatients meeting DIB-R criteria for BPD were interviewed using the Lifetime Borderline Symptom Index. Childhood sexual abuse was assessed blind to diagnostic status by other interviewers. Correlations were run between continuous measures of BPD symptomatology and continuous measures of sexual abuse. *Results:* 58.5% of these patients reported a childhood history of sexual abuse. All sexual abuse variables were significantly correlated with a number of lifetime BPD variables. Age of onset of abuse was most frequently associated with both stormy and inappropriate relationships with treaters. Duration of abuse was most frequently associated with intensity of a variety of dysphoric affects. Severity of abuse was most frequently associated with the onset of dysphoric affects and the duration of both self-mutilative and suicidal efforts. Number of perpetrators was significantly associated with the largest number of lifetime variables, including the onset of paranoia, a wide variety of impulsive behaviors (substance abuse, promiscuity, self-mutilative efforts, suicidal efforts, and physical violence directed toward others), and troubled relationships with family members, friends, and romantic partners. *Conclusion:* Different aspects of borderline symptomatology seem to be significantly related to different aspects of childhood sexual abuse.

NR134 Monday, May 24, 3:00 p.m.-5:00 p.m.

MRI Findings in Early Versus Late Onset Depression

P. Murali Doraiswamy, M.D., Psychiatry, Duke University Med. Ctr., Box #3215 Psych. Dept., Durham, NC 27710; K. Ranga Rama Krishnan, M.D., William M. McDonald, M.D., Larry A. Tupler, Ph.D., Mustafa M. Husain, M.D., Orest B. Boylo, M.D., Gary S. Figiel, M.D., Everett H. Ellinwood, Jr., M.D.

Summary:

In this study we used MRI scans to evaluate anatomical changes in the subcortical nuclei and white matter of 14 patients with late age-onset depression (LAO-D), 11 with early-age-onset depression (EAO-D), and 25 elderly normal controls. Patients had smaller caudate ($P = 0.0001$) and putaminal ($P = 0.01$), but not thalamic volumes than controls. LAO-D had smaller caudate ($P = 0.002$) and putaminal volumes than EAO-D. Subcortical hyperintensities were also greater in LAO-D but nonsignificantly. Cerebrovascular risk factors did not differ between patients and controls by Fisher's exact test. These data support our hypothesis that elderly depressed patients, particularly LAO-D, may have an increased vulnerability to depression due to neuroanatomic factors, and that the basal ganglia circuits may be intimately involved in the pathophysiology of affective disorders in some patients. Supported by NIMH MH 44716.

NR135 Monday, May 24, 3:00 p.m.-5:00 p.m.

Legal Issues of a Homeless Mentally Ill Population

James G. Harold, M.D., Psychiatry, University of Maryland, 15508 Plaid Drive, Laurel, MD 20707; Lisa Dixon, M.D., Charles T. Robinson, M.D., Anthony F. Lehman, M.D.

Summary:

Introduction/Methods: Research has highlighted the prevalence of legal problems and arrests among the homeless mentally ill (HMI) population. However, it is unclear to what extent homelessness causes or contributes to this. Detailed legal histories as well as the concurrent housing status at the time of charges of 33 HMI patients involved in an experimental assertive community treatment program were evaluated via patient and therapists interview and chart review. *Results:* Patients had a total of 86 charges (2.58 ± 2.51) (0-8) and 46 convictions (1.42 ± 1.71)(0-7). Patients reported that 29 (33%) charges occurred when they were homeless and 56 (67%) when they were domiciled; 26 (30%) charges included violent behavior; 27 (31%) were directly related to drugs or alcohol. Neither "violent" nor drug-related charges were more likely to occur during homeless periods. Only seven (21%) patients had no charges and six (18%) had charges only when homeless. Men ($n = 18$) had significantly more charges than women ($n = 15$) ($p < .05$), but no more convictions. Patients with a substance abuse disorder ($n = 16$) had significantly more charges ($p < .01$) and more convictions ($p < .001$) than patients without a substance abuse disorder ($n = 17$). There was a trend for patients who had charges only when homeless to have fewer charges ($p = .06$) and fewer convictions ($p = .07$) than patients who had charges when domiciled. *Conclusions:* In this community sample of patients referred for treatment due to homelessness and mental illness, housing status did not appear to be a risk factor for experiencing any legal charge, charges related to violence, or charges related to drugs or alcohol. In particular, for mentally ill patients who may be vulnerable to homelessness, housing alone may not be protective against legal difficulties. HMI patients, especially men with a comorbid substance abuse disorder, may need special assistance in coping with the law.

NR136 Monday, May 24, 3:00 p.m.-5:00 p.m.

Methylphenidate and Depressive Retardation

Annick Vincent, M.D., Psychiatry, Hop de L'Enfant Jesus, 1401 18e rue, Quebec G1J 1Z4, Canada; Sophie Lemelin, B.P.S., Philippe Baruch, M.D., Marie-Josee Filteau, M.D., James Everett, Ph.D., Pierre Vincent, M.D.

Summary:

Clinical psychomotor retardation (CPR) represents a central feature in depression. Some authors have implicated a dysfunction of catecholaminergic pathways in physiopathology of CPR. On the other hand, several works have reported an augmentation in the reaction time of depressed patients. In order to explore CPR's biochemical bases and to uncover its objective cognitive correlates, 25 untreated depressed patients (17 F and 8 M, mean age: 40.6 yrs $\pm$ 10.1) received a single dose of methylphenidate (MPD) in a two-day, double-blind, crossover randomized study (MPD, 40mg, versus placebo). Clinical and cognitive evaluations took place before and after each treatment. Montgomery-Asberg DRS, Hamilton DRS and Widlöcher Psychomotor Retardation Scale (WPRS), designed and validated to specifically assess CPR, were used. Each patient had to qualify the global effect of each treatment (positive, negative, or null). Response times (RTs) were measured using a computerized version of Stroop task. *Results:* (1) A correlation exists between RTs and WPRS ($r = 0.54$, $p < .02$) but not between RTs and MADRS nor HDRS at first evaluation. (2) There is no difference on MADRS and HDRS scores between the clearly retarded group ($n = 11$, WPRS: 33 ± 4) and the non- or moderate retarded group ($n = 14$, WPRS: 17 ± 4). After MPD, 12/14 patients of the nonretarded subgroup reported a clinical subjective worsening while 10/11 patients of the retarded subgroup felt better. The 6/11 patients clinically improved by MPD but who remained retarded did not exhibited higher WPRS scores but responded more slowly at Stroop task than the others at first evaluation. *Discussion:* CPR can be absent or moderated in depression but, when clearly

present, CPR correlates with RTs in Stroop task and with global clinical improvement after MPD. These results suggest a possible catecholaminergic hypofunctioning in retarded patients and strengthen the interest of objective cognitive assessment in clinical psychopharmacology.

NR137 Monday, May 24, 3:00 p.m.-5:00 p.m.

Racial Bias and Inpatient Treatment: Revisted

Henry Chung, M.D., Psychiatry, New York Hospital, 21 Bloomingdale Road, White Plains, NY 10605; John C. Mahler, M.D.

Summary:

Objective: To determine whether racial differences in inpatient psychiatric treatment identified in studies conducted during the late 1970's persist in the early 1990's. *Methods:* Using a structured chart review instrument, objective diagnostic and treatment data (e.g. DSM-III-R diagnoses, use of restrictive statuses, seclusion and restraints, average neuroleptic dosage) were collected on 164 consecutively admitted African American ($n = 76$) and white ($n = 88$) acute psychiatric inpatients with principal Axis I diagnoses of major mood or psychotic disorders. Racial differences in treatment variables were examined using ANOVA, which controlled for diagnosis and socioeconomic status. *Results:* No significant differences were found in uses of seclusion, restraints, and average neuroleptic doses. African Americans were more likely to receive urine drug screens (90% vs. 74% with $p = 0.01$) even though whites were more likely to have positive urine screens (23% vs. 6%, $p = 0.02$). Whites were more often on 1:1 observational statuses ($p < 0.02$). *Conclusions:* Racial differences in inpatient psychiatric treatment found in the late 1970's were not found in the present study. However, the higher incidence of urine drug screens in African American patients despite lower rates of positive tests suggests possible bias by treatment staff.

NR138 Monday, May 24, 3:00 p.m.-5:00 p.m.

Naltrexone for Self-Injurious Thoughts and Actions

Susan C. Sonne, Ph.D., Psychiatry, Medical Univ of S.C., 171 Ashley Avenue, Charleston, SC 29425-0742; Robert Rubey, M.D., Kathleen T. Brady, M.D., Robert Malcolm, M.D., Tracy Morris, Ph.D.

Summary:

Objective: The purpose of this pilot study is to determine if naltrexone will reduce the frequency of self-injurious thoughts and behaviors in patients with borderline personality disorder. *Method:* Five outpatients with borderline personality disorder experiencing self-injurious thoughts or behaviors were entered into this three-week, open-label, A-B-A design, pilot study. Patients received no medication the first week, naltrexone 50mg/day the second week, and no medication the third week. Patients kept a daily record of self-injurious thoughts and behaviors with a mechanical, hand-held device. The Yale-Brown Obsessive Compulsive (Y-BOC) scale, modified specifically to assess self-injurious obsessive thoughts and compulsive behaviors, was performed weekly. *Results:* During naltrexone treatment, the average number of self-injurious thoughts per day decreased by one-third, average Y-BOC scores decreased by 50% ($p = 0.064$), and the average number of days patients hurt themselves decreased by 50% compared with baseline. Self-injurious thoughts, behaviors, and Y-BOC scores all returned to baseline within 48 hours of medication discontinuation. Major side effects were mild nausea and sedation. *Conclusion:* Naltrexone is well tolerated and may be beneficial in treating borderline patients with self-injurious thoughts and behaviors. Although results did not reach statistical significance, a larger, double-blind, placebo-controlled trial is warranted. This study is ongoing and may have more patients.

NR139 Monday, May 24, 3:00 p.m.-5:00 p.m.

Substance Abuse and Bipolar Affective Disorder

Susan C. Sonne, Ph.D., Psychiatry, Medical Univ of S.C., 171 Ashley Avenue, Charleston, SC 29425-0742; Kathleen T. Brady, M.D., Alexander Morton, Ph.D.

Summary:

Objective: This interview study was conducted to explore the onset, course, and features of bipolar affective disorder (BPAD) complicated by substance abuse. *Methods:* Twenty-five patients with a diagnosis of BPAD were interviewed using the Structured Clinical Interview for DSM-III-R (SCID), Hamilton Rating Scale for Depression (HAM-D), Mania Rating Scale, and a questionnaire concerning psychiatric history. Medical records were reviewed for collateral information. *Results:* All patients met DSM-III-R criteria for BPAD. Seventeen of 25 patients met criteria for current or past substance abuse or dependence, and eight were non-users. Substance users averaged twice as many hospitalizations for mood problems. There were no differences in HAM-D, mania scores, or average number of medications prescribed for BPAD. There was a trend toward an earlier age of onset of mood problems for substance users compared with non-users ($p = 0.065$). Substance users were three times as likely to have dysphoric mania at time of interview. Current substance users were four times as likely to have comorbid Axis I disorders. *Conclusion:* This preliminary study suggests that substance users with comorbid BPAD may have more hospitalizations, a higher incidence of dysphoric mania, and more comorbid Axis I disorders. This study is ongoing; data from additional subjects will be presented.

NR140 Monday, May 24, 3:00 p.m.-5:00 p.m.

Specific Serotonin Reuptake Inhibitors and Agitated Depression

Marie-Josee Filteau, M.D., Psychiatrie, Hopital Enfant Jesus, 1401 18e Rue, Quebec, QC G1J 1Z4, Canada; Philippe Baruch, M.D., David Bakish, M.D., Andre Blanchard, B.P.S., Emmanuelle Pourcher, M.D., Yvon D. Lapierre, M.D.

Summary:

The availability of specific serotonin reuptake inhibitors (SSRI) has kindled renewed interest in the question of differential efficacy of various antidepressants. Since the end of the 1960's authors had proposed that compounds acting preferentially on serotonergic neurons would be more beneficial in the treatment of agitated depressives with a marked anxiety. Despite numerous studies on the subject, no definitive conclusion has yet been obtained. We present data on 337 patients from 10 double-blind studies completed at the Royal Ottawa Hospital on the efficacy of new antidepressants, which took place from 1979 to 1991. The antidepressants were grouped according to their main effect on neurotransmission: norepinephrine reuptake inhibitors (desipramine, maprotiline, oxaprotiline), SSRI (fluoxetine, zimelidine, fluvoxamine, sertraline), mixed NE/5HT reuptake inhibitors (amitriptyline, imipramine), and placebo. The patients were all evaluated weekly for six weeks with the 17-item Hamilton Depression Rating Scale (HDRS). Patients were divided into responders (HDRS score at day 42 $\leq$ 12 and improvement score between day 0 and day 42 $\geq$ 50%) and nonresponders. Initial clinical profiles of responders and nonresponders were compared in each antidepressant group using factorial scores derived from a principal component analysis of HDRS. Our main result is a higher score in SSRI responders compared with nonresponders for Factor 2 (F2) which groups agitation, psychic anxiety, somatic anxiety (positive loadings), and retardation (neg-

ative loading) items of the HDRS. Such a difference was not observed for the other antidepressant groups. On the other hand, the mean score of F2 (responders + nonresponders) was not different in SSRI group compared with the other treatment groups, indicating that they were not initially more anxious. This study suggests that anxiety and agitation in depressed patients may be predictors of a positive response to SSRI.

NR141 Monday, May 24, 3:00 p.m.-5:00 p.m.

Social Labeling and the Presence of Psychiatric Symptoms

Graham Bean, Ph.D., Culture, Community Health, Clarke Institute, 250 College Street, 7th Floor, Toronto, Ontario M5T 1R8, Canada; Morton Beiser, M.D., Jiahui Zhang, M.Sc.

Summary:

This research study investigated the relationship between the "sick role" of mental illness and the presence of symptoms in patients with a first episode of schizophrenia (N = 35) and patients with a first episode of affective disorder with psychotic symptoms (N = 31). An age- and sex-matched sample of normal, healthy individuals served as a control group (N = 45). Patients were administered the PSE-9 to establish the presence of psychiatric symptoms. Diagnoses were made by case conference format using DSM-III criteria. All subjects completed the Social Response Questionnaire (SRQ), a reliable and validated instrument which measures moralistic attitudes and negative expectations attached to the role of the mentally ill. A person designated as a significant other (SO) by the patients and controls was also recruited and requested to rate the proband on the SRQ. At intake into the study, the SRQ ratings made by the SO's of the two groups of patients were significant worse than the ratings made by the SO's of the normal control group ($p < .05$). There was a strong positive relationship between the attributes made by the SO's of the normal control group and the agreement with those attributes by the normal control group ($r = .63$; $p < .001$) indicating positive attributes by the SO's were associated with high agreement and negative attributes were associated with low agreement. A similar picture emerged between the SO's of the affective disorder patients and the affective disordered patients' agreement with those attributes ($r = .55$; $p = .001$). However, for the schizophrenic group and their SO's, the relationship was negative ($r = -.41$; $p = .01$). Positive attributes by the SO's were associated with low agreement and negative attributes were associated with high agreement. Patient guilt, irritability, and evasiveness were associated with negative attributes by the SO's of the two psychotic groups and delusions and hallucinations were associated with positive attributes by the SO's of the two psychotic groups. The relationship between symptoms and perceptions by self and others will be discussed.

NR142 Monday, May 24, 3:00 p.m.-5:00 p.m.

DSM-III-R Personality Disorders and Acute Symptoms: A Six-Year Follow-Up

Yvonne Burnand, Psychiatry, University of Geneva, 47 rue du 31 Decembre, Geneva CH 1207, Switzerland; Fabienne Maitre, Antonio Andreoli, M.D.

Summary:

Significance: DSM-III-R personality disorder (PD) diagnosis is associated with chronic maladjustment, reduced treatment response, and poor long-term outcome in depressed patients (Reich and Greene, 1991). More research is needed to expand the validity of the PD construct to depressed subjects with acute symptoms as well as to psychiatric patients from non-English culture (Loranger, 1991). *Methods:* We conducted a prospective study of consecutive patients, aged 18-65, referred with acute depression/anxiety for intensive outpatient or inpatient care. DSM-III-R psychotic, organic, bipolar disorder, and mental retardation were exclusion criteria. All the eligible subjects during two months (n = 47) were reliably assessed at intake and discharge (MADRS,HAS,BPRS, DSM-III-R diagnosis). Forty-one (89%) had six-year follow-up (HSRS, Global outcome index). *Results:* The additional presence of PD predicted increased symptom severity ($p < 0.05$), reduced autonomy, worse adjustment and interpersonal relationships ($p < 0.05$), and poorer global outcome ($p < 0.05$) at six-year follow-up. Controlling for the effect of age, sex, and symptom severity at intake, these findings were not materially altered. *Comment:* We found worse six-year outcome in psychiatric patients referred for intensive treatment with PD. The present results suggest that acute symptoms do not account for the reported associations between PD diagnosis and long-term outcome in French-speaking patients.

NR143 Monday, May 24, 3:00 p.m.-5:00 p.m.

Symptoms Severity in Emergency Room Patients: Racial Differences

Viviana B. Valencia, M.D., Psychiatry, UC College of Medicine, 231 Bethesda Avenue ML559, Cincinnati, OH 45267; Eugene Somoza, M.D.

Summary:

The aim of this study was to identify differences in symptom severity between African Americans and Caucasians, and to determine how these differences vary with the age, diagnosis, psychosocial stressor severity, and admission status of the patients, as well as with the race of the evaluator. The population (N = 1602) consisted of first visits of all walk-in male patients arriving at a V.A. medical center psychiatric evaluation center (PEC) over a two-year period. The evaluations were done by PEC staff members and by first-year psychiatric residents, and consisted of a one hour non-structured interview during which an 18-item BPRS, and a full 5-axis *DSM-III-R* diagnosis were done. Caucasians had significantly higher ($p < 0.0005$) symptoms severity on BPRS items measuring depressed mood, guilt feelings, somatization, anxiety, and tension, but lower severity ($p < 0.0005$) on bizarre thinking, paranoia, hallucinations, and disorganized thinking. Racial differences in symptom severity, for other diagnoses, as well as the influence of age, admission status, and the evaluator's race will also be discussed. Results suggest that race needs to be considered in determining the diagnosis and treatment plan of psychiatric patients.

NR144 Monday, May 24, 3:00 p.m.-5:00 p.m.

Screening for Thyroid Disease in Ambulatory Patients With Depression

James H. Briggs, M.D., Psychiatry, Brown University, 7 Pioneer Circle, Attleboro, MA 02703; Mark S. Bauer, M.D., Linda McBride, B.S.N., Owen Hagino, M.D., Walter A. Brown, M.D.

Summary:

Objective: The prevalence of thyroid disease in ambulatory patients with depression was determined in order to assess the need for routine screening in this population. *Method:* The records of all patients presenting with depression to a free-standing clinic involved in testing new antidepressant compounds were reviewed. One hundred sixty-six (166) patients were identified who had major depressive disorder and who received thyroid testing and physical examinations. Testing was mandated by protocol in all 166 patients. *Results:* Only one patient (0.6%) was identified as having thyroid disease, as evidenced by decreased free thyroxine index with signs and symptoms consistent with hypothyroidism. Other patients were found to have spurious laboratory abnormalities, including seven patients (4.2%) with abnormal total thyroxine levels but without other evidence of thyroid dysfunction. Isolated TSH elevations were

found in 2/105 (1.9%). *Conclusions:* Comparison of these results with the reported prevalence of thyroid disease in the general population (1.1%) indicates that the population of patients with depression does not represent an enriched sample of patients with thyroid disease. Therefore, case-finding strategies for the general population as outlined by the American Thyroid Association may be more appropriate for ambulatory depressives than routine screening.

NR145 Monday, May 24, 3:00 p.m.-5:00 p.m.

Family Connections of the Homeless Mentally Ill

Charles T. Robinson, M.D., ACTTEAM, 1222 West Baltimore Street, Baltimore, MD 21223; Lisa Dixon, M.D., Betty Stewart, B.A., James G. Harold, M.D., Anthony F. Lehman, M.D.

Summary:

Introduction/Methods: Families of the homeless mentally ill (HMI) have been characterized by high rates of fragmentation and foster care. Thirty patients receiving services from an experimental assertive community treatment team were interviewed about current family and contacts, their perceptions of family factors contributing to initial homelessness, and wishes regarding family involvement now. *Results:* Patients named 7.1 ± 3.9 (1-18) living family members and have contact with 3.6 ± 3.1 (0-13). Twelve patients (40%) stated they are closest to their mothers, six (20%) to siblings, four (13%) to children, and four (13%) to nobody. Fifteen patients (50%) reported having family contact at least once a week, seven (23%) once a month, and seven (23%) less than once a month. Only 11 patients (37%) expressed a desire for increased family contact now. Patients who reported having become homeless immediately after leaving the family home (n = 18) were significantly more likely to have been forced out of home than those who had lived for some period of time independent of the family before becoming homeless (n = 12) ($p < .002$). Those forced to leave home most commonly listed their unusual behavior (n = 18), refusal to follow house rules (n = 8), alcohol/drugs (n = 6), finances (n = 5), verbal threats (n = 5), and violence (n = 5) as reasons for eviction. Seven patients (23%) said they would like to live with family now; 21 (70%) said they would not. The most common reasons patients gave for *not* wanting to live with family were the desire for independence (n = 11) and "conflict with family" (n = 7). *Conclusions:* Although some family estrangement was evident, many of these treated patients could develop significant family contact with which they appear satisfied. Of note, patients who left home involuntarily were generally unable to negotiate other housing for themselves and became homeless. Currently, these HMI patients appear to have relatively normative desires for independence from their families of origin.

NR146 Monday, May 24, 3:00 p.m.-5:00 p.m.

Trama, Ethnicity and Dissociation

Douglas F. Zatzick, M.D., Psychiatry, UCSF, 401 Parnassus Avenue, San Francisco, CA 94143; Charles F. Marmar, M.D., Daniel S. Weiss, Ph.D.

Summary:

Objective: To determine if dissociative phenomena vary as a function of ethnicity in a sample of male and female Vietnam veterans. *Method:* Subjects were African-American (n = 110), Caucasian (n = 269), and Hispanic (n = 133) veterans who were administered the Dissociative Experiences Scale (DES) and the Peritraumatic Dissociative Experiences Questionnaire (PDEQ), as well as clinical scales measuring current posttraumatic symptomatology, general psychopathology, and level of war zone stress exposure. Analyses of variance and covariance assessed the relationship between ethnicity and dissociation and the impact of other clinical variables on this relationship. *Results:* African-Americans and Hispanics demonstrated significantly higher DES scores than Caucasians. Also, African-Americans demonstrated significantly higher PDEQ scores than Caucasians. These differences remained significant even after levels of war zone stress were accounted for. The strength of the association between ethnicity and dissociation was markedly reduced when current posttraumatic symptomatology and general psychopathology were accounted for. *Conclusions:* Significant ethnic variations in dissociative experiences were observed. However, dissociative experiences were also related to levels of current symptomatology. Prospective studies are required to determine if pretraumatic variations in dissociative experiences exist across ethnic groups, and if so, whether they constitute risk factors for developing posttraumatic symptomatology.

NR147 Monday, May 24, 3:00 p.m.-5:00 p.m.

Substance Use in an Adolescent Psychiatric Population

Deborah Deas-Nesmith, M.D., Psychiatry, Medical University of SC, 171 Ashley Avenue, Charleston, SC 29425; Sallie Campbell, M.S.W., Kathleen T. Brady, M.D.

Summary:

There is paucity of literature examining the comorbidity of substance use disorders and other psychiatric disorders in adolescent populations. To further expand this literature, we assessed 60 consecutive adolescent admissions, ages 13-17, to an acute adolescent psychiatric inpatient unit for substance use disorders. Patients initially received the self-report Personal Experience Screening Questionnaire (PESQ). Within five days of admission, patients were administered the substance use disorder portion of the Structured Clinical Interview for *DSM-III* (SCID-R). Among the patients interviewed, 20/60 (33%) were identified as having a substance abuse or dependence diagnosis (SU's). There was no significant difference in the age among SU's and nonsubstance users (NSU's). SU's had a slightly higher length of stay than NSU's ([eu-5][su1]x[xu = 13.1 days). There were significantly more Caucasians ($p \leq 0.05$) in the SU group. Sixty percent of all adolescents interviewed had histories of sexual and/or physical trauma. There was a slightly higher percent with a history of trauma in the SU group. There were no significant differences in the number of other Axis I or Axis II diagnoses, but more of the SU's received greater than one Axis II diagnoses when compared to NSU's. Specific types of Axis I and Axis II diagnoses in the two groups will be discussed. While SU's and NSU's had no significant difference in number of past psychiatric hospitalizations, there was a trend towards more past medical hospitalizations ($p \leq 0.1$) in the NSU group.

NR148 Monday, May 24, 3:00 p.m.-5:00 p.m.

Pathological Gambling and Platelet MAO

Carlos Blanco, M.D., Psychiatry, NY Hosp Cornell Med Ctr, 21 Bloomingdale Road, White Plains, NY 10605; Luis Orensanz-Munoz, Ph.D., Carmen Blanco-Jerez, B.S., Jeronimo Saiz-Ruis, M.D.

Summary:

Objective: The study tries to identify some biological and psychological distinctive features of pathological gamblers. *Method:* 27 male pathological gamblers were compared with normal controls, matched for age and tobacco consumption. Biological measures included platelet MAO and blood testosterone and estradiol. Psychological measures included MMPI, EPQ, and SSS. Paired t-tests and Wilcoxon tests were used to compare the means of the groups, and Pearson correlations were used to detect association among biological and psychological measures. Bonferroni correc-

tion was applied. Stepwise logistic regression analysis was carried out in an effort to discriminate patients and controls. *Results:* The groups differed significantly in platelet MAO, blood testosterone, several MMPI scales, and two SSS subscales. No correlation of biological significance was found. Two variables were used to fit the logistic regression model. *Conclusions:* The altered values of platelet MAO suggest a dysfunction in the biological systems responsible for impulse control. Serotonergic reuptake inhibitors could be potentially useful for the treatment of the disorder, while the use of MAOI's should be discouraged in principle. Although no psychological pattern is characteristic of pathological gamblers, they appear to differ from normal controls in anxiety, impulse control, self-confidence, and ability to learn from past experiences.

NR149 Monday, May 24, 3:00 p.m.-5:00 p.m.

Psychiatric Morbidity in a Medical HIV Clinic

John S. McDaniel, M.D., Psychiatry, Emory Clinic, 1365 Clifton Road, Atlanta, GA 30322; Gene Farber, Ph.D., Mary B. Summerville, Ph.D., Karen Johnson, M.D., Sumner Thompson, M.D.

Summary:

Objective: The purpose of this study was to describe demographic, psychiatric, and social support data on patients in an outpatient HIV medical clinic. *Method:* A retrospective chart review examined all psychiatric referrals to a newly established psychiatric consult service during its first six months of operation (7/1/92-12/31/92). *Results:* Subjects included 100 men and 15 women; 55% met criteria for AIDS; 61% were Caucasian, 34% were African-American, 4% were Latin-American, and 1% were Asian-American. Mean age of patients seen was 35.2 years old (range = 19 to 54). Median CD4 count was 144. Almost two-thirds of the sample reported a previous psychiatric history (58%), with 28% reporting a prior suicide attempt. Psychiatric morbidity included 33% adjustment disorders, 30% mood disorders, 20% psychoactive substance use disorders, 7% psychotic spectrum disorders, 6% anxiety disorders, and 4% organic mental disorders. Women reported greater social support than men ($r = -.17$, $p = .04$), and for the entire sample less social support was associated with lower CD4 counts ($r = .17$, $p = .04$) and an AIDS diagnosis ($r = -.27$, $p = .003$). *Conclusions:* These results suggest the importance of providing on-site psychiatric care within HIV clinics. Future research should examine the role of social support, psychiatric morbidity, and disease progression.

NR150 Monday, May 24, 3:00 p.m.-5:00 p.m.

Psychological Functioning, Gender and HIV

John S. McDaniel, M.D., Psychiatry, Emory Clinic, 1365 Clifton Road, Atlanta, GA 30322; Elisabeth Fowlie, B.S., Mary B. Summerville, Ph.D., Steven A. Cohen-Cole, M.D., Elaine Walker, Ph.D., Peggy Keen, Ph.D., Sumner Thompson, M.D.

Summary:

Objective: With women increasingly affected by HIV, there is growing interest in their psychological functioning but a paucity of research. This study examined gender and demographic differences in the psychological functioning of HIV seropositive men and women. *Method:* Subjects were randomly selected during their initial medical evaluation at a public outpatient HIV clinic. Mean CD4 count was 408. Seventeen women and 20 men agreed to participate. Subjects were administered the Structured Clinical Interview for DSM-III-R (SCID), Beck Depression Inventory (BDI), Hamilton Depression Rating Scale (HAM-D), and Weschler Adult Intelligence Scale-R subtests (WAIS-R; DS, Vocab, and Arithmetic). *Results:* Men were more educated, scored higher on intelligence testing, and of higher SES; however, women rated significantly higher on global assessment of functioning (SCID; $t < .05$). There were no differences between men and women in prevalence of affective disorders (SCID); but men reported more depressive symptoms (SCID, BDI, HAM-D), including suicidality (BDI, $t < .01$; HAM-D, $t < .05$) and insomnia (SCID, $t < .05$), and psychotic symptoms (SCID, $t < .05$). *Conclusions:* Results suggest HIV+ women are at less risk for psychiatric morbidity than male counterparts. Future research should examine the potential effects of gender-specific psychosocial variables.

NR151 Monday, May 24, 3:00 p.m.-5:00 p.m.

Efficacy of Thyroid Function Test Screening in Psychiatry

Ravindra N. Amin, M.D., 205 East 95 St. Apt 32L, New York, NY 10128; Eva Khavkin, M.D., Sigfrido Ruiz, M.D., Joseph Moise, M.D., John Harrera, Ph.D.

Summary:

Introduction: Thyroid disease is often among differential diagnoses in various psychiatric presentations, and thyroid function test (TFT:T3,T4,T3U and TSH) may have important clinical implications. It is hypothesized, however, that routine TFT screening of inpatient psychiatric admissions may not provide clinically relevant and cost-effective yield. *Method:* TFT results were obtained for consecutive psychiatric inpatient admissions over a three-month period to identify abnormal results, which were followed by a chart review to determine what number of patients had clinically relevant thyroid abnormality that was identified based on TFT screening and not otherwise known from the history or the physical exam. *Results:* Out of 320 consecutive admissions, 45 patients showed abnormality on TFT. Five out 45 patients with abnormal results had as thyroid disorder (four hypothyroid, one hyperthyroid). Thyroid disorder of four out of five patients was known from the history, and only one patient's thyroid disorder was identified based on TFT screening and clinical examination.

Conclusion: At a time when cost containment is a crucial issue in health care, with the above findings it is concluded that in most patients TFT abnormality was not a major determinant of the psychiatric disturbance, and this level of detection may not warrant a formal screening program.

NR152 Monday, May 24, 3:00 p.m.-5:00 p.m.

Intra-Daily Mood Variance in Depression

Donald P. Hall, M.D., 9522 Donnan Castle Ct., Laurel, MD 20723; Capt. David Benedek, M.D., Audrey Chang, Ph.D.

Summary:

Previous studies of intra-daily mood variability in depression have been limited to comparisons of single morning and evening mood ratings, for monitoring circadian cycles/trends. This study assessed mood hourly, for 15 consecutive hours, using repeated administration of a visual analog scale (VAS). We compared a group of nondepressed ward staff (n = 12) with groups of nondepressed psychiatric patients (n = 6) and, *DSM-III-R*-defined adjustment disorder-depressed (n = 8) and major depressive episode (n = 12) patients. Quantity of mood variability was computed for each subject by determining the standard deviation of their 16 VAS mood scores.

Mood variability was significantly greater in the adjustment disorder-depressed group than in nondepressed and major depression groups ($p < 0.05$). The major depression group demonstrated no significant reduction in mood variability when compared to nondepressed groups. Correlation analyses revealed no significant correlation between mood variability and depression, as measured by Hamilton Depression Scale scores. These data suggest a specific phenomenological difference (reactivity of mood) between ad-

justment disorder depressions and major depressions. The data are being further analyzed for ultradian and circadian cycle characteristics.

NR153 Monday, May 24, 3:00 p.m.-5:00 p.m.

Which Patients Receive Medication in Psychotherapy?

Thomas E. Byrne, M.D., 10 West 57th Street, Westmont, IL 60559; Kenneth I. Howard, Ph.D.

Summary:

Objective: To assess naturalistically the treatment depressed outpatients receive. Specifically, to begin to understand why some patients diagnosed with depression are treated with medication and some are not.

Method: One hundred twenty-five outpatients diagnosed on clinical interview with major depression were studied by using therapist rating scales and patient self-reports. Twenty-six of these patients were treated with medication and psychotherapy. The other 99 patients received only psychotherapy. Severity of the patients' depression was the most significant variable predicting treatment with medication. Therefore, the 26 medicated patients were matched with 26 psychotherapy-only patients by severity.

Results: If the therapist was an M.D., the patient was significantly more likely to receive medication. When holding severity constant, the degree of distress as measured by the therapist also predicted treatment with medication. Most personality factors did not predict, except for antisocial characteristics. That is, those patients noted as being relatively more antisocial were less likely to be treated with medication.

Conclusion: Patients receive different forms of treatment based on the severity of their illness, degree of their therapist, and possibly what personality traits they display.

NR154 Monday, May 24, 3:00 p.m.-5:00 p.m.

Panic Disorder in the Consultation Setting: 1980-1990

Terri T. Gerdes, M.D., Psychiatry, University of Iowa, 200 Hawkins Drive #2882 JPP, Iowa City, IA 52242; William R. Yates, M.D., Gerard P. Clancy, M.D.

Summary:

Objective: The objective of this study was to contrast the prevalence, phenomenology, and medical care utilization for panic disorder in 1980 and 1990.

Methods: All psychiatric consultations from a university consultation service from the years 1980 and 1990 were located ($N = 1615$). Patients referred for anxiety and those meeting DSM-III-R panic disorder criteria were selected for chart review. Variations in demographics, comorbidity, prior medical evaluations, and referral patterns were analyzed.

Results: The referral rate for anxiety symptoms increased in 1990 compared with 1980 (127/855 vs. 81/760, 14.9% vs. 10.6%, Chi-square = 6.31, $p < .05$). The prevalence rate for consultations meeting panic disorder criteria also increased (44/855 vs. 20/760, 5.1% vs. 2.6%, Chi-square = 5.24, $p < .05$). Referring physicians more frequently noted panic attacks as a symptom in 1990 (26/44 vs. 1/20, 59% vs. 5%, Chi-square = 16.5, $p = .0001$). A summary measure of medical care utilization revealed no significant interval change.

Conclusion: Anxiety and panic disorders are being recognized and referred more frequently by medical physicians since the publication of DSM-III and DSM-III-R. Delay of diagnosis and high medical care utilization remain significant problems.

NR155 Monday, May 24, 3:00 p.m.-5:00 p.m.

Mandatory HIV Testing: Impact on Providers of Care

James C. Ashworth, M.D., Psychiatry, Wilford Hall, 2200 Berquist Dr Ste 1, Lackland AFB, TX 78236; Donald K. Winter, M.D., Susan E. McManis, M.D., Edna R. Fiedler, Ph.D., George R. Brown, M.D., Clifford A. Butzin, Ph.D.

Summary:

Purpose: To assess health care providers' perceptions of how undergoing mandatory HIV testing impacts their personal, social and occupational issues.

Procedure: A 72-item anonymous questionnaire was distributed to all active duty health care providers (HCPs) at Wilford Hall Medical Center, an 850-bed, tertiary care referral hospital. This population has been subjected to mandatory HIV testing since 1986.

Results: Of the 1088 surveys distributed, 525 were returned (48.7%). The respondents consisted of 51% physicians, 47% nurses, and 2% other HCPs, with all major medical fields represented; 34% of the physicians and 43% of the nurses worked in areas with significant risk of exposure to HIV. Of the total respondents, 83% supported mandatory HIV testing for all active duty personnel. This was interesting considering 70% of the respondents felt that being identified as HIV positive would have a negative effect on their relationships with their spouses or significant others, and 94% of the respondents felt that it would impair their ability to be insured outside of the military. Reasons the respondents selected for supporting mandatory HIV testing included: helping prevent the spread of HIV (84%), obtaining earlier diagnosis and treatment (83%), and because all military personnel are potential blood donors in battlefield situations where there might be inadequate time to screen blood (82%). A total of 95% of respondents would want to know their serostatus if it was determined that they were positive. Reasons given for wanting to know their serostatus included: protecting their sexual partners (97%), beginning appropriate medical treatment (94%), deciding against having children (86%), and changing their medical practice to protect their patients (78%). The respondents' levels of support for other mandatory requirements of military service were assessed and the following levels of support obtained: yearly flu shots (54%), yearly aerobics testing (69%), and maintaining weight standards (79%). *Conclusion:* Physicians and nurses in the military, whom themselves undergo mandatory HIV screening, support mandatory HIV screening, support mandatory HIV screening for all active duty personnel including themselves. While these data were obtained in a military setting, they should prove useful when considering mandatory testing in civilian hospital settings.

NR156 Monday, May 24, 3:00 p.m.-5:00 p.m.

Changes in Psychiatrists' Self-Perception Over Time

Ileana Berman, M.D., Psychiatry, FDR VA Hospital, Montrose NY 10548; Stuart M. Berman, M.D., William Fried, Ph.D., Murray Alpert, Ph.D., Edward R. Allan, M.D., Miklos F. Losonczy, M.D.

Summary:

Introduction: Earlier articles described issues about medical students' and physicians' attitude towards psychiatry. This study is designed to assess potential changes in psychiatrists' beliefs about the importance of their profession.

Method: A questionnaire was sent to 5700 members of the American Psychiatric Association. The questionnaire obtained information about the time since graduation from residency, and practice setting. Using a five-point scale, several items on the questionnaire rated the opinions about the relative importance of psychiatry to other medical specialties and the difficulty in choosing the psychiatric profession. *Results:* The response rate was 31%. We used discriminant analysis to assess the differences between the more recently trained psychiatrists (less than 15 years since residency)

and those trained earlier (more than 16 years since residency). Our large number permitted a separate analysis of one half of the sample and cross-validation on the other half. The differences were statistically significant in both analyses ($x2' = 42.2$, $DF' = 5$, $p' < 0.0001$; $x2'' = 33.3$, $DF' = 5$, $p < 0.0001$). The strongest discriminators were the degree of difficulty in choosing a psychiatric career and the opinion about the way psychiatry will be perceived in the future. The private practioners' opinions did not differ significantly from those of psychiatrists in academia. Those in academia, however, thought that other medical specialists attributed a higher importance to psychiatry (academia: $\bar{x} = 2.7$, $SD = 0.5$; private practice; $\bar{x} = 2.5$, $SD = 0.8$, $p < 0.003$); they also thought that the importance attributed by other medical specialists will increase in the future (academia: $\bar{x} = 3.1$, $SD = 0.6$; private practice: $\bar{x} = 2.8$, $SD = 0.3$, $p < 0.0001$). *Conclusions:* Contrary to their belief that their profession is very important, our responders felt that other specialists perceived that psychiatry is less than moderately important: the majority of psychiatrists thought, however, that psychiatry will be perceived as more important in the future. Most psychiatrists had a mild to moderate degree of difficulty in choosing the psychiatric profession. There appears to be little association between psychiatrists' opinions and their practice setting. The time of psychiatric training, however, seems to result in more differences of opinions.

NR157 Monday, May 24, 3:00 p.m.-5:00 p.m.

A Cinema-Psycho-Social Time Line

Charles M. Grade, M.D., Psychiatry C240, Sinai Samaritan, 2000 W. Kilbourn Ave Corp Bldg, Milwaukee, WI 53233; Anne I. Koplin, M.D.

Summary:

Objective: Filmmakers have shared our fascination with psychiatry since Lumiére introduced the first motion picture (1885). Since the first depiction of a psychiatrist ("The Lunatics," 1914) there have been hundreds of films that include psychiatry. The 1980s and early 1990s have brought an abundance of films with psychiatrists as central characters. We created a time line that demonstrates the cross-currents that have historically existed between psychiatry and film.

Method: A literature review was conducted to identify landmark events in each field. A time line was constructed correlating these events with social/historical trends.

Results: The incipient fields of psychiatry and film intertwine and borrow heavily from each other. Trends in film depiction often lag behind advances in psychiatry; for example, biological interventions are seldom mentioned. Psychodynamically oriented psychotherapy dominates in film. Despite social changes, female psychiatrists are consistently portrayed as dissatisfied, searching for love from patients. Social trends (civil rights movement, sexual revolution, and "new conservatism") are reflected by cinema psychiatrists in recent time.

Conclusion: Understanding of a depiction of psychiatrists in film can be facilitated utilizing a time line. Remnants of "turn of the century" psychiatry persists in films today owing to their almost symbiotic beginnings.

NR158 Monday, May 24, 3:00 p.m.-5:00 p.m.

Bipolar Relapse Rates During Maintenance Therapy

Amy B. Thibault, B.A., Psychiatry, Mass General Hospital, WACC 815 15 Parkham Street, Boston, MA 02114; Gary S. Sachs, M.D., Beny Lafer, M.D., JoAnn Koletsky, B.A., Jerrold F. Rosenbaum, M.D.

Summary:

Objective: To compare outcome of maintenance treatments administered to bipolar patients in open clinical practice.

Methods: The clinic database was used to identify 100 bipolar patients. A systematic chart review was then conducted to determine treatment received and relapse over the preceding year. A structured interview with each treating psychiatrist was used to confirm all data. Comparison treatment groups were defined by the treatment regime administered the entire year: lithium alone (L) ($N = 22$), lithium and benzodiazepines (LB) ($N = 15$), lithium and neuroleptics (LN) ($N = 6$), lithium and anticonvulsants (LA) ($N = 5$), anticonvulsants alone (A) ($N = 6$), and no maintenance treatment ($N = 15$). Groups were combined to compare lithium vs no lithium maintenance.

Results: Relapse rates for the treatment groups varied from 100% among patients receiving no maintenance therapy to 42% for LB patients. Compared to lithium alone, relapse rates were significantly lower in the LB group. (Chi square = 4.0, $p = .047$). Significantly lower relapse rates were found comparing relapse in groups receiving lithium maintenance vs all other groups ($p < 0.05$).

Conclusion: These results must be interpreted cautiously, since the selection criteria do not reflect intent to treat. Nonetheless, the data do confirm the benefits of lithium prophylaxis in open clinical practice and supports the maintenance use of adjunctive benzodiazepines.

NR159 Monday, May 24, 3:00 p.m.-5:00 p.m.

Structured Interview Guide for Anxiety (SIGH-A)

Gary S. Bruss, Ph.D., Garroway Lab, Inst. Penna. Hospital, 111 North 49th Street, Philadelphia, PA 19139; Reed D. Goldstein, Ph.D., Alan M. Gruenberg, M.D., Jacques P. Barber, Ph.D.

Summary:

The Hamilton Anxiety Rating Scale (HARS; Hamilton, 1959) was developed in order to quantify and assess symptom severity in patients with anxiety neurosis. While adequate inter-rater reliability coefficients for the HARS have been previously reported, differences in the way clinicians assess for symptom severity may reduce reliability. We developed a structured interview guide for the HARS (SIGH-A) in order to standardize clinical probe questions and to minimize inter-rater variance. Inter-class coefficients calculated based upon joint-interview and test-retest methods or reliability assessment on a sample of 30 inpatients revealed improved inter-rater agreement using the SIGH-A versus the HARS. Whereas the ICCS for individual item on the HARS ranged from .23 to .77 with a mean of .50 and with a total score coefficient of .74, the SIGH-A achieved a range of .32 to 1.00 with a mean of .94 and a total score coefficient of .99. The SIGH-A achieved improved inter-rater agreement in the more stringent test-retest method of assessment. Individual item coefficients ranged from .331 to .95, with a mean score of .75 and a total scale score of .96. This study supports the utilization of a standardized, structured interview guide of the assessment of symptoms of anxiety.

NR160 Monday, May 24, 3:00 p.m.-5:00 p.m.

Validity of Generalized Anxiety Disorder as a Diagnostic Entity

Olga Brawman-Mintzer, M.D., Psychiatry, MUSC, 171 Ashley Avenue, Charleston, SC 29425; R. Bruce Lydiard, M.D., James C. Ballenger, M.D.

Summary:

The goal of this study was to test the validity of generalized anxiety disorder (GAD) as an independent diagnostic entity and to

evaluate the prevalence and type of psychiatric comorbidity in GAD. Although a few published studies address the subject, this study presents data from a larger sample and excludes concurrent major depression as a potential confound.

We studied patients with a primary diagnosis of GAD. Patients were evaluated using the Structured Clinical Interview for *DSM-III-R*. Patients with current major depressive episode were excluded. All diagnoses for which the patient met criteria were assigned (comorbidity), including lifetime occurrence of major depressive episode and substance use.

One hundred and nine patients were included in the analysis. Study results demonstrate that 26% of patients did not receive any lifetime psychiatric diagnosis except GAD. The most prevalent comorbid diagnoses were social phobia (23%) and simple phobia (21%). Forty-two percent of GAD patients had experienced at least one major depressive episode during their lifetime.

Our results support previous findings indicating high rates of psychiatric comorbidity in GAD and validate the usefulness of GAD as a separate diagnostic entity.

NR161 Monday, May 24, 3:00 p.m.-5:00 p.m.

Tourette's Disorder: Social Issues and Treatment Outcome

Raul R. Silva, M.D., Psychiatry, NYU Medical Center, 550 First Avenue, New York, NY 10016; Dinohra M. Munoz-Silva, M.D., Pazit E. Dinstein, M.D., Selvi Wild, Tasnim Khomusi, Arnold J. Friedhoff, M.D.

Summary:

Tourette's disorder is considered a neuropsychiatric disorder with a variable course. Tics can cause social distress and affect the way a patient is perceived at school or work. Timely identification and treatment may decrease the frequency and intensity of symptoms which may ultimately improve social adaptation.

Subjects: Of 60 consecutive referrals to a Tourette's clinic over a period of 2.5 years, 55 patients (38 males, 17 females) met *DSM-III-R* criteria for Tourette's disorder. Their ages ranged from 7 to 70 years old (mean, 23.13 ± 13.79).

Methods: Information was collected via a Tourette Syndrome Questionnaire, which is a structured self and/or parental report inventory, and was then verified during a clinical interview and by record review.

Results: Age of onset ranged from 2 to 26 years old (mean, 8.38 ± 4.54). The diagnosis of Tourette's disorder was established between the ages of 4 to 46 years (mean, 18.07 ± 11.37). For patient's less than 10 years old, the mean lag in establishing their diagnosis was 1.16 ± 1.87 years, while for patients over 10 years of age there was a mean lag of 11.72 ± 11.84 years. In most cases initial diagnoses were made by psychiatrists (42%) or neurologists, (36%) and none by general practitioners. For patients above the age of 21, 56.5% admitted to having abused substances. Sixty-two percent of the sample reported being teased about their symptoms between the ages of 5 and 12 years old. We describe and discuss the implications of the different treatment modalities patients received and their responses. Details regarding educational achievements, as well as social skills and issues (i.e. friendship patterns, other relationships and substance abuse) are identified, comparing the differences between children and adults in this sample.

NR162 Monday, May 24, 3:00 p.m.-5:00 p.m.

Enhanced Suppression With Low-Dose DST in BPD With a History of Abuse

Penny K. Randall, M.D., Psychiatry, Yale University, 38 Temple Court, New Haven, CT 06511; J. Douglas Bremner, M.D., Dennis S. Charney, M.D., Steven M. Southwick, M.D.

Summary:

Objective: Previous studies using the standard dexamethasone suppression test (DST) (1.0 mg) in patients with borderline personality disorder (BPD) have had conflicting results, while patients with PTSD have shown enhanced suppression with low dose DST (0.5 mg). The purpose of this study was to compare response on the low dose DST in patients with BPD and a history of severe childhood physical and/or sexual abuse (n = 10) to healthy matched controls (n = 8). *Method:* Dexamethasone (DEX) 0.5 mg was administered at 11 p.m. and cortisol levels were measured at baseline, nine and 17 hours after DEX. Diagnosis was assessed with the Diagnostic Interview for Borderlines and Schedule for Affective Disorders and Schizophrenia. Childhood abuse was assessed with the Early Trauma Interview. *Results:* Mean cortisol levels for BPD patients compared to controls were 19.7 versus 14.7 at baseline (NS). A t-test comparing the change from baseline cortisol to nine hours after DEX between patients and controls (17.2 versus 9.2) showed a significant difference ($T = .3.97$ $df = 12.5$ $p < 0.0017$). An ANOVA revealed significant group by time difference with baseline cortisol levels and nine hours after DEX ($F = 11.49$, $df = 1$, $p < 0.0037$). *Conclusion:* These preliminary findings support a recent finding of enhanced suppression of cortisol following low dose DST in combat veterans with posttraumatic stress disorder (Yehuda R, 1993) and suggest similar hypothalamic-pituitary-adrenal axis dysregulation in BPD patients with childhood abuse.

NR163 Monday, May 24, 3:00 p.m.-5:00 p.m.

Clozapine Therapy in Refractory Affective Disorders: Polarity Predicts Response in Long-Term Follow-up

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Summary:

Objective: Clozapine has been well studied as an effective agent in schizophrenia resistant to traditional neuroleptic treatment. We evaluate the response and long-term efficacy of clozapine in the management of affective illness.

Method: We retrospectively reviewed 105 patients with a variety of treatment-resistant affective disorders to determine their course of illness with clozapine therapy. All subjects were started on clozapine as inpatients since FDA approval in 1990. Raters were blind to diagnosis. An independent best-estimate was performed to confirm diagnosis. A variety of patient characteristics and outcome measures were compared.

Results: There was no statistical difference in response to treatment between the unipolar, bipolar, schizoaffective, and schizophrenic control patients. Subjects with a history of two or more depressive episodes were significantly more likely to have discontinued clozapine at follow-up ($p < 0.05$).

Conclusions: Clozapine appears to work well across diagnostic categories in affective illness, though is more efficacious and better tolerated in patients with less depressive symptomatology.

NR164 Monday, May 24, 3:00 p.m.-5:00 p.m.

Panic, Hypertension and Pheochromocytoma Screening

Charles C. Engel, M.D., Psychiatry, Univ. of Washington, 7328 28th Avenue NW, Seattle, WA 98117; John Fogarty, B.S., Gregory E. Simon, M.D., Joan Russo, Ph.D., Wayne J. Katon, M.D.

Summary:

Patients with panic disorder often present with multiple somatic and physiologic manifestations of anxiety. Panic disorder patients

and their physicians focus on worrisome symptoms and signs such as rapid heart beat, palpitations, chest pain, and labile hypertension. Physicians underrecognize panic disorder and may instead evaluate for coronary artery disease, mitral valve prolapse, and pheochromocytoma. The authors hypothesized that pheochromocytoma-screened hypertensives (PSH) would have a significantly higher prevalence of panic disorder and more anxiety symptoms than a serum cholesterol-screened hypertensive control group. Forty PSH and 30 controls of comparable age, gender, and education level completed a DIS interview, SCL-90-R, and a medical illness measure. PSH were significantly more likely than controls to have current (28% vs. 3%, $p = .02$) and lifetime (35% vs. 10%, $p = .03$) panic disorder, agoraphobia (20% vs. 0%, $p = .03$), and multiple phobias (18% vs. 0%, $p = .04$). PSH also had significantly higher SCL-90-R somatization, phobic anxiety, and anxiety scores than controls. Panic disorder appears to be common among hypertensives screened for pheochromocytoma. Physicians might screen panic-disordered hypertensives more because of their persistent somatic complaints or because their hypertension is less easily controlled.

NR165 Monday, May 24, 3:00 p.m.-5:00 p.m.

Blepharospasm and Mood Disorder

Emmanuelle Pourcher, M.D., Psychiatrie, Hopital Enfat Jesus, 1401 18e Rue, Quebec QC G1J 1Z4, Canada; Roch-Hugo Bouchard, M.D., Marie-Josee Filteau, M.D., Philippe Baruch, M.D., Alain Gourdeau, M.D., Hagop S. Akiskal, M.D.

Summary:

Essential blepharospasm is a focal form of dystonia with a higher prevalence in females and older age at onset than other forms of focal dystonias. Not unfrequently, these patients present with a depressive episode that is not correlated in severity with the dystonia but often considered of a reactive nature (Lauterbach, 1991). We compared the prevalence of mood disorders in 12 patients with Essential blepharospasm (BS) to 12 patients affected by an equivalent esthetic and functional handicap (chronic unilateral facila hemispasm (HS)) and submitted to the same treatment, botulinic toxin.

Methods: Data concerning the index disease and personal and familial psychiatric history were gathered using a semistructured interview and Hamilton Depression and Hamilton Anxiety Rating Scales. Comparisons were made using Student t test or exact Fisher's test.

Results: BS and HS groups did not differ on age, disease duration, or prevalence of a depressive episode. However, significant differences emerged for: 1) Personal antecedents of major depression (BS = 10/12 vs HS = 2/12; $p = 0.0017$). 2) Bipolar disorder or pathological affective temperament according to Akiskal's classification (BS = 10/12 vs HS = 5/12; $p = 0.049$). Affective antecedents in first-degree relatives were more frequent in blepharospastic patients, although not significant (BS = 7/12 vs HS = 3/12). Conversely, psychosocial stressors at disease onset were more frequent in HS patients (BS = 2/12 vs HS = 8/12; $p = 0.0194$).

Conclusion: Although not more depressed at the time of the study, BS patients displayed more genetic loading for affective disorder and more previous depressive episodes than comparison patients with HS. Rather than an association between reactive or secondary depression and blepharospasm, our results suggest the importance of the genetic factors of mood disorders in the expression of a probable structural lesion presenting as a focal dystonia.

NR166 Monday, May 24, 3:00 p.m.-5:00 p.m.

Identifying the Suicidal Patient in the Emergency Room Setting

Nuchananrt Venbrux, M.D., Psychiatry, Penn State University, 500 University Drive, Hershey, PA 17033; Paul A. Kettl, M.D., Edward O. Bixler, Ph.D.

Summary:

Introduction: The overall objective of this study was to identify demographic factors and other characteristics associated with rehospitalization in patients who participated in our day treatment program. The practical objective of this study was to identify risk factors that could lead to relapse and to facilitate a clinician to make the appropriate intervention. *Method:* Questionnaires were sent to 189 patients who were hospitalized in our program between 12/89 and 12/91. Patients were categorized by whether or not they were rehospitalized after discharge. Questions included demographic data, past and present psychiatric treatment, social adjustment, self-concept, type of medication, and Beck Depression Inventory scores. *Result:* Preliminary results indicate a significant difference between the rehospitalized patients and those who were not rehospitalized in their ability to handle stress ($p = .008$) and in the quality of their social relationships ($p = .006$). Demographic data, previous psychiatric treatment, medication, work satisfaction, family relationships, and self-concept were less useful. Interestingly, Beck Depression Inventory scores of the rehospitalized group were significantly higher than the group that was not rehospitalized regardless of the diagnosis ($p = .003$). *Conclusion:* There appears to be a paucity of information regarding treatment outcome and relapse rate after treatment in a day treatment program. Our findings emphasize the importance of social relationships and stress management as two factors contributing to how well the patients do after their hospitalization. Clearly, more controlled research in this area is needed to confirm and expand the findings reported here.

NR167 Monday, May 24, 3:00 p.m.-5:00 p.m.

History of Suicide Attempts: A Trait Variable?

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Summary:

The aim of this study was to determine whether a suicide attempt is the manifestation of a trait variable which is predictive of a high degree of future psychopathology. All walk-in patients (N = 1729) presenting to a VA psychiatric evaluation center (PEC) during a two-year period were specifically asked for a past history of suicide attempts (HSA). The PEC evaluation also included measurements of the severity of symptoms using an 18-item BPRS, a *DSM-III-R* diagnosis, and several demographic variables. Patients with a HSA differed significantly from patients with no HSA in severity of psychopathology. The total BPRS score for patients with a HSA was 33% higher than that for those with no HSA. Scores on depression, current suicidality, guilt feelings, paranoia, and hallucinations increased with the number of suicide attempts. Thirty-one percent of the admitted patients had a HSA compared with only 12% of non-admitted patients ($p < 0.001$). The Global Assessment of Function (GAF) was 16% less for patients with a HSA ($p < 0.0005$). The relationship between HSA and diagnosis, age, traumatic experiences, and social support will be discussed. These results suggest that attempted suicide is the manifestation of a trait variable.

NR168 Monday, May 24, 3:00 p.m.-5:00 p.m.

MMPI-2 and Risk Factors in Suicidal Ideation

Bradley D. Grinage, M.D., Psychiatry, Wilford Hall, 2200 Berquist Dr Ste 1, San Antonio, TX 78236; Edna R. Fiedler, Ph.D.

Summary:

Objective: To assess differences in risk factors and MMPI-2 scores between young adults with and without suicidal ideation (SI).

Method: Psychologists evaluated 54 males and 26 females for current SI on a four-point scale of none to severe. Forty subjects who showed no SI were compared with 40 subjects with moderate to severe ideation. All subjects were referred for psychological evaluation because of reactions to the stressful environment of basic military training and completed an MMPI-2 and a demographic interview.

Results: Using Chi Square corrected for continuity, significant differences ($p < 0.05$) were found between the two groups for history of physical or sexual abuse, moderate to severe alcohol/drug problems, subject contact with the mental health system, past SI and past suicide attempts, as well as family history of alcohol abuse, family contact with the mental health system and family suicide attempts. Significant differences were found on all MMPI-2 scales except scale 5 ($p < 0.05$). Gender, race, age, marital status, and education did not show significant differences.

Conclusion: This study suggests that a combination of past history and MMPI-2 scores may be useful as potential screening factors for SI in young adults working in a continual stressful environment. Future research prospects include comparing similar populations in different stressful environments such as the university setting or the general work force.

NR169 Monday, May 24, 3:00 p.m.-5:00 p.m.

Anafranil's Effect on the Obsessions and Sleep in PTSD

Michael R. Rubin, M.D., Psychiatry, E. Orange VAMC, 385 Tremont Avenue, East Orange, NJ 07019; Veronika Solt, M.D., Cheng-Jen Chen, M.D.

Summary:

We have reported that PTSD has a remarkable obsessive quality and responds to Anafranil successfully. Other researchers also reported that serotonin reuptake inhibitors such as Prozac can help PTSD. We continue collecting more data bout PTSD's response to Anafranil. Because Anafranil has been reported to improve sleep in depressed patients, we also studied whether Anafranil improved nightmare and sleep in PTSD. Inpatient Vietnam veterans with chronic PTSD were used for the study. The following rating scales were used before and after medication administration: The Impact of Event scale to measure the intrusions and avoidance, the Yale-Brown Obsessive Compulsive Scale (only the obsessive subscale was used) to measure the obsessive quality, and the Pittsburgh Sleep Quality Index to measure sleep quality. The results were tested with paired T-test. The results were as follows: The mean length of Anafranil treatment was 9.57 ± 4.30. The mean dosage of Anafranil was 110.7 ± 7.28. The score of the Intrusion subscale of the Impact of Event Scale changed from 18.86 ± 2.28 to 12.00 ± 6.61 ($n = 14$, $p = 0.003$). The YBOCS scores were from 14.14 ± 3.78 to 6.00 ± 3.86 ($n = 14$, $p = 0.0004$). The Pittsburgh Sleep Quality Index was from 15.43 ± 0.78 to 10.23 ± 1.49 ($n = 7$, $p = 0.01$). We concluded that PTSD may respond well to Anafranil treatment.

NR170 Monday, May 24, 3:00 p.m.-5:00 p.m.

Low CSF HVA Levels in Patients With Panic Disorder and Social Phobia

Michael R. Johnson, M.D., Psychiatry, Medical Univ of SC, 171 Ashley Avenue, Charleston, SC 29425; R. Bruce Lydiard, M.D., James C. Ballenger, M.D., Joseph J. Zealberg, M.D., Mark D. Fossey, M.D.

Summary:

Social phobia, a condition characterized by social inhibition and social withdrawal, has been conceived by some theorists as representing the opposite end of a phenomenologic continuum from mania, a condition characterized by the lack of social inhibition and markedly increased sociability. The finding of increased dopaminergic activity in acute mania has led to the speculation that social phobia may in contrast represent a state of low dopaminergic activity. To test this hypothesis we examined HVA levels in the spinal fluid of patients with panic disorder with and without comorbid social phobia and of a group of normal controls. Patients with social phobia ($n = 6$) and without social phobia ($n = 6$) were independently age- and sex-matched with two groups of normal controls ($n = 6$ each). The patients with social phobia had levels of CSF HVA which were significantly lower than the matched controls (109.2 ± 19.3 vs. 180.5 ± 42.4, two-tailed $t = 3.75$, $p = .0038$). The patients without social phobia did not differ from matched controls (172.4 ± 106.7 vs. 191.1 ± 84.0, two-tailed $t = 0.34$, $p = .74$). These results suggest that there may be an association between social phobia and abnormal dopamine function. Implications of this finding will be discussed.

NR171 Monday, May 24, 3:00 p.m.-5:00 p.m.

Cognitive Deficits in Schizotypal Personality

Martina M. Voglmaier, Ph.D., Psychiatry, Harvard Medical School, 74 Fenwood Road, Boston, MA 02115; Larry J. Seidman, Ph.D., Dean F. Salisbury, Ph.D., Robert W. McCarley, M.D.

Summary:

Objective: The exact nature of cognitive dysfunction in schizotypal personality disorder (SPD) remains unclear. The purpose of this study was to examine the neuropsychological profile of SPD. *Method:* A wide array of neuropsychological functions were assessed in 11 right-handed males who met DSM-III-R criteria for SPD. Functions measured included abstraction, verbal and spatial intelligence, memory and learning, language, attention and motor skills. Neuropsychological profiles were constructed by standardizing test scores based on means and standard deviations of 11 normal comparison subjects who were matched for age, education, and parental SES. *Results:* The SPD group showed significant deficits in verbal learning and abstraction against a background of otherwise normal cognitive functioning. Specifically, SPDs showed a striking decrement on the California Verbal Learning Test (CVLT), a word-list learning measure that requires semantic clustering for more efficient performance. They also showed reduced performance on the Wisconsin Card Sort Test, a measure requiring concept formation, abstraction, and mental flexibility. *Conclusions:* The results suggest selective neuropsychological deficits in SPD, and are consistent with current hypotheses of left-temporal and prefrontal brain dysfunction in schizophrenia.

NR172 Monday, May 24, 3:00 p.m.-5:00 p.m.

Homeless or Not: Urban Poverty and Mental Disorder

Hunter L. McQuistion, M.D., Psychiatry, Mt. Sinai Medical Center, One Gustave Levy Pl Box 1228, New York, NY 1228; Ann D'Ercole, Ph.D.

Summary:

Objective: The aim of this pilot study was to determine the prevalence of substance and alcohol abuse and psychiatric disorder in a community sample of urban poor for the purpose of differentiating between prevalence rates of homeless and nonhomeless subsamples.

Method: 108 individuals were randomly surveyed at a soup kitchen and food pantry in New York City. A structure interview was

administered, covering demographics, social services, and health care, including psychiatric variables. Validated standardized instruments were used to evaluate substance and alcohol abuse and psychosis. Results were compared between homeless and non-homeless subjects by frequency, with multivariate analysis applied. *Results:* Although psychosis itself was relatively infrequent, there was high prevalence of psychiatric morbidity in both subsamples. The most robust findings were very high levels of both alcohol and substance abuse in both subsamples, especially among women. *Conclusion:* Our results suggest that psychiatric and substance abuse disorders of a magnitude most often associated with homeless people may also exist among particularly impoverished domiciled populations, and notably in women. We discuss its implications for further research concerning the impact of poverty on psychiatric morbidity, on risk factors for homelessness, and on how focused planning is needed for psychiatric services in the inner city.

NR173 Monday, May 24, 3:00 p.m.-5:00 p.m.

Sertraline Response in Mentally Retarded Adults

Lee A. Kelley, M.D., Psychiatry, Univ of Kansas Med Center, 3901 Rainbow Blvd, Kansas City, KS 66160; Jessica A. Hellings, M.D., William F. Gabrielli, Jr., M.D., Earl Kilgore, Psy.D.

Summary:

*Objective:*Evidence suggests that self-injurious and aggressive behaviors in autistic and mentally retarded individuals respond to serotenergic drugs such as fluoxetine (Cooke et al. 1992), clomipramine (McDougle et al, 1992), and buspirone (Ratey et al, 1992). Sertraline is among the newest drugs in this class; therefore, it was postulated that it would provide similar benefits.

Method: The series consists of nine consecutive mentally retarded adult outpatients treated with sertraline in two university mental retardation/dual diagnosis clinics in 1992. An open trial of sertraline, ranging from 50 mg to 150 mg daily, was conducted. Subjects received sertraline treatment after assessment, according to the personal clinical judgment of treating clinicians. Target behaviors included self-injurious and aggressive behavior. Clinical Global Impressions ratings of clinical severity were performed at baseline and either at drug discontinuation or after a minimum of two months of treatment. *Results:* Sertraline led to an improvement in CGI ratings of overall clinical severity in eight of nine subjects, with an average improvement of 2.44 points ($t(8)$ 4.4, $p = 0.002$). *Conclusions:* The results suggest that sertraline may reduce self-injurious and aggressive behaviors in mentally retarded adults. Double-blind, placebo-controlled studies are warranted.

NR174 Monday, May 24, 3:00 p.m.-5:00 p.m.

Panic-Phobic Patients and Developmental Trauma

Daniella David, M.D., Psychiatry, University of Miami, 1400 NW 10th Ave #304-A D-79, Miami, FL 33136; Aitala Giron, M.D., Thomas A. Mellman, M.D.

Summary:

Preliminary studies suggest a possible role for developmental trauma in the pathogenesis of anxiety disorders. We investigated childhood trauma exposure in panic-phobic patients, including possible relationships of trauma to phobic subtypes and familial genetic vulnerability.

Fifty-one consecutive referrals to an anxiety disorders clinic meeting criteria for panic disorder (PD), agoraphobia (AG), and/or social phobia (SP), including 36 females (71%) and 15 males (29%), were administered the Life Experience Questionnaire (L.E.Q.). Thirty-three of these patients also were assessed with the SCID and a psychiatric family history module. The L.E.Q. was also administered to a demographically comparable nonclinical population ($n = 51$, $F = 34$ (67%), $M = 17$ (33%)), with the addition of DSM-III-R based screening questions for mood and anxiety disorders. Trauma prevalences were compared between patients and controls and between patients with and without AG and 1° and 2° SP. Associations of familial psychopathology and trauma exposure were also analyzed.

Thirty-two (63%) of the patients vs. 18 (35%) of controls (24% in the 37 "negative" for probable lifetime psychopathology) were categorized as having significant childhood trauma ($x^2 = 7.68$, $p < .01$). Sexual and/or physical abuse, and not separation or loss, was over-represented in the patients (35%, 18/51 vs. 10%, 5/51, $x^2 = 9.48$, $p < .005$). Alcoholism in a parent was also more frequent in the patient group (35%, 18/51 vs. 8%, 4/51, $x^2 = 11.36$, $p < .001$). There was a significant association of having SP and a history of sexual/physical abuse (50%, 12/24 vs. 22%, 6/27, $x^2 = 4.10$, $p < .05$). The number of patients with parents or children also having panic-phobic conditions did not differ between those exposed vs. not exposed to childhood trauma (41%, 9/22 vs. 25%, 3/12, $x^2 = .86$, NS).

We conclude that trauma exposure may influence phobic presentations though not necessarily independently of genetic vulnerability.

NR175 Monday, May 24, 3:00 p.m.-5:00 p.m.

Bereavement After Suicide or Accident: A Comparison

Monique Sequin, M.A., Fernand-Seguin Center, 7331 Hochelaga, Montreal Quebec H1N 3V2, Canada; Alain D. Lesage, M.D., Margaret C. Kiely, Ph.D.

Summary:

Objective: The aim of this study was to verify in what way bereavement after suicide is different from other types of bereavement.

Method: Standardized questionnaires were used to measure depression and grief reactions, within six and nine months of suicide on 30 survivors of suicide, 30 survivors of car accidents, and 31 matched nonbereaved controls. Other measures such as social support, family adaptation, psychological distress, and health were also obtained at nine months after death. All survivors had lost a son between 18 and 35 years old.

Results: The results indicate that suicide survivors were more depressed at six months after loss, but the difference with accident survivors disappeared at nine months. Survivors of suicide were less satisfied with social support. After the loss, survivors of suicide experienced more life events than did accident survivors. As well we found a greater history of loss, more separations, more divorces, less satisfaction with family adaptation in parents bereaved after a suicide. Survivors of suicide acknowledge having more problems with their children than parents bereaved following car accidents.

Conclusions: It appears that suicide is qualitatively different from other bereavement and it strikes more often in vulnerable families.

NR176 Monday, May 24, 3:00 p.m.-5:00 p.m.

Insight in Mania

S. Nassir Ghaemi, M.D., Outpatient Clinic, McLean Hospital, 115 Mill Street, Belmont, MA 02178; Harrison G. Pope, Jr., M.D., Andrew L. Stoll, M.D.

Summary:

Lack of insight is an important clinical phenomenon, associated with medication non-compliance and poor prognosis (1). However, clinical studies of insight have been scant, and were conducted mainly in schizophrenia. This ongoing study is, to our knowledge, the first systematic study of insight in mania.

We have interviewed 26 inpatients who fulfilled criteria by the Structured Clinical Interview for *DSM-III-R* for an acute manic episode. Insight was measured by McEvoy et al's validated "Insight and Treatment Attitudes Questionnaires" (ITAQ). Of 26 patients with mania interviewed upon admission, the mean insight score was 13.3 on a scale of 0 (no insight) to 22 (complete insight). Eighteen of those patients were interviewed before discharge, and their insight tended to improve (12.2 on admission vs. 15.3 on discharge; $p < 0.05$) along with a decline in severity of psychopathology (BPRS 54.2 on admission vs. 41.2 on discharge; $p < 0.05$). This finding suggests a difference between mania and schizophrenia; in the latter disorder, measures of insight (ITAQ) did not improve with declining psychopathology (BPRS). Unlike schizophrenia, as the manic episode resolves, insight improves.

The relationship of insight to other clinical and laboratory variables, including MRI, EEG, and neuropsychological data will also be presented.

NR177 Monday, May 24, 3:00 p.m.-5:00 p.m.

Gender Differences in the Use of Ego Defenses

David A. Hall, M.D., Psychiatry, Wilford Hall, 2200 Berquist Drive St 1 LAFB, San Antonio, TX 78236; Edna R. Fiedler, Ph.D.

Summary:

Objective: To assess differences in the use of ego mechanisms of defense between males and females.

Method: A 36-question form of the Defense Style Questionnaire (DSQ) was administered to 310 male and 103 female Air Force basic trainees on their second day of training. A subject scoring more than 0.5 standard deviation above the mean on any given defense was considered to use that defense. A Chi Square analysis (with Yates correction) was performed comparing use of each defense and gender.

Results: Significant differences ($p < 0.05$) in the use of defenses were found between males and females. Females were more likely to use sublimation and anticipation. Males were more likely to use projection and splitting. No significant differences were found in the use of acting out, somatization, humor, devaluation, isolation of affect, suppression, idealization, or undoing.

Conclusion: Females are more likely to rate themselves as using more mature defenses, while males are more likely to rate themselves as using more immature defenses. Further research is needed to determine if this is a true gender difference, a gender bias inherent in the DSQ, or a function of this population (i.e. basic trainees).

NR178 Monday, May 24, 3:00 p.m.-5:00 p.m.

Left Ear Hearing Loss in Major Depression

Yoram Yovell, M.D., Biol. Psychiatry, NYS Psychiatric Inst., 722 West 168th Street Box 91, New York, NY 10032; Harold A. Sackeim, Ph.D., David G. Epstein, Ph.D., Joan Prudic, M.D., Martin C. McElhiney, M.A., Joy M. Settembrino, B.A.

Summary:

Objective: To assess the pattern of hearing loss and its asymmetry in major depression before and after treatment.

Method: Pure-tone audiometric testing was conducted after medication washout in 58 inpatients with major depressive disorder (SADS/RDC) and 40 normal controls. The samples were matched with respect to age, gender, education, socioeconomic status, and verbal IQ.

Results: Across both ears, patients had higher audiometric thresholds, and this was particularly marked for the highest frequency (8,000 Hz), averaging approximately 10 db. For frequencies between 250 Hz and 4,000 Hz, patients displayed significant asymmetry, averaging 2 dB poorer hearing in the left ear ($p < .001$). No asymmetry was observed in controls. Forty-three patients were retested following completion of an ECT course and 33 controls were tested at a comparable interval. At this time point, regardless of clinical state, patients maintained the high-frequency hearing loss. However, their baseline hearing asymmetry resolved, and following treatment, patients were comparable to controls in asymmetry scores.

Conclusion: The findings suggest that high frequency hearing loss may be a trait characteristic in major depression. In contrast, poorer left ear hearing may be present only at baseline assessment in the depressed state.

NR179 Monday, May 24, 3:00 p.m.-5:00 p.m.

Dissociation in Borderline Personality Disorder

Robert L. Wolski, M.D., Psychiatry, Payne Whitney Clinic, 525 East 68th Street, New York, NY 10021; Jody Shachnow, M.S.W.

Summary:

Many patients with borderline personality disorder are known to experience dissociative symptomatology. The prevalence, characterization, and etiology of such symptomatology in these patients is yet unknown; however, it is becoming more apparent that dissociative symptoms in general in psychiatric patients strongly correlate with histories of trauma, especially in childhood. As recent studies have demonstrated a high prevalence of childhood physical and sexual abuse in inpatients with borderline personality disorder, it is likely that those borderline patients who experience dissociative symptoms have such history of abuse. In addition, the characteristics and severity of the dissociative symptomatology may correspond to the type and severity of childhood trauma experienced. A total of 17 patients meeting *DSM-III-R* criteria for borderline personality disorder as per the SCID-II were assessed for a history of childhood abuse and dissociative phenomena using the Family Experiences Interview of Ogata and the SCID for dissociative disorders, respectively. A total of 77% of those patients who reported a history of physical and/or sexual abuse also reported dissociative symptomatology, whereas 0% of the non-abused group revealed they had experienced such phenomena. Data correlating variables of childhood abuse with dissociative symptomatology will be presented.

NR180 Monday, May 24, 3:00 p.m.-5:00 p.m.

Symptom Score Correlations in Mood Disorders

Reed D. Goldstein, Ph.D., D. Garroway Lab., Inst. Penna Hospital, 111 N. 49th Street, Philadelphia, PA 19139; Alan M. Gruenberg, M.D., Gary S. Bruss, Ph.D.

Summary:

Few studies have examined the correlations between self-report (SR) and clinician-rated (CR) symptom severity scales in acutely ill patients. We determined correlations for self-report and clinician-rated scales, and between scales specific to anxiety and depression. We evaluated SR and CR measures of symptom severity for anxiety and depression in a group of 68 psychiatric inpatients and outpatients. A sub-group of 46 individuals diagnosed with major depression, single episode or recurrent, were assessed as well. Each participant was administered a modified version of the SADS, the PDE, structured versions of the Hamilton Depression and Anxiety Rating Scales, the Beck Depression and Anxiety Inventories, and the Inventory of Depressive Symptomatology. Pearson correlations ($N = 65, p < .001$) were found between Hamilton measures of anxiety and depression, Beck measures of anxiety and depression, and between anxiety and depression measures regardless of the style of administration. For the sub-group of patients with major depression, single episode or recurrent, Pearson correlations ($N = 46, p < .001$) were found between self-report and clinician-rated

scales for depression and anxiety. These findings may argue against the development of hierarchical exclusion factors in diagnostic systems because of the co-occurrence of anxiety and depression.

NR181 Monday, May 24, 3:00 p.m.-5:00 p.m.

Use of Computer-Administered Cognitive-Behavior Therapy With Depressed Inpatients

Scott P. Stuart, M.D., Psychiatry, University of Iowa, 200 Hawkins Drive, Iowa City, IA 52242; Wayne A. Bowers, Ph.D.

Summary:

Objective: To assess the efficacy of computerized cognitive-behavior therapy with depressed inpatients. *Methods:* Fourteen depressed inpatients meeting *DSM-III-R* criteria for major depression were randomly assigned treatment with either therapist-delivered CBT, computer-assisted CBT, or "treatment as usual" on an acute care inpatient unit. Consecutive admissions meeting diagnostic criteria and having BDI scores of 15 or greater were enrolled in the study. All patients received eight sessions of CBT. *Results:* At discharge from the hospital, the patients receiving therapist-delivered CBT and patients in the control group were significantly less depressed using ratings from the Hamilton Rating Scale for Depression and the BDI. Patients receiving computer-assisted CBT did not improve significantly. Furthermore, patients receiving therapist-delivered CBT were significantly less depressed compared to those receiving computer-assisted CBT when depression was measured at discharge. Patients receiving computer-assisted CBT fared worse than those patients in the control group who received no CBT at all. Computer-assisted CBT appeared to provide no advantage in the treatment of depressed inpatients, and may have actually hindered the improvement of some patients. *Conclusions:* This study suggests that therapist-delivered CBT should remain the standard of care for inpatients receiving CBT.

NR182 Monday, May 24, 3:00 p.m.-5:00 p.m.

HIV Psychiatric Morbidity and Quality of Life

Mary B. Summerville, Ph.D., Psychiatry, Emory University, Grady Mem Hosp P.O. Box 26113, Atlanta, GA 30335; John S. McDaniel, M.D., Elisabeth Fowlie, B.S., Gene Farber, Ph.D., Steven a. Cohen-Cole, M.D., Sumner Thompson, M.D.

Summary:

Objective: With increased focus on outcome assessments of health care, the Medical Outcome Survey (MOS) Short Form Health Survey has been increasingly used as an indicator for quality of life in medically ill patients. This study examined the utility of the MOS in an HIV+ population. *Method:* Subjects were randomly selected, including 17 women and 20 men seen during their initial medical evaluation at a public HIV clinic. The following instruments were utilized: Structured Clinical Interview for DSM-III-R (SCID), MOS, Beck Depression Inventory (BDI), Speilberger Anxiety Scales (SAS), and Hamilton Rating Scale for Depression (HAM-D). *Results:* There subscales (physical, social, and role functioning) of the MOS, best known to predict quality of life, were selected to examine the relationship between subscale scores and psychiatric comorbidity. Physical functioning was correlated with SAS (r = .45, p = .003), HAM-D (r = .37, p = .013), SCID major depression (r = .38, p = .01), and adjustment disorders (r = .28, p = .05). Social functioning was correlated with SAS (r = .−27, p = .05). There were no significant findings with role functioning and measures of psychopathology. *Conclusions:* Results suggest the importance of assessing HIV+ patients' self-perceptions of physical functioning in evaluating psychiatric morbidity and general quality of life.

NR183 Monday, May 24, 3:00 p.m.-5:00 p.m.

Issues of AZT Noncompliance in HIV Positive Women

Karen Johnson, M.D., Psychiatry, Emory Clinic, 1365 Clifton Road Room 542, Atlanta, GA 30322; John S. McDaniel, M.D., Mary B. Summerville, Ph.D., Peggy Keen, Ph.D., Sumner Thompson, M.D.

Summary:

Objective: There is increasing controversy regarding noncompliance with zidovudine (AZT) medication in some minorities affected by HIV. This pilot study examined perceptions and beliefs in HIV+ women that prompt noncompliance. *Method:* A randomly selected sample of 37 women seen in a public outpatient HIV clinic completed a 21-item questionnaire developed for this study. One subject refused to participate. *Results:* The sample consisted of 27 African-Americans and nine Caucasians. Anti-retroviral medications were recommended for 81% of subjects, only 50% reported compliance. African-American women received treatment earlier than Caucasians (p = .05) and were just as likely to be compliant with treatment recommendations (p = .02). Of those who were noncompliant, reasons identified were previous experience with AZT side effects (22.7%) and personal beliefs that AZT may be more harmful than helpful (36.3%). *Conclusions:* Results suggest that future research needs to further assess the role of education, cultural diversity, and personal health beliefs in understanding issues of noncompliance in HIV+ women. These and other psychosocial variables (e.g., socioeconomic status) may be cofactors in treatment compliance and disease progression.

NR184 Monday, May 24, 3:00 p.m.-5:00 p.m.

Defense Style in Nonpsychiatric Panic Patients

Michael Zoglio, M.D., UC Davis, 4430 V. Street, Sacramento, CA 95817; Cameron S. Carter, M.D., Richard J. Maddock, M.D., Susan Jella, Ph.D., C. Lutrin, M.D., E. Amsterdam, M.D.

Summary:

In a study designed to evaluate the psychological characteristics of patients with panic disorder presenting nonpsychiatrically, we administered the Defense Mechanism Inventory (DMI) to patients being evaluated for chest pain with stress cardiac scintigraphy. Psychiatric diagnoses were made using the SCID, and patients also completed the Zung Anxiety Scale and the Anxiety Sensitivity Index (ASI). Preliminary results of evaluations of 34 patients (18 panic and 16 nonpanic) show panic patients scoring significantly higher on the Zung and ASI. Three factors—mature, neurotic, and primitive defenses—which have previously identified in studies of patients with anxiety disorders, were used for comparisons of the DMI. Patients with panic disorder tended to use fewer mature defenses than nonpanickers, while the two groups did not differ on their use of neurotic or immature defenses. Findings will be presented from a larger sample of subjects evaluated in this nonpsychiatric setting. Additional data will be presented comparing the nonpsychiatric panic patients with a group of patients with panic disorder presenting to a psychiatric setting.

NR185 Monday, May 24, 3:00 p.m.-5:00 p.m.

CSF Monoamines and Core Symptoms in Panic Disorder

Mark D. Walsh, M.D., Psychiatry, Medical Univ of SC, 171 Ashley Avenue, Charleston, SC 29425; Michael R. Johnson, M.D., R. Bruce Lydiard, M.D., James C. Ballenger, M.D., Mark D. Fossey, M.D., Joseph Z. Zealberg, M.D.

Summary:

Studies have failed to demonstrate increased activity in panic disorder. However, there is evidence that monoamine activity may differ between subgroups of individuals with panic disorder. We hypothesized that different levels of monoamine activity might be identified among subgroups of panic disorder patients based on their reported severity of specific core panic symptoms. To test this hypothesis we examined self-report questionnaire responses about core panic symptoms (ie; dyspnea, dizziness/faintness, palpitations/tachycardia, trembling, nausea, paresthesias, hot flashes/chills, and chest pain) from 25 patients with panic disorder with agoraphobia. Patients were divided into groups based on their report of suffering from high or low amounts of each core symptom. These groups were then compared on their level of cerebral spinal fluid monoamine metabolites (ie; 5HIAA, HVA and MHPG). We found elevated MHPG levels among patients who reported suffering from high amounts of trembling when compared to those who reported low amounts (59.2 ± 9.033 v. 48.021 ± 8.046, two-tailed, $t = -3.268$, $p = .0034$). None of the other core symptoms was associated with abnormal metabolite levels. This result suggests there may be altered noradrenergic activity identifiable by the presence of trembling. Implications of this finding will be discussed.

NR186 Monday, May 24, 3:00 p.m.-5:00 p.m.

The Screener

Mark Zimmerman, M.D., Psychiatry, Medical College of PA, 3200 Henry Avenue, Philadelphia, PA 19129; Neal Farber, M.D., Jon Hartung, M.A.

Summary:

The SCREENER is a 43-item, yes-no questionnaire designed to screen for 13 psychiatric disorders—anorexia, bulimia, major depression, dysthymia, generalized anxiety disorder, panic disorder, obsessive compulsive disorder, phobias, post-traumatic stress disorder, drug and alcohol abuse/dependence, hypochondriasis, and somatization disorder. In a phase I feasibility and patient-acceptance study of the SCREENER in a primary care setting, consecutive series of 1,000 patients attending an outpatient medical clinic were asked to complete the scale and a second questionnaire evaluating their attitudes towards being asked about their emotional health in a medical setting. Ninety percent of the patients completed the scales. The most common reasons for noncompletion were patient refusal, forgotten reading glasses, and physical limitations secondary to a stroke. Patients' attitudes toward scale completion were overwhelmingly positive. Only 1% thought it was difficult to answer the questions, and 8%, 7% and 6%, respectively, were somewhat or very much embarrassed, uncomfortable, or upset by the questions. Eighty percent of the patients thought it would be easy to talk to their medical doctor about these problems, and nearly two-thirds indicated that their medical doctors should routinely inquire about emotional or nerve problems.

NR187 Monday, May 24, 3:00 p.m.-5:00 p.m.

Reduction of Cerebellar Volume in Depression

Patricio R. Escalona, M.D., Psychiatry, Duke Univ Medical Center, Box 3215 Duke Univ Med Center, Durham, NC 27710; Bridgett Early, M.D., William M. McDonald, M.D., Charles B. Nemeroff, M.D., K. Ranga Rama Krishnan, M.D.

Summary:

A systematic sampling stereological method of serially acquired axial intermediate T2-weighted Spin echo magnetic resonance imaging (MRI) of the brain was used to measure cerebellar volume in 30 patients who fulfilled *DSM-III* criteria for major depression in comparison with 35 normal controls. The mean cerebellar volume of depressed patients was significantly smaller than the controls. This preliminary study adds new evidence for the possible participation of the cerebellum in the pathophysiology of major depression and warrants further investigation in this area.

NR188 Monday, May 24, 3:00 p.m.-5:00 p.m.

Crisis Intervention and Mortality: A Five-Year Follow-Up

Charles Rebetez, M.D., Psychiatry, University of Geneva, 6-8 rue du 31 Decembre, Geneva CH 1207, Switzerland; Anelise Muhlebach, M.Sc., Antonio Andreoli, M.D.

Summary:

Significance: Increased mortality and suicide have been reported in psychiatric patients referred for inpatient care. Treatment choice may be a factor associated with mortality risk in these patients. *Methods:* To determine whether mortality risk and cause of death are associated with treatment assignment and DSM-III-R diagnosis we investigated all patients referred for hospitalization in a catchment area during one year. At intake 204 patients were assigned to hospitalization (SH) and 123 to outpatient crisis intervention (CCI). Causes of death were investigated by the Swiss Register of Death. DSM-III-R diagnosis was reliably assessed ($p < 0.0001$) by two researchers. *Results:* At five-year follow-up, mortality risk was significantly associated with treatment assignment at intake. Both CCI and SH patients had higher than expected mortality and suicide. CCI patients had reduced mortality compared to SH patients (chi^2: 10.344, df 1, $p < 0.0001$). Furthermore, causes of death were different in treatment groups (Chi^2: 9.92, df 3, $p < 0.05$). CCI subjects had less risk by natural death and accident (SRM < 1 vs 5.7) and less increased suicide (SRM: 23.7 vs 42.9). *Discussion:* This study indicated that assignment to hospital treatment is not associated with reduced mortality suicide risk in psychiatric subjects calling for intensive care. The increased physical vulnerability and suicide risk of SH patients could be dependent on increased substance abuse/dependence in this subsample.

NR189 Monday, May 24, 3:00 p.m.-5:00 p.m.

Managed Care and Psychiatrists' Practice Patterns and Provision of Uncompensated Care

Karen Anderson Oliver, M.P.H., 6081 Majors Lane, Columbia, MD 21045

Summary:

The high costs of medical care have led to substantial growth in the use of managed care strategies to monitor medical decision-making. Thirty-five percent of respondents provide the greatest proportion of their inpatient hours at hospitals that discourage admission of patients without psychiatric insurance. Twenty and 19 percent reported policies discouraging admission of Medicaid patients and patients with severe disorders respectively. Sixty percent reported they were subject to "outside pressure from utilization reviewers to alter treatment" and nearly 50 percent faced "present limits on length-of-stay."

The purpose of this study in progress is to: (1) report the prevalence of administrative constraints imposed on psychiatrists in the United States; and (2) examine the relationship between these constraints and self-reported psychiatrists' practice patterns and capacity to provide uncompensated care. The administrative constraints, or independent variables, include (1) hospital policies that discourage admission of unprofitable patients; (2) concurrent utilization review techniques by insurers; and (3) Medicaid preadmission authorization programs. Practice patterns are described in terms of the setting and diagnostic mix of patients treated. The capacity of psychiatrists to provide uncompensated care will be measured by: (1) the percentage of patients who had billings re-

duced; (2) the percentage of patients who had billings that went uncollected; and (3) the percentage of total hours that are unpaid hours in each work setting.

The primary data source will be the 1988 survey of psychiatrists and professional activities conducted by the American Psychiatric Association. Approximately 3631 psychiatrists responded to the subset of questions on administrative rules. The Area Resource File will provide county-level data on: (1) the distribution of health manpower and facilities; (2) and the economic and sociodemographic characteristics of the population where these psychiatrists practice. Managed care interventions are likely to continue and perhaps intensify. It is important to understand how these strategies affect the utilization of services and the practice of psychiatry.

NR190 Monday, May 24, 3:00 p.m.-5:00 p.m.

Cognitive Function of Elderly Bipolars on Lithium

Steven C. Samuels, M.D., Psychiatry, St. Vincents Hospital, 144 West 12th Street, New York, NY 10011; Dana Luck, Ph.D., Julia Majo, Ph.D., Monica Creelman, M.A., Win Turner, M.A., Ralph A. O'Connell, M.D.

Summary:

With the population aging, and lithium treatment available for more than two decades, a cohort of elderly lithium-treated bipolar patients is emerging. Little is known about the effect of lithium on cognitive function in this population. As part of a larger study of outpatient bipolar patients, a subpopulation of 17 elderly, lithium-treated, bipolar patients (mean age 69.7 +/−6.4 years, mean years on lithium 8.3 +/−7.2) was evaluated using standard psychiatric rating scales and a battery of neuropsychological tests. The patients were not demented (Mattis Dementia Rating Scale 134.5 +/− 8.8), depressed (HAM-D 3.2 +/− 3.5), or manic (mania Rating Scale 1.3 +/− 1.9). There was no significant correlation between years of lithium treatment and scores on the psychiatric rating scales of neuropsychological tests. From observations of this patient population, long-term treatment with lithium is not associated with impaired cognitive functioning in elderly bipolar patients.

NR191 Monday, May 24, 3:00 p.m.-5:00 p.m.

Genetic, Epidemiological, and Comorbidity Factors in Panic Disorder

Carol Lane, B.Sc., Psychiatry, McGill Univ., 204-1645 de Maisonneuve West, Montreal QC H3H 2N3, Canada; Roberta M. Palmour, Ph.D., Jacques Bradewejn, M.D., Jean-Philippe Boulenger, M.D.

Summary:

To determine if genetic, epidemiological, and comorbidity factors are present in families with a history of panic disorder (PD) is the purpose of this study.

Patients diagnosed for PD initially by a psychiatrist, followed by a structured clinical interview, were randomly selected for a family history interview to be taken by a genetic counselor. A total of 72 psychiatric outpatients diagnosed with PD, from four different medical centers in the province of Quebec, completed the study. Patients were asked for consent before the interview and were free to leave at any time. Each family history pedigree was scored according to the following criteria: 1) history of psychiatric illness, 2) panic disorder, 3) possible precursors to panic disorder, 4) comorbidity of illness in family members, or 5) if an autosomal dominant trend (i.e. the presence of an illness in at least three generations) was present. A general medical history of the family was also taken.

Results of the study conclude that panic disorder runs in families. Furthermore, our probands were characterized by having extensive multigenerational patterns of illness other than PD. Comorbidity of depression and alcoholism was present in both probands and family members having PD.

This study further concludes that panic disorder runs in families in a multigenerational fashion and is frequently comorbid with other illnesses. A genetic workup would therefore be advisable for any patient with PD for aid in treatment.

NR192 Monday, May 24, 3:00 p.m.-5:00 p.m.

Major Depression, Support and Marital Therapy: A Pilot Study

Jacqueline Lalive-Aubert, M.D., Psychiatry, University of Geneva, 22 Rue de Lausanne, Geneva CH 1201, Switzerland; J. Guillemin, B. Weber, J. Laederach, E. Zbinden

Summary:

Significance: Supportive behaviors have been described between depressed patients and significant others, particularly in marriage, and may be associated with presence/absence of concurrent depression in the spouse (Coyne, 1976, Hinchliffe et al, 1984) *Method:* To identify supportive behaviors between DSM-III-R major depressed index subjects (IS) assigned to marital therapy and their spouses (with a possible DSM-III-R not otherwise specified mood disorder), we investigated 15 couples (eight female IS and seven male IS). We assessed both presence/severity of depression (MADRS scores) and nonverbal attention behaviors (AB), which have been considered as supportive behaviors (Frey et al., 1981, Fivaz et al, 1984). *Results:* At intake IS with lower MADRS scores had more ($R = 0.56$, $p < 0.05$) AB towards the spouse. We also observed a trend ($R = -0.38$) on increased AB scores towards the IS in the spouses with decreased MADRS scores and a trend (0.38) to increased association between MADRS scores and AB towards the therapist in female IS. Male IS did not exhibit association between their MADRS scores and AB scores. *Comment:* These preliminary results suggest an association between the severity of depression, AB scores and sex in martial therapy.

*This study is supported by the Swiss National Fund of Scientific Research (FNRS), grant n. 32-9521.88

NR193 Monday, May 24, 3:00 p.m.-5:00 p.m.

Depression of the Spouse, Marital Therapy and Major Depressive Episode Outcome: A Pilot Study

Jacqueline Lalive-Aubert, M.D., Psychiatry, University of Geneva, 22 Rue de Lausanne, Geneva CH 1201, Switzerland; Antonio Andreoli, M.D., Roland Eisele, M.D., Werner Fischer

Summary:

Significance: Interpersonal maladjustment has been reported in depressed patients, particularly in marriage (Weissman et al., 1974; Coyne, 1976), and may maintain depression, increase relapse or severe outcome. *Method:* We investigated 17 psychiatric patients with major depressive episode (MDE) (age range 20-65) assigned to monthly videotaped martial therapy (MT). Psychotic symptoms, substance dependence (in the index subject (IS)), and psychiatric treatment or psychiatric disorder diagnosed before entering the study (in the spouse) were exclusion criteria. Each IS and his/her spouse (S) were reliably assessed for depression severity, and DSM-III-R diagnosis at the first and the sixth month therapy sessions. *Results:* Mean MADRS scores were 31.7 +/− 10.3, median: 31 (SI) and 12.6 +/− 7.9, median: 11 (S) at the beginning of treatment and 14.23 +/− 10.3, median: 11.1 (IS) and 8.6 +/− 6.1, median: 9.0 (S) at six-months follow-up. Five spouses were diagnosed with DSM-III-R not otherwise specified mood disorder (NOS MD). We found better 6 months outcome in those MDE subjects with spouses who had not been diagnosed a NOS MD ($p < 0.05$) and had less severe scores ($p < 0.05$). In addition, these MDE

subjects had increased improvement within MT (p ranging between < 0.005 and < 0.001). *Comment:* The results suggest that the presence/severity of a mood disorder in the spouse may contribute to MT outcome in psychiatric patients with MDE.

*This study is supported by the Swiss National Found of Scientific Research (FNRS), grant n.32-9521.88

NR194 Monday, May 24, 3:00 p.m.-5:00 p.m.

Bupropion Revisited: How Much is Too Much?

Anand P. Popli, M.D., Psychiatry, SUNY Health Sci, Center, 750 East Adams Street, Syracuse, NY 13210; John F. Tanquary, M.D., Vincent Lamparella, M.D., Prakash Masand, M.D.

Summary:

Antidepressant use may involve seizure risk. Bupropion (BP), a "second generation" monocyclic antidepressant, may involve a seizure risk greater than other antidepressants. With doses greater than 450 mg/day, the risk of seizure with BP appears to increase dramatically. However, careful examination of existing data reveals that many seizures occurring in association with BP therapy involved other predisposing factors. We report three cases of patients with refractory mood disorders who were treated with up to 600 mg/day of BP. Two cases document anticonvulsant-BP pharmacokinetic interactions through plasma levels. Data presented suggest that BP may increase sodium valproate levels. Carbamazepine appeared to decrease the plasma BP to non-detectable levels and in one patient hydroxybupripion (HBP) was greater than 3000 ng/mL. BP's "therapeutic window" of 10-29 ng/mL and HBP's "ceiling" of 1250 ng/mL may prove more useful than absolute adherence to the dosage maximum of 450 mg/day recommended by the manufacturer. While highly speculative, elimination of other risk factors for seizure, slow increases in dosing, separation of doses by more than four hours, and careful monitoring of plasma BP and metabolite levels may eventually make "high dose" BP therapy an option in selected and refractory patient populations. Further study appears warranted.

NR195 Monday, May 24, 3:00 p.m.-5:00 p.m.

Knowledge About AIDS and Condom Use Among Psychiatric Patients

Srikumar Menon, M.D., Psychiatry, Albert Einstein Med Ctr, 5501 Old York Road, Philadelphia, PA 19141; Sherry Pomerantz, Ph.D., Ernie Peacock, M.A., David Appelbaum, M.a., Sarahlee Horowitz, Psy.D.

Summary:

Two hundred and thirty-nine patients admitted to three psychiatric inpatient units were interviewed to obtain a detailed sexual and substance abuse history. Also included were five items about AIDS transmission and prevention and five items to assess knowledge about condom use. The association between the level of knowledge about AIDS and condom use and sociodemographic factors, self-reported unsafe sexual behaviors, and whether AIDS education prior to current hospitalization was examined. Proportionately fewer male patients (37%) who had sex with a high-risk partner answered the AIDS transmissions items correctly compared with those who did not report this unsafe sexual behavior (63.0%, $p < 0.05$). Knowledge scores of patients who said they received AIDS education at their mental health center were statistically significantly higher than those who said they received no prior education. Among patients with prior admissions none reported having received any AIDS education at their previous inpatient hospitalization. Our study draws attention to the need to educate patients routinely about AIDS prevention and condom use when they are admitted for treatment.

NR196 Monday, May 24, 3:00 p.m.-5:00 p.m.

Psychoeducation With Bipolar Patients and Families

Margret Fitzgerald, M.D., Western Psych Inst & Clin, 3811 O'Hara Street, Pittsburgh, PA 15213; Ellen Frank, Ph.D., Alan G. Mallinger, M.D., David J. Kupfer, M.D.

Summary:

In Bipolar 1 patients on lithium prophylaxis about 75% of relapses are secondary to poor lithium compliance. Studies have shown health education can be beneficial in improving compliance. We report on a pilot study of 12 DSM-III-R SADS-diagnosed bipolar 1 patients on lithium maintenance and 16 relatives who attended a psychoeducational workshop at our clinic. Part of this workshop consisted of a lecture on lithium actions, side effects, and possible drug interactions. The lecture was not tailored specifically to the content of a Lithium Knowledge Test (LKT), which was given to participants pre- and post-workshop. Our results show that patients had significantly higher pre-workshop total LKT scores and lower hazard scores than family members. Items critical to the physical safety of the individual on lithium form a separate hazard score. While patients' overall lithium knowledge did not change, they had lower hazard scores post-workshop. In contrast, family members had significant increases in total LKT score and decreases in hazard scores post-workshop. We conclude that formal psychoeducation improves knowledge of lithium treatment and its risks in patients and their families, at least in the short term. Follow-up would determine whether these effects persist and whether they relate to objectively measured compliance.

NR197 Monday, May 24, 3:00 p.m.-5:00 p.m.

Southeast-Asian Refugees: Cultural Issues and a New Syndrome

Susan R. Downs, M.D., Psychiatry, Napa State Hospital, 1537 Bonita, Berkeley, CA 94709; Richard A. Blum, Ph.D.

Summary:

Objective: To examine symptoms of helplessness and cognitive dysfunction in Southeast Asian refugees. *Method:* Three hundred forty-four Southeast Asian refugees (66 Lao, 42 Mien, 45 Hmong, 61 Vietnamese, 128 Cambodians, and two Khmu) applying for Social Security Disability Insurance (SSDI) were interviewed according to SSDI psychiatric format. Additional questions concerning helplessness were added. They were queried for what we call "agnosia." Agnosia includes individuals who cannot name household members or who get "lost" in their own home. Specific examples of getting "lost" were elicited to minimize translation difficulties. *Results:* 75%-89% of the different refugee groups presented with agnosia. Almost half could not bathe and dress themselves. Also 41% stated that if there were a fire in their bedroom they would do nothing; 29% of a smaller sample claimed after looking out the window that they did not know if it was day or night. Black and Hispanic applicants did not have these complaints. *Conclusions:* The data suggest severe cognitive impairment incompatible with survival. Yet a more likely interpretation is that this is a culture-compatible expression of helplessness and frustration in a new country superimposed on psychological distress, psychiatric pathology, and an adaptive component motivated by secondary gain.

NR198 Monday, May 24, 3:00 p.m.-5:00 p.m.

Career Needs of Nurses Across the Life-Cycle

Judith A. Shindul-Rothschild, Ph.D., Nursing, Boston College, Chestnut Hill, MA 02167

Summary:

The purpose of this study was to determine which factors—economic and fringe benefits, professional rewards, or organizational characteristics—were most significantly associated with retaining staff nurses in the same hospital, an acute-care setting, and the nursing profession in one and five years. Multivariate table analysis was used to analyze the responses of 928 randomly selected registered nurses currently in active practice in Massachusetts hospitals to a ten-page, self-administered questionniare. The importance of organizational characteristics was found to vary according to the career or life-cycle stage of the nurse. Control over nursing practice is the preeminent factor associated with retaining nurses in mid-career. In contrast, for nurses just beginning their career, the degree to which young nurses can uphold high standards of nursing care was the factor most associated with retention. For the nurse in the later stage of her career or life-cycle, control over nursing practice and career ladders were equally associated with retention. Policy implications of the research findings focus on how hospitals and organized nursing can enhance the retention of registered nurses at the early, middle and later stages of the nurse's career or life-cycle.

NR199 Monday, May 24, 3:00 p.m.-5:00 p.m.

Childhood Trauma and PTSD in Substance Abuse Inpatients

Elisa G. Triffleman, M.D., Psychiatry, VAMC, MS 116N 4150 Clement Street, San Francisco, CA 94121; Charles R. Marmar, M.D., Kevin Delucchi, Ph.D.

Summary:

This study examined three issues: (1) the prevalence of childhood trauma (ChTr) in adult substance abuse inpatients; (2) the association of ChTr and adult substance use disorders (PSUDs); (3) the association of ChTr and posttraumatic stress disorder (PTSD). *Methods:* Cross-sec. interview of patients on the SF VAMC Substance Abuse Inpatient Unit. Measures included the Traumatic Antecedents Interview, SCID-P, SCID-II, SCID-NP PTSD module (PTSD-L), and AIDS Risk Behaviors. *Results:* 30 male Ss, 37% black, 37% white, 26% Hispanic or other. Mean age 46 ± 8 yrs; 23% homeless. 100% had lifetime alcohol use disorders; 61% cocaine use disorders; 35% opiod use disorders. Mean yrs of drug use 15 ± 6 yrs. We found high levels of ChTr in this sample of adult substance users. A total of 92% had mod.-severe levels of physical abuse before 16 yo; 79% mod.-severe loss/separation from immed. family; 72% witnessed mod.-severe levels of physical violence; 58% had mod. to severe levels of sexual abuse. 50% (13/26) had lifetime PTSD. Greater ChTr was associated with greater numbers of PSUDs (r = 0.60, p .0005). A positive association was also found between PSUDs and PTSD-L (r = 0.45, p .05). The relationship between ChTr and PSUDs remained after PTSD-L was controlled for (first-order partial r = 0.54, p. 01). Greater ChTr was also associated with greater mean years of substance use (Kendall's Tau b = 0.30, p. 05). There was a weak trend for PTSD-L and ChTr association. *Conclusion:* Results based on the final sample will be presented. The high prevalence of ChTr and its treatment implications will be discussed.

NR200 Monday, May 24, 3:00 p.m.-5:00 p.m.

Interpersonal Difficulties and Retrospective Views of Parenting in Patients With Panic Disorder

Leora R. Heckelman, Ph.D., Psychiatry, Cornell Medical Center, 525 East 68th Street, New York, NY 10021; Lisa A. Spielman, Ph.D., M. Katherine Shear, M.D.

Summary:

Introduction: Much of psychodynamic therapy is informed by the concept that childhood experiences influence adult interpersonal functioning. Despite the widespread acceptance of this idea, there is little experimental data to support it. We have observed that patients with panic disorder frequently report overprotective, controlling and/or critical parents and also report significant interpersonal problems. *Objective:* To examine the relationship between patients' retrospective reports of their parents' attitudes and patients' current interpersonal problems measured using the Inventory of Interpersonal Problems (HP, Horowitz et al., 1988). *Subjects:* 24 patients who met DSM-III-R criteria for panic disorder on structured diagnostic interviews (ADIS-R) and completed the IIP and the PBI pre-treatment. *Results and Discussion:* Baseline scores on the IIP correlated significantly with reported parental overprotectiveness (r = .55; $p < .01$ for fathers and r = .50; $p < .02$ for mothers). Reported parental caring and IIP scores were inversely correlated (r = -.53; $p < .01$ for fathers and r = -.48 for mothers). More specifically, report of parental overprotection correlated with patients' reports of being overly controlling and taking too much responsibility, while reports of poor parental care correlated with patients' lack of assertiveness, difficulties with sociability, and problems with intimacy. These findings support principles of attachment theory and suggest that interpersonal problems and their relationship to retrospective views of parenting may be a productive arena through which to explore the psychodynamic treatment of panic disorder.

NR201 Monday, May 24, 3:00 p.m.-5:00 p.m.

Community Mental Health Needs of HIV Patients

David W. Purcell, J.D., Psychology Dept. Emory Univ, Atlanta, GA 30306; Cindy L. Zenker, M.A., John H. Templeton, M.S.W., John S. McDaniel, M.D.

Summary:

Objective. The task of providing community mental health services to HIV-positive individuals is daunting. We examined the self-perceived mental health needs of the rapidly growing HIV-infected population. We wanted specifically to address mental health needs based on differences in demographic variables and stage of illness. *Method.* We administered a semistructured interview to 30 randomly selected HIV-positive patients recruited from the waiting room of a large, public, outpatient HIV medical clinic. We listed 11 types of mental health services, and patients indicated their past and present use of these services (yes-no responses), as well as the types of services they would use if available (four-point response format). *Results.* African-Americans were more likely to indicate they would use nonprofessional (peer-led) services than Caucasians. Patients with more education were more likely to be using services currently. Patients with more advanced disease indicated less interest in using future services. The clinic adopted our interview in January, 1993 as part of their standard intake procedure (over 100 new patients a month). *Conclusions.* Pilot data indicate that self-perceived mental health needs among HIV-positive patients differ along demographic and health-status dimensions. We will be able to examine interactions more clearly between gender, stage of illness, race, and education as our sample size increases. We will present up-to-date data at the conference.

NR202 Monday, May 24, 3:00 p.m.-5:00 p.m.

Axis I Disorders of American and Japanese BPD Patients

Norimasa Ikuta, M.D., Psychiatry, McLean Hospital, 115 Mill Street, Belmont, MA 02178; Mary C. Zanarini, Ed.D., Kuninao

Minakawa, M.D., Yuko Miyake, Ph.D., Naoki Moriya, M.D., Aya Nishizono-Maher, M.D.

Summary:

Objective: The purpose of this study was to investigate sociocultural influences on the axis I comorbidity of borderline personality disorder. *Method:* The Structured Clinical Interview for *DSM-III* Axis I Disorders was administered to 33 American outpatients who met DIB-R criteria for BPD, while the axis I phenomenology of 19 Japanese outpatients who met DIB-R criteria for BPD was assessed using a consensus diagnostic process. *Results:* A significantly higher percentage of American (100.0%) than Japanese borderlines (68.4%) met criteria for a unipolar affective disorder ($X^2 = 8.89$, $p < .003$) and more specifically, for dysthymic disorder (100.0% vs 5.3%, $X^2 = 43.72$, $p < .000001$) but not for major depression (78.8% vs 63.2%). A significantly higher percentage of American than Japanese patients also met *DSM-III* criteria for a substance use disorder (78.8% vs 26.3%, $X^2 = 11.70$, $p < .0006$), alcohol abuse/dependence (63.6% vs 26.3%, $X^2 = 5.31$, $p < .02$), and drug abuse/dependence (57.6% vs 5.3%, $X^2 = 11.82$, $p < .0006$). While eating disorders were more common among the Japanese sample than the American sample, no significant differences emerged (36.8% vs 18.2%). However, anxiety disorders were significantly more common among the American sample than the Japanese sample (30.3% vs 0.0%, $X^2 = 5.31$, $p < .02$). *Conclusion:* While major depression is commonly liked to BPD in both cultures, the axis I phenomenology of borderline patients reveals sociocultural differences.

NR203 Monday, May 24, 3:00 p.m.-5:00 p.m.

Homicide Followed by Suicide: A Quebec Case Series 1988-90

Jacques Buteau, 1150 Fisher #1203, Ottawa ON K1Z 8M6, Canada; Alain D. Lesage, M.D., Margaret C. Kiely, Ph.D.

Summary:

Homicide followed by suicide is a rare but tragic event. Psychiatrists and mental health professionals are often called upon to comment publicly on the event, or to help the "hidden victims," that is, the survivors of the tragedy. There were 39 such cases in Quebec between 1988 and 1990. They have been reviewed through the examination of the sociodemographic and clinical characteristics of the perpetrators and victims and are presented and compared with the international literature. Sociological and psychopathological hypotheses are presented, with a special reference to the possibility of various subgroups of perpetrators. We will argue that research needs to be pursued along the lines of more detailed case studies of psychopathological characteristics using the psychological autopsy approach. The reconstruction of the couple relationship and of the final circumstances leading up to the tragedy may provide warning indices that could be helpful in preventing such tragedies.

NR204 Monday, May 24, 3:00 p.m.-5:00 p.m.

Abusive Behavior: Physician Versus Student Perspective

James A. Bourgeois, M.D., Psychiatry, Wright State University, School of Medicine Rosary Hall, Dayton, OH 45401-0927; Jerald Kay, M.D., John R. Rudisill, Ph.D.

Summary:

A questionnaire containing vignettes of educational situations with potentially abusive treatment of medical students and a ten-item attitude assessment about the possible motivations for and effects of abusive behavior were administered to fourth-year medical students and physician faculty at a university medical school. There were no statistically different results in how fourth-year medical students and resident physicians rated the educational situations. There were no significant differences in perception of abusiveness between fourth-year medical students and resident physicians (taken as a group) and staff physicians for the majority of the vignettes. The medical student and resident group generally saw the remaining situations as *slightly* more abusive than did the staff physicians, although the differences were relatively small. There was general agreement between the two groups on the motivations for and effects of abusive behavior. The differences seen may reflect the students' and residents' closer proximity to such situations in their training experience.

NR205 Monday, May 24, 3:00 p.m.-5:00 p.m.

Therapeutic Alliance and Dual Diagnosis Patients

Laurence M. Westreich, M.D., 132 Berkeley Place #3, Brooklyn, NY 11217; Richard N. Rosenthal, M.D., Christopher Muran, Ph.D.

Summary:

The therapeutic alliance between inpatient therapist and the patient dually diagnosed with major mental illness and substance abuse has never been studied. This population constitutes a "non-traditional" population for psychotherapy research. This study uses the California Psychotherapy Alliance Scale (CALPAS) to measure the therapeutic alliance between a cohort of ten hospitalized schizophrenic substance abusers and their inpatient therapists and correlates this alliance scale with outpatient follow-up. Paradoxically, the patients who did not follow up professed a stronger alliance with their inpatient therapists than the group who did followup. Conclusions and possible explanations for this conundrum are discussed.

NR206 Monday, May 24, 3:00 p.m.-5:00 p.m.

Effect of an Informational Video About ECT

Laurence M. Westreich, M.D., 132 Berkeley Place #3, Brooklyn, NY 11217; Stewart Levine, M.D., Paulette Ginsburg, M.D., Ilene Wilets, Ph.D.

Summary:

Objective: To ascertain whether the addition of an informational videotape to the informed consent procedure for electroconvulsive therapy (ECT) results in improved patient knowledge about ECT. *Method:* Eighteen ECT patients were randomized to consent using the usual written document, or using the written document *and* an informational video. The two groups were similar when compared on demographic variables and scores on the Brief Psychiatric Rating Scale (BPRS) and Mini-Mental State Evaluation (MMSE). Each subject, just after signing the informed consent document, was administered an 11-question ECT knowledge questionnaire. *Results:* The addition of an informational video to the consent process for ECT did not result in improved knowledge about ECT. *Conclusions:* Poor knowledge about ECT might be accounted for by unsuccessful communication from the doctors, or cognitive impairment and apathy on the part of the patients. One benefit of the video was increased interest from family members in ECT and the consent process.

NR207 Monday, May 24, 3:00 p.m.-5:00 p.m.

Lithium Antidepressant in Non-Resistant Depression

Dominique Januel, M.D., Hopital Saint Anne, 1 rue Cabanis, Paris Cedex 14 75675, France; Andre Galinowski, M.D., Marie-Fran Poirier, M.D., J. Pierre Olie, M.D., Henri Loo, M.D.

Summary:

The aim of the study was the clinical evaluation of the shortening of the action onset of antidepressants in association with lithium in 10 unipolar depressed nonresistant patients during three weeks. The patients were divided into two groups: Lithium–antidepressant vs. placebo lithium–antidepressant. A clinical and biological assessment of patients four times (at D-1, D4, D10, D21) was done. The serotonergic system is a mechanism that is supposedly involved in this drug association. The variation of platelet serotonin was tested to verify this hypothesis: the existence of a link between platelet serotonin and clinical improvement was also examined.

The preliminary results show only a greater clinical improvement in the lithium–antidepressant group on the MADRS on day 10, and on day 14 on the Hamilton rating scale as compared to the placebo lithium–antidepressant group. We did not find any link between clinical improvement and platelet serotonin. Serotonin system in this association may play a major role in treatment efficacy.

NR208 Monday, May 24, 3:00 p.m.-5:00 p.m.

Affective Disorders After Prenatal Famine Exposure

Alan S. Brown, M.D., Psychiatry, Columbia University, 722 West 168th Street Unit 2, New York, NY 10032; Ezra S. Susser, M.D., Shang Lin, Ph.D., Jack M. Gorman, M.D.

Summary:

Prenatal nutritional deficiency has often been listed as a potential etiologic factor in schizophrenia. Susser and Lin recently reported an increased incidence of schizophrenia in cohorts exposed prenatally to the Dutch Hunger Winter of 1944-45. Since the finding was observed predominantly in women who were exposed to famine during the fetal period, and women have a higher incidence of affective disorders than men, it is plausible that the results may be explained in part by misdiagnosis of schizophrenia as affective disorder. We have thus undertaken an investigation of prenatal nutritional deprivation and affective disorders in the same Dutch famine cohort, and have obtained the appropriate data from the Dutch psychiatric registry. We will present the findings on the incidence of hospitalized affective disorders in these cohorts exposed and unexposed to the Dutch Hunger Winter.

NR209 Monday, May 24, 3:00 p.m.-5:00 p.m.

A New Look at Psychiatric Triage in the Community

Elizabeth A. Baerg, M.D., Psychiatry, University of BC, 2211 Wesbrook Mall, Vancouver BC V6T 2B5, Canada; Nicholas Slade-Dew, M.B.

Summary:

Community mental health centres are faced with the challenge of providing comprehensive and immediate psychiatric services to the seriously mentally ill while responding to increased community demands. The Community Response Unit (CRU) was created to assess and triage referrals, provide short-term crisis intervention, and respond to community emergencies. It consists of two mental health professionals and a consultant psychiatrist as back-up.

This descriptive study examines the first year of CRU's operation. From July 1989 to June 1990, 1027 referrals were made to a busy, inner-city community mental health centre. Of these, 52.5% were appropriate for the team; 47.5% required emergency short-term follow-up or information gathering. Of these, 88% were closed after telephone triage and referred to other services; 19% required a psychiatric consultation; 4% were immediately hospitalized; and 16% were opened for short-term intervention.

Our experience has demonstrated that the CRU is effective in streamlining referrals, increasing community profile, and protecting the mandate of the team to treat the seriously mentally ill as a priority.

NR210 Monday, May 24, 3:00 p.m.-5:00 p.m.

The Family Caregiver's Quality of Life Outcome

Jill S. Meyer, M.D., Psychiatry, Univ of Minnesota, GRECC 11G 1 Veterans Drive, Minneapolis, NM 55417; Gabe J. Maletta, M.D., Susan J. Rottunda, B.S., John Mach, Jr., M.D.

Summary:

Family caregivers provide the bulk of care to chronically impaired patients, such as those with dementia. Providing care for an elderly family member takes a toll; caregivers are at risk for both physical and emotional problems themselves, particularly depression. It is of utmost importance to identify interventions that aid the caregivers in maintaining their own physical and emotional health and enhance quality of life.

A broad question is whether a caregiver educational series will help improve the overall life satisfaction experience by caregivers of patients with dementing illnesses, including Alzheimer's disease.

A more specific question is whether caregivers enrolled in the Minneapolis GRECC Caregiver Educational Series, which involves six two-hour sessions over three months, demonstrate an improved quality of life. This is measured by the completion of a series of pre and post evaluation instruments. The instruments are (1) Caregiver Quality of Life Questionnaire, (2) Screen for Caregiver Burden, and (3) The Geriatric Depression Scale.

The findings reported on the 71 participants will be used to develop further interventions that conserve the emotional and physical health of caregivers and to help develop improved educational strategies that will benefit the caregiver quality of life.

NR211 Monday, May 24, 3:00 p.m.-5:00 p.m.

Characterizing God-Self Relationships

Carolyn V. Tingle, M.D., Psychiatry, University of MS Med Ctr, 2500 N. State Street, Jackson, MS 39216; Nancy L. Krejmas, M.D., James L. Griffith, M.D., Melissa Elliott Griffith, M.S.N., Dinesh Mittal, M.D., Alexis Polles, M.D.

Summary:

Since God-self relationships have received little attention in psychotherapy research and practice, we sought better to characterize their personality, family, and psychological dimensions. Volunteers ($N = 26$) were first screened with the symptom checklist (SCL-90), with one individual eliminated from the database. Subjects also completed a Body Symptom Inventory (BSI), Religious Fundamentalism Scale, Authoritarian Scale, Index of Self-Esteem, Rotter's Locus of Control Scale, and Family Environment Scale (FES).

Measures of fundamentalism did not correlate with any family, personality, or psychological measure, except that more fundamentalist subjects were reared in families with stronger emphasis on individualism, less emphasis on recreation, and stronger internal locus of control ($p < .05$).

A standardized psychodramatic enactment of an intense personal encounter with God was videotaped. Each communication between subject and God was then coded using Structural Analysis of Social Behavior (SASB), with $Kw = 0.65$. Coding showed all subjects to experience God as strongly affiliative. There were complementary God-to-Self/Self-to-God communications for 23 of 25 participants, either 1-3/2-3 cluster codes (God "Loving and approaching"/Self "Joyfully Connecting"), or 1-4/2-4 codes (God "Nurturing and Protecting"/Self "Trusting and Relying").

Each subject presented a unique core metaphor for God showing both maternal and paternal qualities, with maternal ones slightly more prominent (52%). While paternal characteristics attributed to

an idealized father correlated with paternal attributes of God ($p < .05$), maternal characteristics of an idealized mother did not correlate with maternal attributes of God.

These data show that the God-self relationship can be characterized similarly to human ones for clinical purposes. God-self relationships, such as those studied here, may be underutilized resources for psychotherapists.

NR212 Monday, May 24, 3:00 p.m.-5:00 p.m.

Exploring Group Process With Medical Students

John I. Dintenfass, M.D., Psychiatry, Mount Sinai Med Center, One Gustave Levy Place, New York, NY 10029; Nanci Lebowitz-Naegeli, M.D., Corey Greenwald, M.D.

Summary:

We have designed an elective to explore the transition from the academic medical-educational process of the first two years of medical school, to the clinical medical experience of the final two years. Issues related to the aforementioned transition will be explored through the group-peer interaction, and are expected to include:

1) the development of the patient-physician relationship
2) methods of interpersonal communication among peers
3) illness, and the nature of one's emotional responses thereto
4) clinical management and conflict
5) the care and treatment of the terminally ill
6) the impact and nature of professional and personal stress

It is the goal of this elective that, by an exploration of these issues as well as others likely to arise via the group process, the student will be assisted in the furtherance of his/her professional career and personal development. Peer support, as would be expected, will be stressed; this will be a group educational experience, and not a didactic course.

NR213 Monday, May 24, 3:00 p.m.-5:00 p.m.

Carbamazepine-Induced White Blood Count Changes in an AIDS Patient With Bipolar Disorder

Cheng-Jen Chen, M.D., Psychiatry, E. Orange VAMC, 385 Tremont Avenue, East Orange, NJ 07019; Anwar Ghali, M.D.

Summary:

Carbamazepine has been successfully used in treating bipolar disorder. Hematological effects of carbamazepine, such as leukopenia, in affective illness have been systemically studied. Successful treatment course with carbamazepine in a non-AIDS patient despite initial significant leukopenia has been reported. However, the role of carbamazepine with AIDS patients is less clear. Here we demonstrate the blood picture changes in an AIDS patient with bipolar disorder who was successfully treated with carbamazepine 400 mg/day.

The baseline total WBC count in this patient was 5.5 (x1000/cc). One week after taking carbamazepine the WBC count dropped to 5.3; one week later it further dropped to 3.4; after another one week it increased to 5.0; six weeks after the initiation of treatment it dropped back to 4.2. The pattern of WBC changes in this AIDS patient was similar to that reported by Joffe et al. WBCs decreased to the lowest level after two weeks of treatment. Then it came back close to the baseline. The patterns of changes of neutrophils (2.4, 2.4, 1.2, 1.8, 1.5), lymphocytes (2.1, 2.1, 1.6, 2.3, 1.9), and monocytes (0.7, 0.6, 0.5, 0.8, 0.7) in the AIDS patient were also similar to that reported by Joffe et al.

We conclude that carbamazepine may be safely used in AIDS patients with bipolar disorder, provided that WBCs are monitored closely.

NR214 Monday, May 24, 3:00 p.m.-5:00 p.m.

ECT in Cognitively Impaired Depressed Patients

Kathryn D. Lombardo, M.D., Psychiatry, Mayo Clinic, 200 First Street Southwest, Rochester, MN 55905; Teresa A. Rummans, M.D., Sheila G. Jowsey, M.D., Siong-Chi Lin, M.D., M. Kevin O'Connor, M.D., Thomas S. Pileggi, R.N.

Summary:

Electroconvulsive therapy (ECT) has been used safely and effectively to treat patients with depression and psychosis with concurrent diagnoses of dementia. While the beneficial effects of ECT on these psychiatric problems have been documented, the indications for using ECT and the potential adverse effects in patients with dementia are not clear. Over a 12-month period (April 1991 through March 1992), we retrospectively studied all patients who received ECT for psychiatric disorders and had a concurrent Folstein Mini-Mental State Examination score of 23 or less and met the *DSM-III-R* criteria for dementia. Each patient was assessed both pre-ECT and post-ECT using the Folstein Mini-Mental State Examination, Hamilton Depression Scale, Hamilton Anxiety Scale, Brief Psychiatric Rating Scale, and Global Assessment Scale. The results of this study will be presented.

NR215 Monday, May 24, 3:00 p.m.-5:00 p.m.

Emotional Stroops in PTSD, OCD and Depression

Phebe M. Tucker, M.D., Psychiatry, OU Health Sciences, P.O. Box 26901 5SP520, Oklahoma City, OK 73190; Michael Lewin, Ph.D., Dan McNeil, Ph.D., Alfretia Scarborough, M.P.H.

Summary:

Various Stroop Color-named Tests have been shown to be useful measures of cognitive processing in diagnostic and treatment outcome assessments. *Objective:* This study utilized Depression and Anxiety Stroop Tests to assess cognitive slowing in patients with PTSD, OCD and Major Depression. *Methods:* Fourteen patients with PTSD, thirty-one patients with OCD, and twenty patients with MDD were recruited by newspaper ads and fliers. Axis I diagnoses were confirmed by SCID-I interview (PTSD and MDD). Severely depressed OCD and PTSD patients were excluded. *Results:* Data were analyzed with univariate analyses of variance and post-hoc pairwise comparisons using Least Square Means to correct for unbalanced cell sizes. PTSD patients and not OCD patients responded to Depression Stroops like Depressed patients, with both cognitive slowing and interference. Additionally, PTSD patients responded to Anxiety Stroops with greater cognitive interference than MDD and OCD and greater slowing than OCD. *Conclusion:* Prior studies have shown patterns of cognitive slowing specific to psychiatric disorders, with depressed patients selectively slowing on Depression Stroops, and PTSD and OCD patients slowing selectively on Anxiety Stroops, when compared to normal controls. The current study modifies this concept of selectivity to one of dual sensitivity to depression and anxiety words for PTSD when compared to other psychiatric disorders. The Modified Stroop, an objective measure of automatic processing which in this study differentiates PTSD from OCD and Depression, may augment more subjective measures used in psychiatric assessment and treatment.

NR216 Monday, May 24, 3:00 p.m.-5:00 p.m.

Lithium Ratio Monitoring in 77 Bipolar Disordered Patients

Mohamed Toutoungi, M.D., Psychiatry IUPG, IUPG Geneva/USN Lille, 5 Rte Des Acacias Div Alcool., Geneva CH 1227, Switzerland; Elizabeth Pellerey, M.D., Marie E. Silvestre, M.D., Antonio Andreoli, M.D., Jacques Richard, M.D.

Summary:

Introduction: Considerable research effort has been directed to determine whether relation between red blood cell/plasma concentrations of lithium (Li) or Li ratio (Li-ra) predicts therapeutic response and neurotoxic side effects while under Li treatment, differentiates diagnostic subtypes and monitors compliance in DSM-III-R Bipolar Disorders (BD) patients; these studies indicated contradictory results (Rybakowski, 1990). *Methods:* To further investigate Li-ra characteristics in DSM-III-R BD subtypes we reviewed all BD patients assigned to Li therapy and Li-ra measurement during a 4 year period and referred to Lille (France) psychiatric hospital. Li in plasma and red cells was assessed by spectrophotometry. Each subject has DSM-III-R diagnosis and standardized clinical evaluation. *Results:* 77 subjects, 36 males and 41 females, age-range 19-74, median 44 were studied. Thirty of them had received a diagnosis of BD-manic, 35 BD-depressed and 12 BD-mixed. Mean Li-ra of females was 0,487 ± 0,159 SD and of men 0,404 ± 0.116 SD ($p < 0,05$). No correlation has been found between P-Li and Li-ra or Li-ra and age. No difference was found among diagnostic subgroups; nor does Li-ra appear to be a sensitive indicator of compliance. Plasma Lithium (P-Li) was a better predictor of relapse; (P-Li < 0,50 mEq/1 in 15/27 subjects at relapse); than Li-ra, (inferior to [eu-5][su1]x[xu1SD in 5/26 subjects at relapse). *Conclusions:* Li-ra values amongst women were increased. It shows no specific diagnostic utility in BD. Li-ra could be used in those cases with normal P-Li and neurological manifestations amongst whom an elevated Li-ra would be an indication to lower P-Li.

NR217 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Risperidone Dose, Plasma Levels and Response

Cheryl B. Anderson, Pharm.D., Pharmacology, UTHSC San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284; Janet E. True, M.D., Larry Ereshefsky, Pharm.D., Alexander L. Miller, M.D., Barbara L. Peters, M.A., Down I. Velligan, Ph.D.

Educational Objectives:

To examine the dose and plasma concentration relationship of risperidone.

Summary:

Objective: This study examines the dose and plasma concentration (Cp) relationships of risperidone, a novel antipsychotic, with clinical response.

Method: In a multicenter, double-blind, placebo-controlled, fixed-dose trial, 523 acutely exacerbated DSM-III-R schizophrenics were randomized to eight weeks of risperidone 2, 6, 10, or 16 mg, haloperidol 20 mg, or placebo. Response was assessed using the Positive and Negative Symptom Scale and Extrapyramidal Symptoms (EPS) Rating Scale. Risperidone and 9-hydroxy-risperidone (metabolite) Cps were measured by RIA at study endpoint in 223 subjects.

Results: In the risperidone 2, 6, 10, 16, and haloperidol groups, significant clinical improvement over placebo was observed in 39.1, 61.2, 38.8, 50.6, and 34.1 percent of patients ($p \leq .05$), respectively. EPS was significantly higher in the risperidone 10, 16, and haloperidol groups. In the 2, 6, 10, 16 mg/day groups, the mean risperidone and 9-hydroxy-risperidone Cps (ng/ml) were 3.21 and 10.92; 9.24 and 33.74; 12.57 and 60.25; and 12.56 and 98.63, respectively. Correlations of risperidone and 9-hydroxy-risperidone Cp with dose were 0.59 and 0.88, respectively.

Conclusions: All risperidone doses demonstrated clinical efficacy compared with placebo, with minimal EPS in lower doses. A linear relationship was not apparent between dose and response or between dose and risperidone Cp. However, dose and 9-hydroxy-risperidone Cp were linearly correlated. Further analyses of the risperidone and 9-hydroxy-risperidone Cp and clinical response relationships are planned.

References:

1. Svestka J, Ceskova E, Rysanek R, Obrovska V: Double blind clinical comparison of risperidone and haloperidol in acute schizophrenic and schizoaffective psychoses. *ActivNerv Supers* 32:237-38, 1990.

2. Ereshefsky L, Tran-Johnson TK, Watanabe MD: Pathophysiologic basis for schizophrenia and the efficacy of antipsychotics. *Clin Pharmacy* 9:682-707, 1990.

NR218 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Dose Reduction in Schizophrenia (DORIS) Study: Preliminary Report

Robert J. Hitzemann, Ph.D., Psychiatry, SUNY Stony Brook, HSC-T10 SUNY, Stony Brook, NY 11790; Jack Hirschowitz, M.D., Joe MacAluso, M.D., Rene S. Kahn, M.D., Kathy Piscani, R.N., Marci Mann, M.S.

Educational Objectives:

Higher blood levels of antipsychotic drug may not be more beneficial than lower blood levels and may lead to more side effects. Previously unmedicated patients respond better than do previously medicated patients.

Summary:

The aim of the DORIS study is to develop therapeutic maneuvers for individually determining the minimum dose of neuroleptic drug with the maximum antipsychotic effect. Previously, Hirschowitz, et al. (1991) have shown that this goal could be accomplished in chronic patients receiving medication by using the bromocriptine growth hormone test (BGHT) to titrate patients to the neuroleptic dose that just blocks the GH response. We now report the application of the maneuver to 13 *drug-free*, chronic schizophrenic (>5 years) patients; seven of the patients had never received neuroleptics. Patients were randomly assigned to BGHT dose adjustment or standard treatment (titration to 10 ng/ml haloperidol). At two months there was no difference in the reduction of positive symptoms (PANSS) between treatment groups, even though the average plasma level in the BGHT titrated group was 1.5 ± 0.5 ng/ml. The overall average reduction in symptoms was 21%, however; among the never medicated patients the average reduction was 36% compared with 2% in the previously medicated patients. Regardless of treatment history or treatment assignment, negative symptoms (PANSS) were unchanged. Extrapyramidal symptoms were more common in the never-medicated patients and in the standard-treatment group. Overall, we conclude that patients titrated with BGHT are treated as effectively as patients titrated to 10 ng/ml. The data also suggest that medication history is an important determinant of antipsychotic response among chronic patients.

References:

1. Hirschowitz J, Hitzemann RJ, Burr G, Schwartz A: A new approach to dose reduction in chronic schizophrenia. *Neuropsychopharm* 5, 2, 103-113, 1991.

2. Wolkin A, Rotrosen J, Wolf AP, et al: Plasma haloperidol levels and D_2 receptor occupancy as detected by PET. *Arch. Gen. Psych.*, 46:482-483, 1989.

NR219 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Relapse Prediction Following Haloperidol Withdrawal

Daniel P. van Kammen, M.D., Univ of Pitts Sch of Med, 3811 O'Hara Street, Pittsburgh, PA 15213; Hans Agren, M.D., Jeffrey K. Yao, Ph.D., John A. Gurklis, M.D., Jeffrey L. Peters, M.D.

Educational Objectives:

To inform psychiatrists about the development of biochemical prodromes during haloperidol treatment which are indicative of impending relapse within 6 weeks following haloperidol withdrawal.

Summary:

Objective: The purpose of this study was to develop a model based upon our previous studies to identify which neuroleptic-treated schizophrenic patients are at risk of early relapse following drug withdrawal.

Methods: Clinical and CSF monoamine related variables obtained in 50 male DSM-III-R haloperidol-treated schizophrenic patients were used in a logistic discriminant function model to identify those who relapsed (N = 24) within six weeks after placebo substitution from those who did not (N = 26).

Results: The oral dose of haloperidol, weight, CSF norepinephrine (NE), 3-methoxy-4-hydroxphenyl-glycol and chromogranin A-like immunoreactivity, and the anxiety and paranoia subscale ratings of the Brief Psychiatric Rating Scale, produced a model that predicted correctly 18 relapsers and 21 nonrelapsers. By including the interactions of (paranoia subscale × CSF NE) and (anxiety × CSF NE), the model correctly identified 20 relapsers and 23 nonrelapsers with a sensitivity and specificity of 83% and 88%, respectively.

Conclusions: Increased noradrenergic activity during chronic dopamine blockade may be an episode marker and may predict relapse within six weeks after haloperidol withdrawal in schizophrenia. Effective relapse prediction models have important practical implications for treatment of schizophrenia and understanding of the psychotic relapse process.

References:

1. van Kammen, et al: *Arch Gen Psychiatry*, 47:161-168, 1990.

2. van Kammen: *Psychol Med*, 21:881-895, 1991.

NR220 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Brain Glucose Metabolism in Seventy Male Schizophrenics

Benjamin V. Siegel, M.D., Psychiatry, Bronx VAMC, 130 W. Kingsbridge Rd Rte 116A, Bronx, NY 10468; Monte S. Buchsbaum, M.D., William E. Bunney, M.D., Joseph C. Wu, M.D., Steven G. Potkin, M.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to understand the results of the largest PET study of schizophrenia to date and their relationship to theories of the neuroanatomy of the pathology of schizophrenia: 1. Cortico-striato-thalamic circuit; 2. Dorsolateral prefrontal cortex; 3. Left temporal lobe.

Summary:

The cortico-striato-thalamic circuit modulates cognitive processing and thus may be involved in the cognitive dysfunction in schizophrenia. 18-fluoro-2-deoxyglucose positron emission tomography was used to measure glucose metabolic activity in the structures making up this circuit in 70 male schizophrenic patients after a period of at least four weeks off of neuroleptic medication and in 30 age-matched, male, normal controls. Analyses revealed decreased metabolism in medial frontal cortex, cingulate gyrus, medial temporal lobe, ventral caudate, and corpus callosum, and increased metabolism in occipital cortex and left lateral temporal cortex. Medial frontal cortical and thalamic activity correlated negatively with total Brief Psychiatric Rating Scale score and with positive and negative symptom scores assessed on the scan day, while lateral frontal cortical activity did not correlate with symptoms or show group effects. Frontal:occiptal ratios of metabolism were low for both medial and lateral frontal cortex in schizophrenics, and the difference from controls was significantly more profound for medial than for lateral hypofrontality. Controls showed a right-greater-than-left asymmetry of lateral cortical metabolism, which was less prominent in schizophrenics, particularly in frontal and temporal cortices. In summary, significant findings in medial frontal and temporal lobes, thalamus, and striatum are consistent with cortico-striato-thalamic circuit dysfunctions in schizophrenia.

References:

1. Swerdlow NR, Koob GF: Dopamine, schizophrenia, mania, and depression: toward a unified hypothesis of cortico-striato-pallido-thalamic function. *Behav and Brain Sci* 10:197-245, 1987.

2. Crow TJ, Ball J, Bloom SR, et al: Schizophrenia as an anomaly of development of cerebral asymmetry: a post-mortem study and a proposal concerning the genetic basis of the disease. *Arch Gen Psychiatry* 46:1145-1150, 1989.

NR221 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Plasma HVA in Non-Psychotic First-Degree Relatives of Schizophrenic Probands

Farooq Amin, M.D., Psychiatry, VA Medical Center, 130 West Kingsbridge Road, Bronx, NY 10468; Jeremy M. Silverman, Ph.D., Lisa Dumont, B.A., Michele Zaccario, B.A., Rene S. Kahn, M.D., Melanie Schwarz, B.A., Michael Davidson, M.D., Larry J. Siever, M.D.

Educational Objectives:

At the conclusion of this presentation the participant should be able to recognize possible abnormalities of central dopamine metabolism in non-psychotic first-degree relatives of schizophrenic patients. Also this presentation may help the participant understand the current findings of central dopamine metabolism in schizophrenia-related personality disorders.

Summary:

Family and adoption studies have demonstrated that the relatives of schizophrenic probands are at increased risk for a variety of schizophrenia-related disorders including schizotypal personality disorder (SPD). The symptoms of SPD include psychotic-like as well as deficit-related symptoms that are similar to but less severe than those of chronic schizophrenia. The psychotic dimension of schizophrenic symptoms has been hypothesized to be associated with subcortical hyperdopaminergia, and the deficit-related symptoms with cortical hypodopaminergia. The hypothesized neurodevelopmental abnormalities that may affect central dopamine (DA) function could have genetic and environmental components. In order to explore possible genetic antecedents of DA dysfunction in schizophrenia, plasma samples for homovanillic acid (HVA), the major DA metabolite, were obtained in physically healthy, nonpsychotic, first-degree relatives of schizophrenic probands at 10:00 a.m. after an overnight fast. Axis II diagnoses were derived from the Structured Interview for DSM-III Personality based on patient and informant interviews. Preliminary results suggest that the relatives meeting SPD criteria (n = 10) had lower mean log plasma HVA concentrations compared with those of relatives without SPD (n = 34) (t = 2.84, p = 0.007). Simultaneously measured plasma MHPG was not different between these two groups, suggesting that this difference may be related to central rather than peripheral origins of HVA. In contrast to clinically derived SPD patients in whom plasma and CSF HVA were increased in association with psychotic-like deficit-related symptoms, could be related to the hypothesized cortical hypodopaminergia of schizophrenia-related disorders.

References:

1. Siever LJ, Kalus OF, Keefe R: The boundaries of schizophrenia. *Psychiatric Clinics of North America* (in press).

2. Siever LJ, Amin F, Coccaro EF, et al: Cerebrospinal fluid homovanillic acid in schizotypal personality disorder. *Am J Psychiatry* 150:149-151, 1993.

NR222 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Decreased Regional Gray Matter in Schizophrenia

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Educational Objectives:

To clarify a specific pattern of regional gray matter abnormalities in schizophrenia using magnetic resonance imaging.

Summary:

Previous reports have noted decreased global gray-matter volume in schizophrenics compared with controls, even after correcting for overall brain-size differences. We hypothesized that cortical gray-matter volume differences would be greatest in heteromodal association cortical (HMAC) areas related to higher-order associative functions. These are localized in the prefrontal cortex, an inferior parietal area consisting of the supramarginal gyrus, the inferior parietal lobule, and the angular gyrus and the superior temporal gyrus. As reviewed elsewhere, (Gur and Pearlson 1993) considerable evidence points to primary HMAC involvement in the pathology of schizophrenia.

We blindly assessed overall and regional gray, white, and cerebrospinal fluid volumes in 46 schizophrenic patients and 60 age- and sex-matched controls using combined T2 and proton weighted 5 mm thick contiguous magnetic resonance images. Regional cortical measures were made using coritcal circumferential profiling method. This created a ring that extended 2 cm inward from the intracranial boundary. The cortical ring was divided into five equiangular regions per hemisphere. These regional measures were made on 10 contiguous slices extending from the temporal lobes upward. Dorsolateral prefrontal cortex, inferior parietal, and superior temporal cortical areas were selected as index regions. Occipital and sensory-motor areas were used to control regions to test the hypothesis.

Gray-matter volume was significantly reduced in schizophrenic patients in index regions even when covaried for overall gray-matter volume and age ($p < 0.01$). Control regions were not different between groups. Post-hoc analysis found no other regional gray-matter differences.

These findings support the theory of specific abnormality in heteromodal association cortex in schizophrenia.

References:

1. Mesulam MM: Principles of behavioral neurology, F.A. Davis Company, Philadelphia, 1987.

2. Gur R, Pearlson GD: Neuroimaging in schizophrenia. *Schiz Bulletin*, in press.

NR223 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Focal Paroxysmal EEG Changes During Atypical Panic Attacks

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Educational Objectives:

To determine if EEG alterations appear during panic attacks.

Summary:

Methods: Adults who met DSM-III-R criteria for panic disorder, whose panic attacks included "atypical features" (focal parethesia, sensory distortions), and who did not meet diagnostic criteria for epilepsy underwent routine EEG and ambulatory EEG monitoring. Spenoidal electrodes were used. Fifteen out of 23 subjects (six males, nine females) met inclusion criteria and were studied.

Results: Eleven of the 15 (73%) subjects had at least one attack "captured," i.e., occur during EEG recording. Total captured attacks = 56, range 1-10/subject, mean 5.1/subject. Focal paroxysmal EEG changes appeared during captured attacks in 5/15 subjects (33%). Three subjects had more than one attack captured; EEG changes appeared during 35% (7/20) of these attacks. These EEG changes were nearly identical across each attack within each subject, indicating that they were not artifactual.

Conclusions: A significant portion of a group of subjects with atypical features showed a consistent association between focal paroxysmal EEG changes and panic attacks. It may be necessary to record the EEG during panic symptoms, to employ special leads, and to sample over several panic attacks to reveal a connection between panic attacks and EEG changes.

References:

1. Stein B, Uhde TW: Infrequent occurrence of EEG abnormalities in panic disorder. *Am J Psychiatry* 146:517-520, 1989.

2. McNamara ME, Fogel BS: Anticonvulsant-responsive panic attacks with temporal lobe EEG abnormalities. *J Neuropsychiatry Clin Neurosci* 2:193-196, 1990.

NR224 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Rape, PTSD and Bulimia in a Sample of United States Women

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Educational Objectives:

At the conclusion of this presentation, the participant should be able to recognize the relationship between rape and other forms of criminal victimization, PTSD, and bulimia nervosa in a representative/sample of U.S. women.

Summary:

Introduction: The relationship between crime victimization (CV) and bulimia nervosa (BN) has been controversial, in large part due to the lack of controlled studies in representative samples.

Methods: For the present investigation, a representative national sample of 3,006 adult women ($\geq$ 18 y/o) completed a 40-minute telephone interview including screenings for rape, sexual molestation, BN, and binge eating disorder (BED) (DSM-IV Options Book criteria). The sample was the third wave of a longitudinal study and was generated by multistage geographic sampling procedures, wherein stratified samples in four regions of the U.S. were produced. Random digit dialing was used to target households within each stratum.

Results: The proportion of respondents diagnozed with BN had a significantly higher rape history (26.6%) than nonBN/nonBED respondents (13.3%). Rates of sexual molestation (22.0% vs. 12.0%) and aggravated assault (26.8% vs. 8.4%) were also significantly higher in the BN group. Overall, the rate of CV among BN respondents (54.4%) was significantly higher than nonBN/nonBED respondents (31.0%, $p \leq 0.001$). In addition, BN respondents were significantly more likely to have endorsed symptoms that met DSM-III-R criteria for post-traumatic stress disorder (PTSD) than the nonBN/nonBED group (lifetime: 36.9% vs. 11.7%; current: 21.4% vs. 4.1%).

Conclusion: In a nonclinical, representative sample of U.S. women, the presence of BN was found to be associated with a history of rape and other trauma as well as a diagnosis of PTSD. The prognostic and treatment implications of these data remain to be determined.

References:

1. Pope HG, Hudson JI: Is childhood sexual abuse a risk factor for bulimia: *Am J Psychiatry* 149:455-463, 1992.

2. van der Kolk BA, Perry JC, Herman JL: Childhood origins of self-destructive behavior. *Am J Psychiatry* 148:1665-1671, 1991.

NR225 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Circadian Release of Cortisol in Combat PTSD

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Educational Objectives:

At the conclusion of this presentation the participant should be able to compare and contrast the cortisone change in PTSD compared to major depressive disorder.

Summary:

Our previous studies have demonstrated a lower mean 24-hr. urinary cortisol level, a higher number of lymphocyte glucocorticoid receptors, and hypersupression of cortisol to dexamethasone in PTSD patients compared with depressed patients and normal controls. Until now, it has not been clear whether these findings reflect a tonic underactivity of the entire HPA axis in PTSD, or result from an altered pattern of circadian rhythmicity secondary to an enhanced negative feedback sensitivity of cortisol. In the present study, blood samples were obtained from PTSD (n = 9), depressed (n = 12), and normal (n = 13) males every 30 min. for a 24 hour-period for the determination of cortisol. Preliminary data were analyzed utilizing nonlinear single and multioscillator cosinor analyses to determine characteristics of circadian and ultradian rhythms. As hypothesized, the mesor (mean over 24 hours) for cortisol was significantly lower ($p < .05$) in PTSD patients compared with normal and depressed patients. There was also evidence for a stronger circadian rhythm in PTSD reflected by the significantly higher ratio of circadian to hemicircadian amplitude ($p < 0.5$). A third finding was that the "signal-to-noise" ratio (amplitude/mesor ratio) was higher in PTSD, suggesting that relative to the lower mean cortisol release, higher fluctuations in cortisol occured in this group compared with depressed and normal subjects. The data suggest that the HPA system may be more "dynamic" in PTSD patients, and the low cortisol previously observed does not likely relfect a tonic suppression of the HPA axis. This pattern of cortisol secretion is different from the classic picture observed in major depression, and is consistent with the emerging hypothesis of altered negative feedback in PTSD.

NR226 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Objective Assessment of OCD SPECT Abnormalities

Gordon J. Harris, Ph.D., Psychiatry, Johns Hopkins University, 600 N. Wolfe St. Meyer 3-166, Baltimore, MD 21287; Godfrey D. Pearlson, M.D., Robert W. Lewis, B.S., Rudolf Hoehn-Saric, M.D.

Educational Objectives:

To clarify regional perfusion abnormality in OCD using advanced imaging techniques.

Summary:

Previous reports have noted regions of abnormal brain metabolism or bloodflow using SPECT or PET in obsessive compulsive disorder (OCD). These studies have been limited by region-of-interest selection problems of multiple comparisons in studies sampling large numbers of regions, or by subsampling of the data to avoid these problems. Identified regions of abnormality have been primarily in the frontal lobe with no clear involvement of basal ganglia. The precise location of the differences in OCD have been variable between studies, largely due to methodological differences between centers.

In this study, we applied the method of stereotactic normalization and change-distribution analysis to the assessment of regional cerebral blood flow in 10 drug-free OCD patients and seven matched controls. Multiplanar reconstruction was used on both SPECT and corresponding MRI scans from these subjects to reorient all image sets into the spatial reference of the Talairach atlas. SPECT images were normalized to the mean brain count value, then averaged between subjects within groups. The average group brain images were subtracted between groups and analyzed for regions of significant difference. Local maxima and minima were assessed and considered significant at $p < 0.01$.

OCD patients had significantly higher regional cerebral blood flow in medial frontal gyrus, right middle frontal gyrus, and several areas in cerebellum, and lower bloodflow in the right inferior and middle occipital gyrus (which is visual association cortex). These regions had differences of 15%-20%. No differences were seen in the basal ganglia.

This study confirms our prior report of increased medial frontal perfusion in OCD. The increase in cerebellum may explain why Rubin et al. (1992) found decreased caudate normalized to cerebellum, while no other study has found abnormal caudate perfusion or metabolism when normalizing to global cerebral values. Increased frontal and decreased visual association cortex in OCD may be due to attentional focus on internal stimuli rather than processing of external visual information.

References:

1. Machlin SR, Harris GJ, Pearlson GD, et al: Elevated medial-frontal cerebral blood flow in obsessive-compulsive patients: a SPECT study. *Am J. Psychiatry* 148:1240-1242, 1991.

2. Rubin RT, Villaneuva-Meyer J, Ananth J, et al: Regional Xe-133 cerebral blood flow and cerebral Tc-99m HMPAO . . . *Arch Gen Psychiatry* 49:695-702, 1992.

NR227 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Imipramine Antagonizes CCK-4 Induced Panic

Jacques Bradwejn, M.D., Psychiatry, St. Mary's Hospital, 3830 Lacombe Avenue, Montreal PQ H3T 1M5, Canada; Diana Koszycki, M.A.

Educational Objectives:

To provide evidence that chronic imipramine treatment antagonizes the effects of CCK-4 in panic disorder.

Summary:

CCK-4, a CCK_B receptor agonist, fulfills five criteria for a panicogenic agent. It seems safe for human use, induces somatic and emotional symptoms, reproduces spontaneous panic attacks, and selectively, reliably, and dose-dependently induces attacks in panic disorder (PD). We invesitgated whether CCK-4 fulfilled the criteria of antagonism by an antipanic drug. Eleven patients with PD (one male; 10 women; mean age ± SD = 39.54 ± 6.5 years; panic frequency: 7.6 ± 8.0 attacks/week) who panicked with exogenous CCK-4 (20 μg i.v) were rechallenged after chronic treatment with imipramine (183.2 ± 67.0 mg daily). Responses were evaluated with the Panic Symptom Scale (PSS); panic attacks were defined

according to DSM-III-R criteria plus patient self-report of a panic attack. On the first CCK-4 challenge, the sum intensity of symptoms was 31.27 ± 13.4, the number of symptoms was 11.91 ± 3.8, and the duration of symptoms was 137.3 ± 43.1 seconds. On rechallenge patients displayed a marked reduction in the sum intensity of symptoms (9.91 ± 13.2; $p < 0.001$), in the number of symptoms (5.09 ± 4.2; $p < 0.001$), in the duration of symptoms (55.5 ± 56.6 seconds; $p < 0.001$), and in the incidence of panic attacks (2/11; $p < 0.004$). Imipramine also decreased cardiovascular responsiveness to CCK-4. This study demonstrates that CCK-4 fulfills the criteria of antagonism by an antipanic drug.

References:

1. Bradwejn J, Koszycki D, Shriqui C: Enhanced sensitivity to cholecystokinin-tetrapeptide in panic disorder: Clinical and behavioral results. *Arch Gen Psychiatry* 48:603-610, 1991.

2. Bradwejn J, Koszycki D, Couetoux-Du Tertre A, et al: The cholecystokinin hypothesis of anxiety and panic: A Review. *J Psychopharmacology* 6:345-351, 1992.

NR228 Tuesday, May 25, 9:00 a.m.-10:30 a.m.

Changes of Platelet Benzodiazepine Receptor in Generalized Anxiety Disorder

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Educational Objectives:

At the conclusion of this presentation, the participant should be able to understand the role of benzodiazepine receptors in anxiety.

Summary:

Accumulating biochemical, pharmacological, and behavioral studies suggest the affective, behavioral, and physiological manifestations in anxiety arise from derangements in the synaptic transmission of central neurotransmitters, primarily GABA and norepinephrine. Although the anxiolytic effects of benzodiazepines are thought to be mediated through interacting with the GABA-benzodiazepine receptor-chloride ionophore complex, clinical evidence in support of the benzodiazepine receptor hypothesis in anxiety disorder is lacking. The availability of the peripheral platelet model of benzodiazepine receptor affords a viable paradigm to evaluate the responsiveness of central benzodiazepine function in humans. The present study reports for the first time that drug-free anxious patients exhibited increased density of benzodiazepine receptors, but not in the affinity of benzodiazepine receptors as labelled by [^{3}H]-RO 5-4864, as compared with normal healthy controls (receptor density: 202.6 vs 53.4 fmoles/10^6 cells; binding affinity: 16.5 nM vs 8.1nM). Furthermore, the relative increase in the benzodiazepine receptor density correlated significantly ($p < 0.01$) with the global severity as measured by the Hamilton Anxiety Rating Scale. The results strongly suggest that anxiety disorder is associated with changes in the sensitivity of benzodiazepine-receptor complex, and that platelet benzodiazepine binding may serve as a putative state-dependent biochemical marker in anxiety disorder and a discriminant for benzodiazepine responders versus nonresponders.

References:

1. Moingeon P, Dessaux JJ, Fellow R, et al: Benzodiazepine receptors on human blood platelets. *Life Sci.* 35:2003-2009, 1984.

2. Stahl SM: The human platelet: a diagnostic and research tool for the study of biogenic amines in psychiatric and neurologic disorder. *Arch. Gen. Psychiat.* 34:509-516, 1977.

NR229 Tuesday, May 25, 12 noon-2:00 p.m.

Does P50 Indicate Sensory Gating?

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Summary:

As part of a study evaluating the usefulness of non-human primate modeling of psychotropic medication effects, auditory evoked potentials (AEP) were repetitively recorded in 38 *C. apella* monkeys. In these monkeys the physical proportions of the head and the AEP waveform are similar to those of man. We report here on the equivalent of the P50 component, which has been reported to be altered in psychiatric patients and postulated to reflect information "gating" (filtering out).

Auditory stimuli consisted of 30 ms, 1000 Hz, free-field tone pips at 85 dB. Interstimulus intervals (ISI) were 1.5 sec and 6.0 sec. Group analyses indicate that activity in the P50 region contains two vertex positive peaks, one with a mean time of 50 ms and one with a mean of 30 ms. For the 6-sec ISI these two peaks enlarge and tend to fuse. Repeated measurements over two years resulted in a continuous *increase* in P50 amplitude (about 2X initial amplitudes of 4 and 9uV). Fluphenazine treatment decreased the rate of increase. A six-month pause without EEG measurements also resulted in decreased amplitude. N100 and P200 did not show consistent changes with repetition. If P50 directly reflects gating, we expect that it would show a reciprocal amplitude relationship to N100 and P200. If P50 reflects pre-P50 gating, or input attenuation, we expect that its amplitude would parallel changes in N100 and P200. The observed changes in P50 amplitude were not consistently related to N100/P200 changes, and our findings do not support a simple interpretation of P50 in terms of information gating.

NR230 Tuesday, May 25, 12 noon-2:00 p.m.

Inferior Parietal Gray Matter Loss in Schizophrenia

Iain McGilchrist, M.B., Psychiatry, Johns Hopkins University, 600 N. Wolfe St. Meyer 3-166, Baltimore, MD 21287; Godfrey D. Pearlson, M.D., Patrick E. Barta, M.D., Gordon J. Harris, Ph.D., Allen Y. Tien, M.D., Larry E. Tune, M.D.

Summary:

Inferior parietal cortex (IPC) consisting of the inferior parietal lobule, angular and supramarginal gyri, constitutes part of the heteromodal association loop (which consists of IPC, dorsolateral prefrontal cortex, and superior temporal gyrus) has been proposed as integral to the schizophrenic syndrome (e.g, Gur and Pearlson, 1993). Prior PET studies suggest dysfunction of IPC, but no structural assessment has been attempted.

We used high resolution 1.5mm SPGR MRI images, with 3-D volume rendering, to first define the IPC from its surface sulcal-gyral landmarks, and then to further delimit it from decomposed 2-D coronal slices. Once defined, the IPC was thresholded using a semi-automated algorithm, to define gray and white matter; similar determination was made for the entire brain. IPC was thus defined blindly in *ten DSM-III-R* male schizophrenics, and an equal number of screened normal controls, individually matched to patients on age, sex, race, and parental SES.

IPC gray volume was significantly smaller by ≈26% in schizophrenics (SZ) on the right side (NL = 23.53 ± 5.14 vs. SZ = 18.1 ± 4.07, mean ± SD; $t = 2.62$, DF = 9, $p < 0.05$ 2-tailed). A trend was seen for similar but less (≈10.5%) gray volume reductions on the left side (NL = 21.30 ± 4.33 vs. SZ = 19.17 ± 5.53; $t = 1.25$, p = NS). No white matter differences were seen on either side. Total cerebral grey matter reductions in schizophrenics were of a lesser degree than those noted in IPC. These associations support a hypothesis of disproportionate heteromodal association

cortical involvement in schizophrenia, rather than generalized, non-focal gray matter pathology (e.g., Zipursky *et al*, 1991).

NR231 Tuesday, May 25, 12 noon-2:00 p.m.

M100 Location in Schizophrenia: Sex Differences

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Summary:

Source location of the MEG 100 msec latency auditory evoked field component (M100) was determined for left and right hemispheres in nine male (mean age 36) and six female (mean age 39) schizophrenic patients, and six male (mean age 30) and nine female (mean age 26) normal controls. Stimuli were 20 msec 85 db tone pips delivered to the ear opposite the hemisphere being recorded while the subjects watched a distant silent video. The M100 component is generated in the superior temporal gyrus (STG), and represents functional location of auditory echoic memory. Its relative antero-posterior position appears to be influenced by structural geometry of contiguous structures. Compared to male controls, male schizophrenics exhibited greater variability of dipole locations in both hemispheres, and specifically a more anterior location in the left STG gyrus ($t = 2.40$ $df = 14$ $p = .016$). This is compatible with a decrease in volume of structures in the anterior left STG. Compared to normal females, schizophrenic females evidenced more hemispheric lateralization, with sources being relatively further anterior in the right STF ($t = 1.98$ $df = 14$ $p = .03$). These findings suggest females schizophrenics may have functional and/or structural abnormalities primarily in the right temporal lobe, compared to the left temporal lobe in males.

Supported by USPHS MH47476 and MH46335.

NR232 Tuesday, May 25, 12 noon-2:00 p.m.

Mechanisms of Memory Impairment in Schizophrenia

John W. Newcomer, M.D., Psychiatry, Washington University, 4940 Children's Place, St. Louis, MO 63110; Suzanne Craft, Ph.D., Kelly M. Askins, M.D., Tamara Hershey, M.A., Mark E. Bardgett, Ph.D., John G. Csernansky, M.D.

Summary:

Brief glucocorticoid (GC) treatment may site-selectively down-regulate hippocampal GC receptors, involute hippocampal dendrites, and weaken hippocampal inhibitory output to the hypothalamic-pituitary-adrenal (HPA) axis. Based on the role of the hippocampus in declarative memory performance (DM), reports of hippocampal abnormalities in schizophrenia, and the association of hippocampal injury with reduced hippocampal GC sensitivity in animals, we investigated the cognitive consequences of GC treatment in normal and schizophrenic subjects. We hypothesized a selective decrease in DM versus other cognitive abilities in normals, and both reduced baseline DM and a reduced GC effect on DM in schizophrenics. Four days of double-blind, placebo-controlled treatment with dexamethasone (DEX;0.5,1,1,1 mg) was given to schizophrenics ($N = 19$) and normals ($N = 19$). Plasma cortisol decreased equally in both DEX-treated groups, consistent with similar HPA axis GC receptor binding. In normals, DEX decreased delayed DM with recovery after one week (overall effect of study day:$F[3,27] = 6.65$, $p < 0.01$; baseline vs. day 5:$F[1,9] = 7.80$, $p < 0.05$). No other cognitive measures were impaired, suggesting a selective temporal-hippocampal effect. Schizophrenics showed baseline cognitive impairement and no detrimental effect of DEX on DM or other cognitive functions, consistent with temporal-hippocampal GC insensitivity.

NR233 Tuesday, May 25, 12 noon-2:00 p.m.

Diagnosis of Affective and Schizophrenic Disorders in Adult and Adolescent of First Admission Patients

Shmuel Fennig, M.D., Epidemiology, SUNY at Stony Brook, Putnam Hall South Campus, Stony Brook, NY 11794; Gabrielle Carlson, M.D., Evelyn J. Bromet, Ph.D., Beatrice M. Kovasznay, M.D.

Summary:

Diagnosis of psychotic disorders in adolescence is problematic, and episodes presenting with delusions and hallucinations are often preferentially diagnosed as schizophrenic. This could be because the diagnostic picture of both schizophrenia and affective disorders is particularly complicated in this age group, or because there has been an historical bias against diagnosing mood disorder in adolescence (Carlson, 1990). To clarify the above issue, the young age subgroup—15 to 20 in the Suffolk Mental Health Project (Bromet et al. 1992) was compared with the 30 to 35 age subgroup on phenomenology, diagnostic disagreement, and premorbid characteristics. Subjects eligible for the study are first psychosis, Suffolk County NY residents, ages 15 to 60. They are interviewed by an experienced mental health social worker with the SCID—a semi structured interview—at entry to the study and six months and 24 months later. Project psychiatrists at each of these time points review the SCID and all available information from other sources and give a best estimate diagnosis. Baseline SCID algorithm diagnosis is compared to psychiatrist's diagnosis at baseline and at six months and each of the latter is compared to the facility discharge diagnosis.

Forty-two of the subjects are ages 15 to 20, 55 are ages 30 to 35. 52.3% of the former and 27.2% of the latter have six month consensus diagnosis of mood disorder with psychosis. A total of 28.5% of the former and 41.8% of the latter were diagnosed with schizophrenia. Phenomenology, diagnostic disagreements, and premorbid characteristics are contrasted in the adolescent and adult samples in an effort to explain this unexpected shift in pattern of diagnosis.

NR234 Tuesday, May 25, 12 noon-2:00 p.m.

Facility Versus Research Diagnosis in First Admission Sample

Shmuel Fennig, M.D., Epidemiology, SUNY at Stony Brook, Putnam Hall South Campus, Stony Brook, NY 11794; Thomas J. Craig, M.D., Evelyn J. Bromet, Ph.D., Beatrice M. Kavasznay, M.D.

Summary:

Prior studies comparing research diagnoses to clinical diagnoses have been limited mainly to chronic patients samples within one kind of facility, mainly state hospitals. The present study as part of the Suffolk Psychosis Project, compares research diagnoses to discharge diagnoses in a first-admission sample of psychotic patients from three types of facilities: public, community, and university hospital (Bromet et al. 1992). Subjects eligible for the study were interviewed by experienced mental health professionals during admission, using a semistructured interview (SCID), and a best estimate diagnosis was made by two project psychiatrists.

A total of 223 out of the first 250 subjects who completed the initial interview were hospitalized and their medical records were available. Degree of agreement (kappa's) between clinical and research diagnoses were .46 for schizophrenia, .49 for depressive disorders, and .51 for bipolar disorders. Among the facilities studied, the higher degrees of agreement were seen for the university hospital ($k = .55$-$.83$) the lowest degree for the public facilities ($k = .13$-$.34$), and community hospital agreement was intermediate ($k = .48$-$.55$).

No differences in age, gender, ethnicity, education, or length of stay were found between those in which there was agreement between the facility and research diagnosis and those where there was disagreement.

Reasons for disagreement were mainly inadequate diagnostic process and information gathering in the public facilities, inadequate information gathering process by the community facilities, and clinical judgment differences between clinical and research psychiatrists in the university facility.

NR235 Tuesday, May 25, 12 noon-2:00 p.m.

Sex Concordance in Icelandic and British Families

Rob Butler, M.B., Genetics, Institute of Psychiatry, De Crespigny Park, Denmark Hill SE5 8AF, England; Tonmoy Sharma, M.B., Hugh Gurling, M.D., J. Brynjolfsson, T. Sigmundsson, T. Read, P. Murphy

Summary:

The evidence for the pseudoautosomal transmission of schizophrenia requires there to be an excess of same sex pairs in sibships with paternal transmission as compared to maternal. Crow et al (1989) have suggested that a locus for psychosis may be inherited on the pseudoautosomal region of the X chromosome on the basis of an excess of sex chromosomes aneuploidies in psychosis and an excess of same sex twin pairs concordant for schizophrenia. We have examined this hypothesis in 52 British and Icelandic families ascertained for linkage studies in schizophrenia. In total there were 30 pairs of affected sibs. Having analyzed our data using a pair-wise method, we found a total of 43.2 same sex (expected 31.5) pairs and 33.8 mixed sex (expected 45.5) pairs. This represents a non-significant excess of same sex pairs over mixed sex ($X2 = 2.98$, $p = 0.052$). We do not find a significant excess of same sex pairs in maternal ($X2 = 0.60$, $p = 0.30$) or paternal transmission ($X2 = 0.82$, $p = 0.22$). In light of our data along with recently published data (Asherson et al, 1992), it is unlikely that the locus for schizophrenia lies in the pseudoautosomal region. We are carrying out linkage analysis to test this hypothesis further.

NR236 Tuesday, May 25, 12 noon-2:00 p.m.

Alprazolam-Neuroleptic Treatment of Schizophrenia

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Summary:

Objective: Benzodiazepines may augment neuroleptic antipsychotic effects in some otherwise treatment-resistant patients with schizophrenia. However, considerable variability exists among studies and among individual patients. Predictors of favorable response are unknown. *Method:* In a newly completed double-blind inpatient study, 24 moderately ill patients with schizophrenia or schizoaffective disorder ("primarily schizophrenic" subtype by RDC criteria) had their stable neuroleptic regimens augmented with alprazolam ($N = 12$; mean daily does = 3.7 mg) or placebo ($N = 12$) for four weeks. *Results:* Alprazolam augmentation was associated with significantly greater reductions in Bunney-Hamburg global psychosis ($p = 0.005$), Brief Psychiatric Rating Scale ($p = 0.0005$), and Abrams and Taylor (ATRS) "negative symptom" ($p < 0.02$) ratings. Decreases in global psychosis ratings averaged 22% (vs. 6% for placebo) and in ATRS ratings averaged 32% (vs. an 8% increase for placebo). Improvements in "positive" and "negative" symptoms were not correlated with concurrent changes in global anxiety or depression ratings or with decreases in plasma levels of homovanillic acid, MHPG or GABA. In a comparison study, 18 severely treatment-refractory state hospital patients showed no overall benefit of alprazolam augmentaion. Patients in the original study group, compared to those in the nonresponsive state hospital group, had fewer lifetime days of hospitalization, had milder baseline psychotic and "negative symptom" ratings, and had greater baseline anxiety and depression ratings. *Conclusions:* These data affirm that benzodiazepines may significantly augment neuroleptic antipsychotic effects in certain populations of treatment-resistent schizophrenic patients. Behavioral and biological determinants of responsivity await further clarification.

NR237 Tuesday, May 25, 12 noon-2:00 p.m.

Incidence of EPS with Risperidone Compared with Haloperidol and Placebo in Patients with Chronic Schizophrenia

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Summary:

Objective: To evaluate the incidence of EPS with four fixed doses of risperidone (2, 6, 10 and 16 mg) compared with haloperidol 20 mg and placebo in schizophrenic patients. *Method:* A randomized, double-blind, placebo-controlled, multicenter trial was conducted at 26 sites in the US and Canada among 523 patients for eight weeks. Incidence of EPS was determined by patient-elicited complaints, the Extrapyramidal Symptom Rating Scale (ESRS), and the amount of EPS medication used. *Results:* The severity of dyskinetic movements (bucco-linguo-masticatory) was significantly lower ($P<0.05$) than baseline values in the risperidone 6, 10, and 16 mg groups. A significant increase ($P<0.05$) in parkinsonism symptoms, especially hypokinetic symptoms, was observed in patients treated with risperidone 16 mg and with haloperidol as compared with the other risperidone groups and with the placebo group. Compared with risperidone and placebo groups, the haloperidol group showed a significant increase ($P<0.05$) in scores for bradykinesia, rigidity, gait and posture instability, and tremor. Haloperidol-treated patients used significantly more EPS medication ($P<0.05$) than risperidone 2, 6, and 10 mg patients. *Conclusions:* The incidence of EPS in the risperidone 2 and 6 mg groups was similar to that of the placebo group. The occurrence of EPS increased with higher doses of risperidone but was significantly less than with haloperidol ($P<0.05$).

NR238 Tuesday, May 25, 12 noon-2:00 p.m.

Stability of a New Five Factor Model of Schizophrenia

Jean-Pierre Lindenmayer, M.D., Psychiatry, Albert Einstein Col Med, 1500 Waters Place, Bronx, NY 10461; Sandra Grochowski, B.A., The Risperidone Study Group

Summary:

Objective: Our aim was to examine the effect of neuroleptic medication on the factor structure of schizophrenic symptomatology. *Method:* 523 *DSM-III-R* schizophrenic inpatients enrolled in a multi-center phase II drug study (median age 37.9 years) were evaluated on their pre-existing neuroleptics at screening on the Positive and Negative Syndrome Scale (PANSS) and after a one-week drug free period. Separate principal components analyses were done for the PANSS at each time point. PANSS total and component scores were assessed for differences utilizing independent t-tests. Ratios of each component vs. total PANSS score were computed and compared similarly. *Results:* Both factor analyses confirmed our original model showing five factors (negative, positive, excitement, depression, and cognitive), explaining 51.7 and

56.2% of the variances. After medication wash-out inpatients should significant increases in total PANSS score ($p \leq .001$) and each of the components. The worsening of the components appeared global and uniform, as evidenced by the fact that at time 2, only the excitement component decreased proportionately ($p \leq .01$). This lack of change of most components in proportion to the psychopathology total points to the stability of these individual dimensions of patients while on and off neuroleptics. It also supports the validity of our five factor model of schizophrenic psychopathology.

NR239 Tuesday, May 25, 12 noon-2:00 p.m.

Superior Temporal Gyrus Volume in Schizophrenia

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Summary:

Introduction: A reduction in the superior temporal gyrus (STG) volume has been reported in schizophrenia (Barta et al, 1990). Decreaed STG volume was found to correlate with the severity of auditory hallucinations and with the severity of alogia symptoms in schizophrenia. We report here an attempt to replicate these findings.

Methods: Patients with *DSM-III-R* schizophrenia (N = 51, mean age = 33 yrs) and matched controls (N = 26, mean age = 30 yrs) consented to participate. Coronal MRI images were obtained for each subject using a 1.5 Tesla Scanner (TI = 800 ms, TR = 1500 ms). STG volume was measured at the level of the amygdala in two slices. Ratings of alogia on the SANS and ratings of auditory hallucinations on the SAPS were correlated with STG volume, using the Spearman rank correlation coefficient.

Results: No significant correlations between left STG and auditory hallucinations were detected. Nor were there significant correlations between left STG volume and poverty of speech (SANS item 9), sum of alogia ratings (SANS items 9-13), or global rating of alogia (SANS item 14).

Discussion: We could not confirm a relationship between STG volume and the severity of auditory hallucinations or of alogia. Methodological differences from the initial reports are discussed as a possible explanation for these findings.

NR240 Tuesday, May 25, 12 noon-2:00 p.m.

Ketamine Interactions with Lorazepam and Humans

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Summary:

Ketamine, a phencyclidine (PCP; "angel dust") derivative, is of great interest to psychiatry as a model of schizophrenia and dissociative states. Lorazepam is a common premedication for ketamine anesthesia and a widely used antidote for PCP intoxication. Ketamine blocks the NMDA subtype of glutamate receptor while lorazepam facilitates the function of GABA-A receptors in the brain. *Methods:* In an ongoing study (n = 12), healthy subjects completed four test days in a randomized order: 1) ketamine + placebo lorazepam, 2) placebo ketamine + placebo lorazepam, 3) ketamine + lorazepam (3 mg, p.o.), or 4) placebo ketamine + lorazepam. Ketamine was administered as a bolus of 0.26 mg/kg over two min. following by a one-hour infusion of 0.65 mg/kg. *Results:* Lorazepam produced small reductions in BPRS positive and negative symptoms. It also reduced ketamine-induced dissociative symptoms and impairments in verbal fluency (frontal lobe function). While lorazepam impaired recall by itself, it increased memory impairments produced by ketamine. *Implications:* These data suggested that lorazepam, a putative PCP antidote, reverses some ketamine effects while worsening others. Implications of this study for the PCP model of schizophrenia and the use of benzodiazepines in treating schizophrenic patients will be reviewed.

NR241 Tuesday, May 25, 12 noon-2:00 p.m.

Multi-Family Groups in Schizophrenia

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Summary:

This presentation reviews new results from an evaluation of a new treatment, the psychoeducational multi-family group (PEMFG). It is the largest trial of family intervention reported to date. *Objective:* The aim of this study was to assess clinical outcomes in PEMFGs, by experimental comparison to more intensive and more costly single-family psychoeducation. *Method:* 172 acutely psychotic patients, aged 18 to 45, with chronic DSM-III-R schizophrenic disorders, were randomly assigned to single or multi-family psychoeducational treatment, at six widely varied public hospitals in New York State. Both approaches were closely modeled after that of Anderson and Hogarty. BPRS-criterion relapse, symptom status, medication compliance, and re-hospitalization were assessed independently over two years of supervised treatment. *Results:* PEMFGs yielded significantly lower relapse rates (28%) than the single-family modality (42%) ($p = .05$), by achieving dramatically lower rates specifically in patients with high residual positive symptom levels (17% vs. 59%; $p = .005$). The relative risk ratio between treatments was 1:3. In both modalities, rehospitalization and positive symptoms decreased highly significantly and medication compliance reached unusually high levels. *Conclusions:* This large, multi-site study demonstrated efficacy for a new psychoeducational multi-family group model superior to the single-family format, at roughly half the cost, in public clinical settings, with implications of unusually promising cost-effectiveness.

NR242 Tuesday, May 25, 12 noon-2:00 p.m.

Magnetic Resonance Temporal Lobe Alterations in Schizophrenia

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Summary:

Objective: Post-mortem and in vivo studies have identified temporal lobe abnormalities in schizophrenia. To determine whether or not the gyral pattern is also disrupted, we examined 15 male, right-handed chronic schizophrenics (*DSM-III-R* diagnosed) and 15 normal controls matched for handedness, age (mean = 38 years) sex, social class of origin, and verbal I.Q. *Method:* We used a new generation of magnetic resonance (MR) technology to examine 3D reconstructions of the temporal cortex. MR data were acquired in axial and coronal planes (TR = 3000 ms, TE = 30/80 ms, slice thickness = 3-mm, and 3DFT SPGR protocol, TR = 35 ms, TE = 5 ms, one repetition, 45° nutation, 1.5-mm slices). Semi-automated procedures were used to segment brain into tissue classes and 3D reconstructions were used to examine the orientation of the sulcal-gyral pattern. *Results:* Results showed: 1) no overall differences in whole brain gray matter, white matter, or CSF; 2) a decrease in volume of 19% (left) in anterior hippocampus/amygdala, 13% (left) parahippocampal gyrus (8% on the right), and 15% in

superior temporal gyrus (left) in schizophrenics; and, 3) using four raters blind to diagnosis, normals showed a more parallel sulco-gyral pattern (left) compared to schizophrenics who showed a more vertical, non-parallel sulco-gryal pattern (left) compared to schizophrenics who showed a more vertical, non-parallel sulco-gyral pattern (left) (no differences on right; Chi Square = 10.8, df = 1, $P = 0.001$; 12/15 correctly classified in each group). *Conclusions:* These findings confirm left-lateralized reductions in gray matter volume in temporal lobe structures in at least a subgroup of schizophrenics, and they further suggest that changes in the sulco-gyral pattern of the temporal cortex in schizophrenics is, in the absence of gross brain abnormalities, indicative of disruptions in neurodevelopment.

NR243 Tuesday, May 25, 12 noon-2:00 p.m.

Monozygotic Twins Discordant for Schizophrenia and Immunological Variation

Angelo Sambunaris, M.D., NPB, NIMH NRH NC, 2700 Martin L. King Jr. Ave SE, Washington, DC 20032; Henrietta Kulaga, Ph.D., E. Fuller Torrey, M.D., David Glovinsky, M.D., Richard Jed Wyatt, M.D., Darrell G. Kirch, M.D.

Summary:

There are a number of studies which indirectly support the hypothesis of an autoimmune process in schizophrenia. In particular, flow cytometric analysis has shown CD5+ B-lymphocytes (a cell population associated with autoimmunity) are elevated in schizophrenic patients. In an attempt to replicate these findings and explore their relationship to genetic factors, blood samples were obtained from five pairs of monozygotic twins discordant for schizophrenia and 11 healthy controls. Lymphocytes were labeled with monoclonal antibodies and analyzed by flow cytometry. Preliminary analyses revealed: *1.* CD5+/ CD19+ lymphocytes were significantly ($p<.05$) elevated in the schizophrenic twin but not in the normal twin, compared with controls. *2.* CD3+/ CD16+CD56+ lymphocytes, [activated natural killer (NK) cells] were significantly ($p<.05$) elevated in both twins compared with controls. These data indicate that the CD5+/ CD19+ lymphocytes may be related directly to schizophrenia. The elevations in activated NK cells in both twins indicate the genetic predisposition to schizophrenia may also be associated with genetically determined immunologic abnormalities, even when the individual does not manifest schizophrenia. These data replicate previous findings of an association between schizophrenia and elevated CD5+ B lymphocytes. In addition, the elevation in activated NK cells in both twins indicate there may be geneticlaly basd immunological abnormalities associated with the risks for becoming schizophrenic. Additional data using expanded antibody panels and additional subjects will be presented.

NR244 Tuesday, May 25, 12 noon-2:00 p.m.

Dorsal/Venral Prefrontal Lobe in Schizophrenia: An MRI Study

Cynthia G. Wible, Ph.D., Psychiatry, Harvard Medical School, 116A 940 Belmont Street, Brockton, MA 02401; Martha E. Shenton, Ph.D., Hiroto Hokama, M.D., R. Kikinis, M.D., Robert W. McCarley, M.D.

Summary:

Prefrontal cortex abnormalities have been reported by several investigators, but most findings have not been consistently replicated. In-vivo MRI was used to measure gray and white matter volume of the right and left prefrontal cortex. The prefrontal cortex was also subdivided into a dorsal region, containing cingulate gyrus, and superior, middle, and inferior frontal gyri, and a ventral region which included orbital and rectal gyri. Subjects were 14 male, right-handed, chronic schizophrenics (*DSM-III-R* diagnosed) and 15 male, right-handed controls who were matched for age, social class of origin, and verbal I.Q. Eleven of 14 schizophrenic subjects showed predominantly positive symptoms. These same subjects were found, in a separate study, to have temporal lobe abnormalities. The MRI data were 123 1.5mm slices acquired in the coronal plane (3DFT SPGR protocol, TR = 35, TE = 5, one repetition, 45° nutation). Gray and white matter volumes of the prefrontal cortex were obtained by using a semi-automated procedure, and the results of this procedure were manually edited to achieve accurate gray/white boundaries. The average intraclass correlation for realiability was $r_i = .96$. An ANOVA using the factors of group, side (right or left), and tissue class (gray or white), showed no significant differences between controls and schizophrenics on the prefrontal volume measures. The prefrontal gray matter was subdivided into a dorsal and ventral component, and an ANOVA showed no significant differences in the dorsal and ventral divisions between controls and schizophrenics. These findings indicate, that at least in this group of predominantly positive symptom schizophrenic individuals, volume deficits are confined to the temporal lobe.

NR245 Tuesday, May 25, 12 noon-2:00 p.m.

The Dopamine-Serotonin Ratio and its Relationship to Clozapine

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Summary:

Clozapine's atypical antipsychotic properties, e.g. superior efficacy, fewer extrapyramidal effects, and a reduced likelihood of producing tardive dyskinesia, have been reported. A stronger ability to block serotonin vs dopamine receptors has been proposed as the underlying mechanism of drug action. Consequently, the purpose of this study was to determine the effect of clozapine on both dopamine and serotonin indices.

Nineteen treatment refractory and intolerant szhizophrenic and schizoaffetive disorder patients underwent a six-week open clozapine trial. Patients were rated for the presence of psychopathology and tardive dyskinesa at regular intervals. Plasma and cerebrospinal fluid homovanillic acid (pHVA, CSF HVA) and cerebrospinal 5-hydroxyindoleacetic acid (CSF 5HIAA) levels were collected at baseline and treatment week 3.

Data from 19 *DSM-III* schizophrenic and schizoaffective disorder patients were examined. The sample was 68% male, 88% treatment refractory, 53% had tardive dyskinesia, and the mean age was 29.5 ± 6.3 years. Dividing the sample into clozapine responders vs nonresponders found that the responders had both a lower baseline CSF HVA levels ($p<.08$) and a CSF HVA/5HIAA ratio ($p<.04$). Plasma HVA levels were not associated with CSF HVA values but with CSF 5HIAA levels.

These results suggest that the dopamine-serotonin relationship may be important in determining response to clozapine. These and other findings will be presented and discussed.

NR246 Tuesday, May 25, 12 noon-2:00 p.m.

Leucotec: A Test for Agranulocytosis with Clozapine Patients?

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Summary:

Agranulocytosis, a serious side effect of clozapine, is idiosyncratic and has an incidence rate of 1%. To monitor the occurrence of agranulocytosis, the FDA requires all patients to have weekly laboratory testing of their granulocyte levels. Our test would screen clozapine patients for agranulocytosis using an inexpensive, out of laboratory, screening test. Using venipuncture whole blood samples of patients, our test measured color change produced by granulocytes in whole blood as measured by Gretag spectrophotometer. A threshold of 2000 granulocytes/mm^3 was established to differentiate between high or low ganulocyte levels. Previously, samples were tested on the Coulter Counter for comparison upon completion of our own results. Of the 159 samples tested, 56 had granulocyte counts below the threshold. Our tests revealed 53 true positive, three false negative, 96 true negative, and seven false positive samples. Sensitivity and specificity were 94.55% and 93.27%, respectively. Our initial positive results would indicate that a patient could be screened for lowered granulocytes and go on to further testing if results indicated a level below 2000 granulocytes/mm^3. This test (Leucotec) could add greater flexibility in monitoring clozapine patients for agranulocytosis. Further development will continue.

NR247 Tuesday, May 25, 12 noon-2:00 p.m.

Analogues of Monkey Prefrontal Cortex Tasks in Schizophrenia

Richard S.E. Keefe, Ph.D., Psychiatry, Mount Sinai Sch of Med., 1 Gustave Levy Place, New York, NY 10029; Cynthia Blum, Ph.D., Denise M. Merhige, B.A., Sonia E. Lee, B.A., Deborah M. Zolot, B.A., Michael Davidson, M.D., Philip D. Harvey, Ph.D., Kenneth L. Davis, M.D.

Summary:

The dorsolateral prefrontal cortex (DLPFC) is an area of possible dysfuntion in schizophrenia. In monkeys, this brain region is organized such that single neurons are differentially activated during the process of working memory dependent upon the spatial location of visual stimuli. To test whether visuospatial working memory, and hence possibly the DLPFC, is impaired in schizophrenia, we tested 40 schizophrenics and 16 controls on human analogues of tests that activate specific DLPFC neurons in monkeys. Visual stimuli were presented in 44 different locations with a delay condition of 30 sec, and an immediate recall condition. Delayed recall inaccuracy, controlled for immediate recall inaccuracy, was greater in schizophrenics ($t = 5.07$, $p < .0001$), who made recall errors to the right of errors made by normals for stimuli presented in the upper left ($t = 4.41$, $p < .001$) and lower left visual field quadrants ($t = 2.10$, $p < .05$), but not for the right visual field. Among schizophrenics, this deficit was more highly correlated with poor performance on other tests of frontal functions than any of the other frontal tests were correlated with one another, and was unrelated to verbal intelligence and posterior functions. Relations with CT measures will also be presented. These data suggest that a specific type of visuospatial working memory deficit may be a stronger indicator of frontal dysfunction in schizophrenic patients than any preexisting tests.

NR248 Tuesday, May 25, 12 noon-2:00 p.m.

Caudate Increases in First-Episode Schizophrenia

Miranda H. Chakos, M.D., Psychiatry, Hillside Hospital, 75-59 263 Street, Glen Oaks, NY 11004; Jeffrey A. Lieberman, M.D., Robert M. Bilder, Ph.D., Gail Lerner, M.S., Berhard Bogerts, M.D., Manzar Ashtari, Ph.D.

Summary:

Recent post-mortem and MRI studies have reported enlargement of striatal volumes in schizophrenics. Since virtually all prior studies of patients with schizophrenia included patients who received treatment with neuroleptics, it was not clear whether enlargement reflected a disease related abnormality or may be an effect of chronic treatment. We examined this question in a prospective study of first-episode schizophrenic patients ($n = 35$) who were treated with standardized regimens of neuroleptics. Patients and age- and sex-matched controls had MRI brain scans obtained at baseline and 18 months follow-up. Caudate volume change scores differed for patients and controls ($p = .001$). For patients, larger caudate volumes were associated with larger cumulative neuroleptic dose, younger age of onset, and longer time to remission. Caudate enlargement after treatment in some first-episode schizophrenics appeared to be a result of treatment with neuroleptics.

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Treatment Response, VBR and Clinical Aspects in Schizophrenia

Miklos F. Losonczy, M.D., Psychiatry, FDR VA Hosptial, 19 Madeline Parkway, Yonkers, NY 10705; Joseph M. Macaluso, M.D., Michael Davidson, M.D., Ede Frecska, M.D., Ling Guo, M.D., Kenneth L. Davis, M.D.

Summary:

Enlargement of lateral cerebral ventricles in schizophrenic patients has been associated with poor response to neuroleptic treatment in several studies. The purpose of this study was to test the hypothesis that schizophrenics with enlarged ventricles respond more poorly to neuroleptic treatment than those with non-enlarged ventricles. Seventy-eight medically healthy male schizophrenics ranging in age from 20 to 65 were investigated. Following a neuroleptic free period of two to four weeks, subjects were treated with haloperidol 20 mg. daily for four weeks. Ventricular enlargement was determined based on a series of 77 normal control scans (age range 20-65) in which a regression line of ventricle-brain ratio (VBR) vs. age was plotted. Schizophrenic subjects with VBR's two standard deviations above the regression line for normals were classified as having enlarged ventricles. Positive treatment response was defined as CGI improvement of ≥ 1. Eight of 78 subjects (10.3%) had enlarged ventricles; all were treatment non-responders by these criteria. Among subjects without enlarged ventricles, 43 of 70 (61.4%) were non-responders. The excess of non-responders in the large ventricle group was statistically significant (Chi-Square = 4.72, Fisher Exact Probability = .027), supporting a relationship between enlarged ventricles and poor neuroleptic response. Clinical characteristics, namely age of onset, average length of hospitalizations, percent of time hospitalized since onset, and SANS (Scale for the Assessment of Negative Symptoms) scores, were examined in 62 of these subjects. Among normal ventricle responders ($N = 20$), normal ventricle non-responders ($N = 35$), and enlarged ventricle non-responders ($N = 7$), no group showed a significant difference in these clinical characteristics (MANOVA, $p = .36$).

NR250 Tuesday, May 25, 12 noon-2:00 p.m.

Hippocampal Lesions and Dopamine Receptor Density

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Summary:

Neuroanatomical abnormalities have been demonstrated in the hippocampus of schizophrenic subjects. However, the pathophysiological dysfunction most reliably linked to schizophrenia is altered dopaminergic neurotransmission. Few studies have examined the relationships between hippocampal lesions and the dopaminergic system in the CNS, (Lipska et al 1992). The present study was designed to study the effects of hippocampal lesions in rats on the densities of D_1 and D_2 dopamine receptor binding sites.

Animals either received bilateral aspiration of the hippocampus and the overlying cortex (HIPPO) or bilaterial aspiration of the same part of the neocortex only *(CTL)* and were then allowed three weeks for recovery prior to sacrifice. D_1 binding sites were labeled with [^{3}H]SCH 23390. D_2 binding sites were labeled with [^{3}H]spiperone.

In Experiment 1, the density of dopamine D_1 receptor binding sites in the frontal cortex of the hippocampal (HIPPO, $n=4$) lesioned rats was higher than in the cortical *(CTL, $n=4$)* control rats (25.4 vs 14.9 fmol/mg protein: T(6) - 2.91, $P=0.0271$, unpaired, two tailed t test). With fewer D_1 binding sites in the *HIPPO* nucleus accumbens when compared to the *CTL* animals (77 vs 166 fmol/mg protein: $T(6)=2.00$, $P=0.0461$). There were no significant changes in the caudate.

In Experiment 2, the finding regarding D_1 binding sites in the three regions observed in Experiment 1 was replicated. However, in contrast to the D_1 binding sites, the number of D_2 binding sites did not change in frontal cortex, but in the nucleus accumbens, a higher density of D_2 binding sites was observed in the *HIPPO* ($n=5$) animals relative to CTL ($n=5$), (136 vs 106.0 fmol/mg protein: $T(9)=2.72$, $P=0.028$), an effect opposite to that observed for D_1 binding sites in the nucleus accumbens.

It is likely that the observed changes in both D_1 and D_2 binding sites are adaptions to neuronal functioning consistent with an increase in dopaminergic activity in the nucleus accumbens and a decrease in the frontal cortex. These findings parallel the hypothesized frontal hypoactivity and mesolimbic hyperactivity in dopaminergic system which may be related to the pathophysiology of schizophrenia (Davis et al 1991).

NR251 Tuesday, May 25, 12 noon-2:00 p.m.

Age and Auditory P3 Abnormalities in Schizophrenia

Brian F. O'Donnell, Ph.D., Psychiatry, Harvard Medical School, 116A 940 Belmont Street, Brockton, MA 02401; Matthew O. Kimble, B.A., Robert W. McCarley, M.D., Dean F. Salisbury, Ph.D., Robert S. Smith, M.A., Martha E. Shenton, Ph.D.

Summary:

Objective: The P300 component of the auditory event-related potential (ERP) shows amplitude reduction in schizophrenia, and latency prolongation in aging and dementia. If schizophrenia is associated with increasing cognitive impairment in the course of aging, then P300 latency might show an abonormal rate of increase over adulthood. *Method:* We evaluated auditory ERP components elicited by an auditory "oddball" one discrimination paradigm in 29 medicated schizophrenic and 22 control subjects. All subjects were male, right-handed, and between the ages of 20 and 55. N100 and P300 latency and amplitude were measured at Cz. N100 amplitude was measured as the peak negative voltage between 90 and 150 ms for each subject's ERP to frequent stimuli. P300 amplitude was measured as the average voltage over the rising phase of the P300 deflection (peak - 75 ms) for each subject's target ERP. *Results:* Schizophrenic patients showed reduced N100 an P300 amplitude ($t(1,49) > 2.6$, $p < .01$). P300 latency increased with age in schizophrenic (slope = 2.9 ms/year; $r = .53$, $p < .01$), but not in control subjects (slope = 1.4 ms/year; $r = .36$, N.S.). *Conclusions:* These findings suggest that information processing speed is more affected by age in schizophrenic patients than in control subjects, which may indicate a Kraepelinian process of cognitive deterioration.

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Spect Activation Study of the P300 Paradigm

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Summary:

The P300 auditory evoked potential is a complex electrophysiologic phenomenon dependent both on the integrity of several anatomic pathways and multiple psychophysicologic factors. This potential is reported to be abnormal in schizophrenia, and evidence suggests that at least part of the potential is generated in the superior temporal gyrus. To determine which areas of the brain are specifically activated by the P300 task, six normal volunteer subjects underwent HMPAO-Technicium scanning under each of the two conditions. In condidtion I, the subject performed a standard auditory P300 task and indicated whether a low- ("standard") or high-pitched ("oddball") tone occured by pushing a button. Midway through the task, the subject was injected with the blood-flow tracer agent, and was SPECT scanned after the P300 task ws complete. The experiment in condition II was the same, except no oddball tones were presented. After translation of all SPECT data to stereotactic space, images for condition II were subtracted from condition I on a voxel by voxel basis to determine areas of specific activation in the P300 task. Analysis of the difference images voxel by voxel statistical probability maps showed activation in the left posterior superior temporal gyrus and the inferior colliculus in condition I.

NR253 Tuesday, May 25, 12 noon-2:00 p.m.

Familial Schizophrenia and Neuropsychology

Frederic J. Sautter, Ph.D., Psychiatry, Tulane Univ Sch of Med, 1430 Tulane Avenue, New Orleans, LA 70112; Barbara E. McDermott, Ph.D., Alec Wilson, Ph.D., John Cornwell, Ph.D., F. William Black, Ph.D., Alicia Borges, B.A., Jan Johnson, M.D., Patrick O'Neill, M.D.

Summary:

The objective of this study was to determine if there are differences in neuropsychological functioning between familial and nonfamilial schizophrenics. Thirty-one nonfamilial and 29 familial schizophrenics were compared on six neuropsychological parameters. Familial schizophrenics showed significantly higher levels of overall neuropsychological impairment ($T^2(8,51) = 32$, $p<.005$) as they scored significantly more poorly on tests of motor control ($T(1,58) = 9.27$, $p<.003$) and problem-solving (T (1,58) 5.05, $p<.03$) and they also evidenced signficantly more variability in neuropsychological test performance. These significant variance differences were further evaluated by performing maximum likelihood factor analytic procedures on the neuopsychological test scores of the two groups. These procedures indicated that a single general factor underlies the neuropsychological deficits of the nonfamilial group (Tucker-Lewis Goodness of Fit = .85) while two specific factors (one involving motor-control; one involving problem-solving) underlie the deficits of the familial group (Tucker-Lewis Goodness of Fit = .87). Cluster analyses of neuropsychological test scores suggest that the heterogeneity of the familial group may reflect the presence of two relatively distinct clusters of familial patients. Our data indicate that neuropsychological measures of motor-control and problem-solving may be used as marker for a genetic liability for schizophrenia.

NR254 Tuesday, May 25, 12 noon-2:00 p.m.

Effects of Clozapine on Cognitive Function

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Summary:

Objective: To determine if clozapine improves neuropsychological function in refractory schizophrenic patients compared to standard neuroleptic treatment. *Methods:* Seventeen male inpatients with a *DSM-III-R* diagnosis of chronic schizophrenia (mean age = 33.3 ± 6.8, duration of illness = 16.6 ± 4.5 years) from a state hospital research unit were administered a comprehensive neuropsychological test battery while on traditional neuroleptics and after 12 weeks of clozapine (average dose = 659 ± 167 mg). BPRS ratings were done during the week of testing. Alternate forms of the tests were used at second testing. Neuropsychological summary scales (Language, Executive, Verbal Memory, Spatial Memory, Concerntration/Speed, Sensory-Perceptual, Global, Left Hemisphere, and Right Hemisphere) were created using a summed average of Z transformed scores. *Results:* Wilcoxon matched pairs tests indicated that patients improved significantly on the Concentration/Speed and Right Hemisphere scales, with a tendency for patients to get worse on the Spatial Memory scale. Spearman rho analyses suggested that improvement in cognition was related to reduction in BPRS total scores. Only two patients could be classified as responders (20% improvement in BPRS total score) *Conclusions:* Clozapine appears to enhance cognitive function, specifically tasks involving complex attention and motor speed, in refractory patients in spite of its minimal effect on reducing symptomatology in this group of patients.

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Three Syndromes Concept of Schizophrenia: A Factor Analytic Study

Ashok K. Malla, M.B., Psychiatry, Victoria Hospital, 375 South Street, London Ontario N6A 4G5, Canada; Ross M.G. Norman, Ph.D., Peter Williamson, M.D., Leonard Crotese, M.D., Fernando Diaz, M.D.

Summary:

It has been suggested that the primary symptoms of schizophrenia consist of three syndromes, psychomotor poverty, disorganization, and reality distortion, and that positive-negative symptom dichotomy is not a sufficient model. There has also been conceptual disagreement regarding the correct classification of some of the symptoms as positive or negative. Support for this has come primarily from factor analysis of relatively small patient samples.

In this study, we have examined relationships between individual symptoms in a sample of 155 *DSM-III-R* schizophrenic patients using an exploratory factor analytic technique. Symptom ratings were conducted using SAPS and SANS. Interrater reliabilities for both SAPS and SANS were high (.94 and .84, respectively). Two separate factor analytic procedures were carried out. The first one included all of the items on the SAPS, but excluded certain items on the SANS, which measure avolition, anhedonia, and problems in attention, thus following exactly the procedure used by Liddle. (1987a) Second factor analysis was conducted using all of the items on SAPS and SANS. Both procedures produced a three factor solution explaining 53% and 46% of variance, respectivley. The three factors that emerged confirmed Liddle's hypothesis of a three factor model of symptoms of schizophrenia with some minor variations. These results are discussed in the context of conceptualization of schizophrenic symptoms, as well as difficulties associated with correct assignment of symptoms to an appropriate category.

NR256 Tuesday, May 25, 12 noon-2:00 p.m.

Lateral Frontal Cortex and Clozapine Response

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Summary:

Prefrontal sulcal prominence on CT scan was reported to be inversely related to clozapine response in schizophrenia (Friedman et al., 1991). We investigated the relationship between several regional measures of brain atrophy and clozapine response in a clinical sample of 33 patients with schizophrenia. The mean age was 32 years, with a mean duration of illness of 10.5 years. The group consisted of 28 men and five women. Patients were assessed with the Clinical Global Impression scale at admission (mean score 5.2) and discharge (mean score 3.8). The mean admission and discharge doses of antipsychotic were 829 and 930 mg chlorpromazine equivalents, respectively. The mean duration of clozapine treatment was 18 weeks (range 5-54 weeks). CT scans were performed as part of a comprehensive clinical assessment. Ratings were made with a 7-point scale using reference photographs (interrater intraclass correlations 0.78-0.93). The association between CGI discharge and CT variables was studied with multiple regression analysis, including CGI admission as an independent variable. Poor clozapine response was related to increased lateral frontal atrophy ($p = .04$) and higher CGI admission ($p = .03$), but not to medial frontal atrophy (overall model: $F = 3.78$, $R = .053$, $p = .02$). CGI discharge was not related to the total ventricular score, or to the total cortical atrophy score. These results suggest a role for the lateral frontal cortex in determining clozapine response in schizophrenia.

NR257 Tuesday, May 25, 12 noon-2:00 p.m.

Schizophrenic Premorbid Adjustment: Brain Indicies

James J. Levitt, M.D., Psychiatry, Harvard Medical School, 116A 940 Belmont Street, Brockton, MA 02401; Brian F. O'Donnell, Ph.D., Robert W. McCarley, M.D., Paul G. Nestor, Ph.D., Martha E. Shenton, Ph.D., Jennifer E. Haimson, B.A.

Summary:

Objective: Premorbid adjustment in schizophrenia is of interest as a predictor of pshychosocial and biological pathology (Levitt et al., 1992, and in submission). Here we examined premorbid adjustment in schizophrenia (SZ) and its relationship to event-related potential (ERP) and Wisconsin Card Sort (WCS) data after onset of the illness. *Method:* We interviewed 12 chronic male SZ veterans, eight of whom so far have received ERP and neuropsychological testing, and their first-degree relatives, using the Cannon-Spoor et al. Premorbid Adjustment Scale (PAS), and also obtained objective data from school records. The N2 and P3 components of the event-related potential were elicited using an auditory oddball paradigm. N2 and P3 amplitude were measured at coronal electrode sites (T3, CZ, T4). All *p* values are two-tailed. *Results:* Worse premorbid adjustment in SZs was associated with marked reduction of the N2 and P3 components of the auditory event-related potential. PAS scores were correlated with left temporal and central N2 amplitude (T3, $r = .86$, $p = .04$; CZ, $r = .85$, $p = .008$; T4, $r = .38$, $p = .36$). P3 amplitude also correlated with PAS scores (T4, $r = -.82$, $p = .01$; CZ, $r = -.31$, $p = .45$; T3, $r = -.51$, $p = .20$) although with significance only over the right temporal region. Age specific SZ PAS period scores from childhood through late adolescence revealed the same pattern of associations. Neuropsychologically, worse SZ PAS scores were associated only with more perseverative errors on the WCS task ($r = .80$, $p = .03$). *Conclusions:* Premorbid adjustment predicts the severity of subsequent cognitive ERP abnormalities, as well as severity of perseveration in SZ.

NR258 Tuesday, May 25, 12 noon-2:00 p.m.

Subjective Reasons for Drug Use in a Schizophrenic Population

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Summary:

Objective: This study tested the hypothesis that schizophrenic patients abuse drugs in an effort to self-medicate. *Method:* The investigators designed a structured interview, the Subjective Interaction of Drugs and Symptoms (SIDS), in which patients were asked why they use drugs, whether they self-medicate with illicit drugs, and what effect the drugs have on psychiatric symptoms. Additionally, psychiatric symptoms and neuroleptic induced extrapyramidal side effects were assessed using standardized interviews and examinations. Fifty-seven patients who met *DSM-III-R* criteria for schizophrenia and cocaine abuse were evaluated soon after admission to psychiatric inpatient programs. *Results:* Eighty-four percent of the subjects reported using drugs to reduce symptoms, including depression (44%), social withdrawal (19%), and non-social negative symptoms (18%). Among patients who exhibited psychiatric symptoms, cocaine was reported to improve depressive symptoms (52%), non-social negative symptoms (51%), psychotic symptoms (30%), social withdrawal (30%), and extrapyramidal side-effects (63%). *Conclusion:* These findings support the self-medication hypothesis. The majority of patients reported using illicit drugs to relieve psychiatric symptoms or to reduce discomforting medication side effects. This suggests that substance abuse might be reduced if clinicians recognize and effectively treat self-medicated symptoms.

NR259 Tuesday, May 25, 12 noon-2:00 p.m.

Left Temporal Lobe Abnormalities in Schizophrenia

Paul G. Nestor, Ph.D., Psychiatry, Harvard Medical School, 116A 940 Belmont Street, Brockton, MA 02401; Martha E. Shenton, Ph.D., Brian F. O'Donnell, Ph.D., Robert W. McCarley, M.D., Matthew O. Kimble, B.A., Jennifer E. Haimson, B.A.

Summary:

Objective: We propose that a "group of schizophrenias" may reflect temporal lobe dysfunction that is evinced structurally as tissue loss, neurophysiologically as auditory P300 alternations, neuropsychologically as impaired semantic memory, and clinically as a formal disturbance in thought. *Method:* To test this unifying hypothesis, we examined magnetic resonance imaging (MRI) of temporal lobe structures, verbal and visual memory performance, auditory P300 event-related potentials, and thought disturbance within the same group of 15, chronic, mixed-symptom schizophrenic patients. *Results:* We found highly significant correlations between volumetric reductions in left temporal lobe structures, particularly posterior superior temporal gyrus, and left P300 temporal scalp deficit ($r = .59$, p. <0.05), poorer scores on tests of semantic memory ($r = .58$, $p < 0.05$), and thought disturbance, as assessed by the Thought Disturbance Index ($r = -.81$, $p < 0.001$). In addition, reduced semantic memory, as assessed by delayed recall of meaningful stories of the Wechsler Memory Scale-Revised, correlated with left P300 scalp deficit ($r = .62$, $p < 0.01$), and thought disturbance ($r = -.71$, $p < .01$). *Conclusions:* These data suggest that a common neurobiological pathway involving temporal lobe structures may be present in a subgroup of chronic mixed-symptom schizophrenic patients with formal thought disturbance, impaired semantic memory, and reduced left temporal scalp auditory P300.

NR260 Tuesday, May 25, 12 noon-2:00 p.m.

Reference Performance in Parents of Schizophrenics

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Summary:

Objective: Clinicians have reported observing subtle signs of thought or communication disorder in parents of schizophrenic patients. Our objective was to ascertain empirically whether these impressions are valid, and if so to clarify the nature of such disturbances. *Methods:* Natural speech samples of stable schizophrenic outpatients ($n = 9$), their "unaffected" parents ($n = 18$), and controls matched to the parents ($n = 10$), were assessed using established clinical measures of thought disorder and linguistic measures of reference performance. Subjects were also tested on a matched-task digit span measure of distractibility. *Results:* Patients' parents did not differ from controls on clinical ratings of thought disorder. However, linguistic refrence performance of the parents was similar to that of the patients, and significantly poorer than that of controls, $F = 11.11$, $p < .003$. Qualitatively, and internal/external boundaries. Reference disturbance in parents was also associated with distractibility on the digit span measure, $r = .53$, $p < .05$, suggesting the involvement of attentional impairment in reference failures. *Conclusions:* Linguistic reference failures may represent a familial vulnerability marker for schizophrenia. Further reserach is needed to confirm this and to elucidate more fully the cognitive characteristics which underlie poor reference performance.

NR261 Tuesday, May 25, 12 noon-2:00 p.m.

Affect and Schizophrenic Phenomenology

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Summary:

In order to assess the relationship of affect to schizophrenic (Sz) phenomenology, chronic Sz male subjects (Ss) were rated on positive and negative symptoms as well as general degree of psychopathology on the Positive & Negative Syndrome Scale (PANSS). Ratings of affect were conducted utilizing three Manifest Affect Rating Scale (MARS) factors, derived from a Principal Components Analysis. Ss were additionally matched for medication dose and rated on the Extrapyramidal Rating Scale (ERS). Four phenomenological ratings were obtained from the PANS: Positive Scale Score (PSS), Negative Scale Score (NSS), and General Psychopathology Score (GPS). The GPS was used to control for differential degree of intergroup psychopathology. Ss were typologically assigned to positive or negative groups based on the higher PSS or NSS totals. They were also classified dimensionally, that is, degree of intrasubject positivity or negativity, based on their PANSS composite score. Results revealed that, when the effect of positive or negative group membership on MARS factor was assessed, the negative group displayed a greater degree of emotional unrelatedness ($p < .0008$) and expressive immobility ($p < .05$). The positive group displayed a greater degree of inappropriateness of affect ($p < .05$). During a dimensional analysis, emotional unrelatedness and expressive immobility were found to be strongly related to the PANSS NSS ($p < .0001$ & $p < .05$ respectively). Inappropriateness of affect was again related to the PANSS PSS ($p < .05$). No group differences were noted on either ERS or GPS scores. Implications will be discussed.

NR262 Tuesday, May 25, 12 noon-2:00 p.m.

Phenomenology, Neuroleptic Medication and Cognition

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Summary:

While evidence of neuropsychological impairment in schizophrenia appears throughout the literature, the interactive effects on cognitive functioning of paranoid/nonparanoid subtype and medication status has not been evaluated. We report here on a retrospective study of 50 *DSM-III-R* diagnosed schizophrenic inpatients (Ss) (mean age = 30 years) who were examined in order to delineate the specific nature of these interactive effects. All Ss received a battery of neuropsychological tests designed to specifically examine domains of cognitive processing, including executive, sensori-motor, linguistic, visual-spatial, and memory. Ss were divided into three groups: All Ss (N = 50), Paranoid Ss (N = 22), and Nonparanoid (Ss) (N = 25). Group performance was then analyzed as to within group on or off medication status. Results revealed that medication had significant negative effects on IQ test scores, on visual-spatial reasoning, on visual-spatial as opposed to verbal memory, and on color perception. It is noteworthy, however, that performance on a clear majority of tests within the executive, sensori-motor, linguistic, and visual-spatial cognitive domains failed to reveal a medication effect. When subtype differences were examined, the effects of medication on cognitive performance in the paranoid group was similar to that of the entire sample. In contrast, medicated nonparanoid Ss did more poorly than their nonmedicated cohort in visual-spatial reasoning and across all tests of visual-spatial memory. Overall, this study suggests that neuroleptics may have selective effects on cognitive functioning which are further mediated by diagnositc subtype.

NR263 Tuesday, May 25, 12 noon-2:00 p.m.

Brain Morphology in Schizophrenics and Their Siblings

Stephen C. Olson, M.D., Psychiatry, Ohio State University, 473 W. 12th Avenue, Columbus, OH 43210; Henry A. Nasrallah, M.D., Mary B. Lynn, M.S.

Summary:

Studies of brain structure in twins and in relatives of persons with schizophrenia (SZ) have suggested the involvement of genetic factors in the control of ventricular size. The studies of monozygotic twins discordant for schizophrenia also show that non-genetic factors are also operative. We are engaged in a family study comparing persons with *DSM-III-R* SZ with a same sex sibling (SIB) and a group of same-sex pairs of normal siblings (CTL) using volumetric measures of brain and ventricles derived from magnetic resonance images. All subjects also completed a Chapman scale of self-report of schizotypal symptoms.

SZ subjects (n = 25) had larger lateral (LVV) and third (3VV) ventricle volumes than either SIB or CTL groups (ANOVA: $p = .0009$ for LVV and $p = .0011$ for 3VV). Cerebral volume corrected for height did not distinguish groups. Chapman scores were also higher in SZ than SIB and CTL ($p < .0001$ for Perceptual Aberration and Social Anhedonia subscales, $p = .012$ for Physical Anhedonia scale); SIB differed from CTL only on the Perceptual Anhedonia scale (Mann-Whitney $p = .023$). Brain measures did not differ between SIB and CTL groups and there were no correlations in the SIB or CTL group between any Chapman score and either LVV or 3VV.

These results confirm findings of enlargement of ventricular volume, but do not support results of previous MRI studies showing smaller head or brain size in SZ. Chapman scores of schizotypy were not elevated in the siblings, nor were these scores correlated with morphological measurements. Further results will be presented, including data on neuropsychological performance and additional indices of schizotypy, such as MMPI scores.

NR264 Tuesday, May 25, 12 noon-2:00 p.m.

Benzodiazepine Maintenance in Schizophrenia

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Summary:

Objective: Although adjunctive benzodiazepines are useful in reducing acute psychosis or psychotic agitation in some patients with schizophrenia, few studies have assessed their long-term usefulness of maintenance therapy. This lack of data is critical since many schizophrenic patients currently receive maintenance adjunctive benzodiazepine treatment and since some authorities have cautioned against this practice until more data become available. *Method:* Seven outpatients, who demonstrated antipsychotic responses to adjunctive alprazolam during a prior four-week double-blind trial, were continued on open-label alprazolam augmentation of neuroleptics for periods of up to 37 months (mean = 14.3 ± 12.2 (SD)). A comparison group of six outpatients was treated with neuroleptics alone for a similar period of time. All medication adjustments were made by community psychiatrists not related to the study. *Results:* During the follow-up period, five of the alprazolam-treated patients maintained the full antipsychotic benefit achieved during the four-week double-blind trial; one showed partial behavioral tolerance and one had alprazolam discontinued because of interdose anxiety symptoms. In no patient were alprazolam doses increased over the maintenance period. Endpoint analysis (compared to baseline) revealed a significantly better outcome in Brief Psychiatric Rating Scale ratings for the alprazolam augmentation group compared to the group receiving neuroleptics alone ($p < 0.001$). Lastly, in four of the alprazolam augmentation patients, neuroleptic dosage reductions were possible; no such reductions were observed in the neuroleptic-alone group. *Conclusions:* These preliminary results raise the possibility that, in some patients with schizophrenia, benzodiazepine augmentation may maintain antipsychotic efficacy over considerable periods. Larger scale, double-blind trials seem warranted.

NR265 Tuesday, May 25, 12 noon-2:00 p.m.

Validity of Subjective History in Schizophrenia

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Summary:

Objective: Several factors may interefere with the ability of individuals with schizophrenia to provide a valid history, such as poor insight, amotivation, suspiciousness, disorganized speech, and attentional problems. This study was designed to determine the degree to which history provided by schizophrenic subjects is consistent with that obtained from other sources. *Methods:* 55 *DSM-III-R* schizophrenics were multiply evaluated with the Comprehensive Assessment of Symptoms and History (CASH). One rater completed the CASH based solely on information provided by the patient. A second rater completed the CASH based on information obtained from a "best informant." Following this, a consensus CASH was established based on an exhaustive review of all sources of information, including psychiatric records, nursing ob-

servations, multiple informants, etc. An item-by-item comparison of the three CASH's was then quantified by paired t-tests, simple and multiple correlations. *Results:* Patients significantly under-reported the severity of all negative symptoms, whereas the corresponding "best informant" ratings did not differ from consensus ratings. Positive symptoms, with the exception of hallucinations, were significantly under-reported by both patients and best informants. *Conclusions:* Symptom data gathered primarily from the subjective reporting of schizophrenic patients are likely to reflect an underestimate of severity. Corroboration by a close informant will substantially improve the validity of the assessment of negative symptoms.

NR266 Tuesday, May 25, 12 noon-2:00 p.m.

Substance Abuse and Treatment Resistant Schizophrenia: Implications for Clozapine Therapy

Peter Buckley, M.D., Psychiatry, Case Western University, 2040 Abington Road, Cleveland, OH 44106; Herbert Y. Meltzer, M.D.

Summary:

Although substance abuse (SA) co-morbidity has attracted considerable clinical and research interest, little is known regarding the extent of SA and its prognostic signficance among patients with treatment resistant schizophrenia who receive clozapine. We addressed this issue in a sample (n = 118) of patients with treatment-resistant, *DSM-III-R* schizophrenia who, prior to selection for clozapine treatment underwent detailed demographic, clinical, and psychopathological evaluation. Information concerning any current or past history of substance abuse was also collected from multiple sources. Applying RDC/*DSM-III-R* criteria, 30 patients (25% of sample) had an antecedent or current history of substance abuse. Abusers, although predominantly male (27/30 vs 51/88, p = 0.001), were otherwise indistinguishable from non-abusers on demographic features, clozaine dosage, medication side effects, depression, positive or negative symptoms, and psychosocial functioning. The only prominent difference emerged in SADS-C disorganization subscale with abusers attaining *lower* baseline scores (2.0 ± 2.0 vs 4.3 ± 3.8, p = 0.0002), but similar scores after six months of clozapine treatment. A modest extent of previous or current SA was observed here among neuroleptic-resistant schizophrenic patients. This did not appear to exert a deleterious influence on subsequent response to treatment with clozapine.

NR267 Tuesday, May 25, 12 noon-2:00 p.m.

Soft Signs, Attention and Startle Regulation in Schizophrenia

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Summary:

Schizophrenic patients exhibit abnormalities in the acoustic startle reflex and measures of attention, as well as increased neurological soft signs as compared to healthy controls. This study compares baseline startle amplitude and habituation, vigilance, and distractibility with Factors of the Neurological Evaluation Scale (NES). *Method:* In an ongoing study, 20 schizophrenic patients on stable doses of neuroleptic medications, participated in tests of the acoustic startle response and computerized tests of vigilance and distractibility. Eyeblink response to 110 dB was measured. Vigilance was measured by a computer-based continuous performance task during which patients were instructed to press a button after seeing a 9 preceded by a 1 on the screen. Distractibility was measured by the addition of two columns of numbers alongside the target column. A factor analysis of the NES had been derived separately from a study of 80 patients utilizing a modified version of the NES introduced by Buchanan and Heinrichs. *Results:* Analysis suggests that: 1) Vigilance (r = 0.84, p = 0.0001), distractibility (r = 0.65, p < 0.002), and baseline startle amplitude (r = 0.52, p = 0.02) are significantly correlated with Soft Signs Total. Factor 1, "Memory," correlated significantly with baseline startle amplitude (r = 0.46, p < 0.04) and vigilance (r = 0.55, p < 0.02). Factor 2, "Sensory-Motor Disinhibition," correlated significantly with vigilance (r = 0.83, p < 0.0001), distractibility (r = 0.59, p = 0.005), and startle amplitude habituation (r = 0.43, p = 0.05). Factor 4, comprising glabellar reflex, mirror movements, and right-left confusion correlated significantly with vigilance (r = 0.45, p < 0.05). *Implications:* These findings suggest that neurological deficits as measured by the NES Total and Factor Scores are associated with impairments in attention and startle regulation.

NR268 Tuesday, May 25, 12 noon-2:00 p.m.

Pre-Pulse Inhibition and Attention in Schizophrenia

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Summary:

Schizophrenic patients exhibit blunting of the pre-pulse inhibition of acoustic startle response compared to healthy controls. It has been proposed that this deficit corresponds to the cognitive and attentional difficulties found clinically in schizophrenic patients. This study compares the degree of pre-pulse inhibition of the acoustic startle response with measures of vigilance and distractibility in stable schizophrenic patients. *Method:* In an ongoing study, 25 schizophrenic patients, on stable doses of neuroleptic medications, participated in tests of baseline and pre-pulse inhibition of the acoustic startle response and computerized tests of vigilance and distractibility. Eyeblink response to 110 dB (pulse-alone) was mesured at baseline and with a 85 dB pre-pulse at 120ms (prepulse + pulse). Vigilance was measured by a computer-based continuous performance task during which patients were instructed to press a button after seeing a 9 preceded by a 1 on the screen. Distractibility was measured by the addition of other stimuli on the screen. Pre-pulse inhibition was defined as startle to pulse-alone minus startle to prepulse + pulse. *Results:* Analysis suggests that: 1) Pre-pulse inhibition correlates significantly with distractibility (r = 0.47, p < 0.02) but not with vigilance. 2) Baseline startle correlates significantly with vigilance (r = 0.41, p < 0.04) but not with distractibility. *Implications:* These preliminary findings suggest that deficits in pre-pulse inhibition of the startle response do reflect alterations in sensory gating related to increased distractibility in schizophrenic patients.

NR269 Tuesday, May 25, 12 noon-2:00 p.m.

Weight Gain Associated with Clozapine Treatment of Schizophrenia

Tung-Ping Su, M.D., ETB NIH 10/4N214, NIMH, 9000 Rockville Pike, Bethesda, MD 20892; John Hsiao, M.D., Anil K. Malhotra, M.D., Robert E. Litman, M.D., Walter W. Hong, M.D., David Pickar, M.D.

Summary:

Objective: This study is designed to test 1) whether clozapine induces greater weight gain than treatment with fluphenazine, 2) whether clozapine-induced weight gain is related to clozapine treatment response, and 3) whether clozapine-induced weight gain is related to endocrine response to the serotonin agonist, m-Chlorophenylpiperazine (mCPP). *Methods:* 35 neuroleptic-resistant or

intolerant inpatients participated in a prospective clozapine trial (99 ± 34 days). Weights were collected at the end of fluphenazine, during placebo, and early and late clozapine treatment. *Results:* 1) Clozapine treatment was associated with a significant weight gain in comparison to fluphenazine ($p < 0.01$); while the mean increase was modest (8%), there was considerable individual variation. Patients' weights also significantly increased during both fluphenazine and clozapine treatments in comparison to placebo ($p < 0.01$). In an extension of our previous observations, clozapine treatment was associated with a significant reduction in total BPRS scores in comparison to fluphenazine ($p < 0.01$). 2) Clozapine significantly increased plasma cholesterol and glucose levels in comparison to fluphenazine ($p < 0.01$). 3) Weight gain early in the clozapine trial (48 ± 34 days) was positively correlated with clozapine-induced reduction in BPRS total scores at the completion of the study ($r = 0.31$, $p = 0.07$). 4) Early weight gain was also related to mCPP-induced increases in serum prolactin when patients were on fluphenazine. *Conclusions:* Clozapine treatment is associated with significant weight gain in comparison to typical neuroleptics and with significant increases in plasma cholesterol and glucose. Clozapine-induced weight gain early during the treatment trial showed a trend for association with more favorable clozapine response. Mechanism of weight gain and clinical response to clozapine may overlap.

NR270 Tuesday, May 25, 12 noon-2:00 p.m.

Fibroblast Studies in First-Episode Psychoses

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Summary:

We previously reported abnormal growth and morphology of skin fibroblasts from chronic schizophrenic patients (Psychiatry Res 1991; 37:309). Fibroblasts from patients showed delayed appearance of initial growth and increased doubling time. In vitro neuroleptic treatment did not induce these abnormalities in fibroblasts from normal subjects.

We now present evidence of abnormal growth and morphology of skin fibroblasts from drug-naive first-episode psychosis patients at the Eisenhower Army Medical Center at Fort Gordon. The sample was comprised of ten patients with a mean age of 23.3 years (sd 4.2), ten drug-free chronic schizophrenic patients from the Augusta VAMC, and ten age- and sex-matched normal controls with a negative family history of psychosis.

Time for appearance of initial growth and doubling time both were significantly longer in the patient groups relative to normals ($p < .01$ for all comparisons), with no significant difference between drug-free and drug-naive patients. Fibroblasts from drug-naive patients also showed abnormal morphology with flattened multipolar cells in irregular orientation, and poor attachment to substratum. These indicate that the abnormal growth of fibroblasts are not attributable to neuroleptic exposure. Rather, they implicate abnormal cell surface properties and suggest the presence of a generalized cell plasma membrane pathology in the psychoses.

NR271 Tuesday, May 25, 12 noon-2:00 p.m.

Familial Factors in Age of Onset in Schizophrenia

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Summary:

Objective: To determine if patients with early onset schizophrenia have a greater incidence of family history of psychiatric and medical illness and a greater number of developmental and perinatal difficulties than patients with later onset of illness. *Methods:* Forty inpatients from the research unit of Napa State Hospital (NSH) meeting a *DSM-III-R* diagnosis of chronic schizophrenia (mean duration of illness = 17.8 ± 7.6 years) were studied. Twenty patients had an age of onset (*DSM-III-R* class A symptoms) before age 15 and 20 patients after age 18. Structured family, developmental, and perinatal histories were obtained by interview with the probands' closest living relative by trained social workers. *Results:* In preliminary analyses, there were no significant differences between the early and late onset group in degree of family history of psychiatric or neurological/medical illness. However, when compared to a sample of state hospital schizophrenics in their first episode of illness (collected elsewhere), the pooled NSH patients had significantly larger incidences of familial psychiatric and medical illnesses. *Conclusions:* Age of onset in schizophrenic illness may not be associated with greater family history of psychiatric or medical illness, but chronically institutionalized refractory schizophrenics as a group may have a strong genetic component to their illness.

NR272 Tuesday, May 25, 12 noon-2:00 p.m.

Dysphoria and Symptomatology in Schizophrenia

Ross M. G. Norman, Ph.D., Psychiatry, Victoria Hospital, 375 South Street, London, Ontario N6A 4G5, Canada; Ashok K. Malla, M.D.

Summary:

There have in the past been several investigations of the relationship between depression and negative symptoms of schizophrenia. These studies have yielded inconsistent results. Two recent studies have suggested that self-report measures of depression may be more strongly related to positive rather than negative symptoms of schizophrenia. Past research on these issues have relied on cross-sectional data. Patterns of correlations between symptoms across patients do not necessarily reflect a temporal relationship between the same symptoms within individual patients. In the present study we report the results of a longitudinal study of 52 schizophrenic patients who underwent monthly assessments of depression, anxiety, and positive and negative symptoms for periods of time ranging from 12 to 29 months. Data were analyzed to assess the extent to which temporal changes in symptoms of dysphoria (anxiety and depression) were more strongly related to negative or positive symptoms. Consistent with past research using comparisons across subjects, the current longitudinal data show that there is a more consistent relationship between dysphoria and positive rather than negative symptoms.

NR273 Tuesday, May 25, 12 noon-2:00 p.m.

Long-Term Safety of Risperidone in Patients with Chronic Schizophrenia

John S. Carman, M.D., Carman Research, Psych & Res. PC Ste A, 4000 Cumberland Pkwy Bldg 100, Atlanta, GA 30339

Summary:

Objective: To evaluate the safety of risperidone in schizophrenic patients over a one-year period. *Method:* An open-label trial using daily doses of risperidone ranging from 6 to 16 mg. The Extrapyramidal Symptom Rating Scale (ESRS) was used to rate patient-elicited EPS. Other adverse experiences also were recorded. *Results:* Seven patients were followed for one year. Although daily dosages of risperidone varied from 6 to 16 mg, no dose-related

responses were detected concerning PANSS scores (which dropped from an average of 88.4 at baseline to 50.0 after one year), ESRS scores, or the number or type of adverse experiences reported. Average ESRS scores dropped from 15 at baseline to 9.9 at study end. A decrease in ESRS scores was noted for almost all EPS parameters. There were modest increases in ESRS scores for bradykinesia, global dyskinesia, and parkinsonism. Seventy-one adverse experiences were recorded and were rated mostly as mild (63.0%) or moderate (35.6%). Drug-related adverse experiences were reported as "yes" (6.8%), "possibly" (71.2%), and "definitely not" (21.9%). *Conclusions:* Risperidone at daily dosages of up to 16 mg appears to be safe for long-term use, based on the reduction of ESRS scores and the fact that most other adverse experiences appear to be mild-to-moderate.

NR274 Tuesday, May 25, 12 noon-2:00 p.m.

Positive/Negative Syndromes and Neuropsychological Scores in Children and Adolescents

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Summary:

Thirty-one child and adolescent psychiatric inpatients of a university-affiliated urban hospital were assessed using the Positive and Negative Syndrome Scale for Children and Adolescents (K-PANSS) and two neuropsychological measures: the Wisconsin Card Sorting Test (WCST) and the Continuous Performance Test (CPT). This study was prompted by recent investigations demonstrating the importance of assessing cognitive functions and Positive and Negative scores in pre-adult populations. Pearson correlation coefficients (2-tailed) were used to ascertain any significant relationship between the subscales of the K-PANSS (Positive, Negative, Composite and General Psychopathology) and the neuropsychological variables. An increase in the number of categories achieved on the WCST correlated significantly with a decrease of the Positive syndrome ($r = .60$, $p < .0001$). A decrease in the Positive syndrome also correlated with an increase in the percent of conceptual responses ($r = .59$, $p < .0001$). No significant correlations were found between the Negative syndrome and General Psychopathology scores and any WCST measure. The mean number of correct responses on five CPT trials was inversely correlated with the Negative score ($r = .47$, $p < .01$), as well as General Psychopathology subscales. These results differ from adult correlations of similar variables. The reasons for these differences will be discussed.

NR275 Tuesday, May 25, 12 noon-2:00 p.m.

Gender Differences in Pathways to Homelessness

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Summary:

Are there gender differences in pathways to homelessness among the seriously mentally ill? To identify risk factors for homelessness we conducted a case-control study of 200 indigent men (N = 100) with a SCID *DSM-III-R* diagnosis of schizophrenia who met criteria for "literal" homelessness, and 200 such men and women with no homeless history. Standardized research instruments were used to probe three domains of risk factors for homelessness suggested by the literature: severity of illness, family background, and prior mental health service use. Men and women were demographically similar except on median age (32 years for men and 42 years for women) and conjugal history (21% for men and 62% for women). Homeless men and women showed higher rates of a concurrent (SCID) diagnosis of substance abuse, and (SCID II) antisocial personality disorder. Moreover, homelss subjects of both genders had less adequate current family support. However, homeless men experienced greater disorganization in family settings from birth to 18 years, while greater numbers of homeless women were estranged from adult partners and had less economic support from kin. Fewer homeless men had a long-term therapist than the never homeless comparison group. In contrast, both homeless and never homeless women were better connected to mental health services. Findings are discussed in relation to future research and policy and programs for the seriously mentally ill.

NR276 Tuesday, May 25, 12 noon-2:00 p.m.

The Pathophysiology of Hallucinated Voices

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Summary:

Objective: This study explored the hypothesis that 'voices' or hallucinated speech arise from impaired speech perception neural networks. *Method:* Neural network computer simulations of speech perception were developed. Spontaneous speech hallucinations and speech perception impairments were induced by either pruning interneuron projections in working memory networks or dampening their neuronal excitability. Enhanced neuronal excitability could partially compensate for cognitive pathology induced by reduced neuronal connectivity. Performance by patients with positive symptoms and normal controls on a speech perception task were compared to these simulation findings. Subjects were requested to "shadow" binaurally presented speech whose acoustic clarity was reduced by superimposed multispeaker babble. *Results:* As predicted by hallucinogenic neural networks, patients reporting hallucinated 'voices' demonstrated impaired perception of babble-masked speech relative to non-hallucinating patients and normal controls. Speech perception data produced by hallucinators most closely matched computer simulations of speech perception networks with reduced working memory connectivity and compensatory increases in neuronal excitability. *Conclusion:* These findings support the hypothesis that the primary pathology causing hallucinated speech is neuroanatomic and is located in verbal working memory networks.

NR277 Tuesday, May 25, 12 noon-2:00 p.m.

Cocaine and Alcohol Abuse in Schizophrenia

William B. Lawson, M.D., Psychiatry, VA Medical Center, 2200 Fort Roots Dr. 116A-NLR, North Little Rock, AR 72114.

Summary:

Twenty percent of schizophrenic patients abuse cocaine, and more than half are alcohol abusers. In view of the dopaminergic actions of cocaine and the putative relationship between schizophrenia and central dopaminergic activity, we compared the response of schizophrenic patients withdrawn from cocaine with cocaine negative schizophrenics. Evaluations were conducted on a specialized ward after detoxification if patients met *DSM-III-R* criteria for schizophrenia confirmed by SCID. Data were obtained from 31 polysubstance abusing patients who were dependent on cocaine or cocaine plus alcohol, and from 11 patients who were alcohol abusers. The cocaine patients were more likely to be African American and there were no other significant demographic differences. Cocaine dependent patients showed significantly

worse ($p < .05$) Scale for Assessment of Negative Symptoms (SANS) total scores (26.4 + 17 vs. 16.1 + 13), avolition (4.8 + 4 vs. 2.3 + 3), and anhedonia (10.2 + 7 vs. 6.2 + 7) subscales after detoxification, and had significantly higher scores on the Hamilton Depression Scale (20.4 + 9 vs. 8.8 + 9), but only after 60 days. Cocaine may produce a persisting hypodopaminergic state after withdrawal that may worsen negative symptoms and contribute to depression.

NR278 Tuesday, May 25, 12 noon-2:00 p.m.

Cingulate Gyrus and Schizophrenia

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Summary:

Neuropathology in schizophrenia was investigated by measuring the volume of the cingulate gyrus, using MRI. 1.5 mm SPGR coronal slices were acquired for 14 schizophrenic subjects, matched to 14 normal controls for age, body size, and handedness. Image processing software was then used to quantify the data. First, the cingulate gyrus was traced manually on the images for each slice, then a semi-automated segmentation program was used to separate gray and white matter. The areas defined on each slice were then integrated to give overall volume. Inter-rater reliability was $r = 0.909$, and intra-rater reliability $r = 0.955$. The results showed no significant difference in volume of the cingulate gyrus, gray or white matter, or between schizophrenics and normals. However, in the schizophrenic group there were significant negative correlations between volume of the cingulate gyri and scores on the scale for negative symptoms ($r = -0.777$, $p < 0.01$), which are neuropsychological deficits related to cingulate pathology. There was also sigificantly greater variance in white matter on the left side in schizophrenics than in normals ($Fmax/Fmin = 3.06$, $df = 1,26$, $p = 0.05$). These results are consistent with the theory that cingulate pathology does occur in schizophrenia, but that it is not in the form of gross neuronal death or reduction.

NR279 Tuesday, May 25, 12 noon-2:00 p.m.

Auditory Mismatch Negativity in Schizophrenia

Hiroto Hokama, M.D., Psychiatry, Harvard Medical School, 116A 940 Belmont Street, Brockton, MA 02401; Brian F. O'Donnell, Ph.D., Robert W. McCarley, M.D., Dean F. Salisbury, Ph.D., Matthew O. Kimble, B.A., Paul G. Nestor, Ph.D.

Summary:

Objective: We examined automatic attentional processing in schizophrenia (Sz) as measured by the mismatch negativity (MMN) of the auditory event-related potential (ERP). MMN reflects automatic or reflexive attentional mechanisms, and occurs to low-probability, deviant auditory stimuli in the absence of task demands. *Method:* 20 medicated Sz and 20 control subjects were tested. All subjects were male, right-handed and between the ages of 20 and 55. The MMN was elicited by low-probability ($p = .15$) 1500 Hz tone pips, and high-probability 1000 Hz tone pips with an ISI of 1.2 s. Peak N100 amplitude at Fz, Cz, and Pz was measured and submitted to ANOVA (group × probability × electrode). *Results:* N100 amplitude was reduced in Sz ($p < .01$; control voltage (Fz) = −4.4 μV vs. −2.6 μV in Sz). N100 amplitude was larger to the deviant low-probability tones ($p = .03$; mean difference at Fz = −0.6 μV), demonstrating a MMN component. There was, however, no group × probability interaction, indicating the MMN was not reduced in Sz. *Conclusions:* These results suggest that the MMN elicited by this particular paradigm may be relatively resilient in medicated, male Sz patients with a chronic course. In addition, while the MMN and N100 components appear in the same time domain, they are differentially affected by Sz, and probably differ in their neural generators.

NR280 Tuesday, May 25, 12 noon-2:00 p.m.

Pharmacokinetic and Pharmacodynamic Evaluation of Divalproex Sodium for Treatment of Bipolar Disorder

Ann Hsu, Ph.D., 4 PK, Abbott Lab., One Abbott Park, Abbott Park, IL 60064; Richard G. Granneman, Ph.D., Lyinn Chung, Ph.D., Molly Blake, M.S., Andrew Brugger, M.D.

Summary:

The harmacokinetic-pharmacodynamic relationship for divalproex use in the manic phase of bipolar disorder was investigated using NONMEM and PROC NLIN of SAS. Free (C_f) and total (C_t) valproate concentrations were correlated to changes in Manic Rating Scale (MRS) and Manic Syndrome Score (MSS) and Behavior and Ideation Score (BIS) subcategories. Data for the 43 of 63 patients with ≥30% improvement in ≥2 efficacy variables (MRS, MSS, BIS) were fitted to two models relating effect (E) to C: (I) $E = E_{max} \cdot C^{\gamma}/EC_{50\gamma} + C^{\gamma}$); (II) $E = BS - (E_{max} \cdot C^{\gamma}/(EC^{\gamma}_{50} + C^{\gamma}))$. For I, $E = (BS - OBS)/(BS - MIN)$, in which BS, OBS and MIN are baseline, observed and minimum possible scors. For II, E = OBS. E_{max} was at least 84% for both models for MRS, MSS and BIS. For C_t, EC_{50}s ranged from 64 to 92 μg/mL with γ ranging from 1.2 to 1.8. For C_f, EC_{50}s ranged from 3.4 to 21 μg/mL, with γ ranging from 0.87 to 1.0 (the smaller γ reflects the nonlinear protein binding of valproate). Residual plots found no significant covariates with NONMEM; however, stepwise regression found evidence of inverse correlation of EC_{50}s with TSH, T3, and T4.

NR281 Tuesday, May 25, 12 noon-2:00 p.m.

Influence of Clozapine on Polydipsia and Hyponatremia

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Summary:

Polydipsia and hyponatremia in the chronically mentally ill are associated with increased morbidity and mortality (1). The pathophysiology involves an abnormal drive for fluid intake and an inordinate secretion of antidiuretic hormone (2). Pharmacologic interventions have been generally unsuccessful.

Our clinical experience demonstrated that clozapine reduced the severity of water dysregulation across patients. To date no large-scale studies have examined clozapine's effect on this syndrome. All subjects were diagnosed with schizophrenia or schizo-affective disorder per *DSM-III-R* criteria, and had a history of repeated diurnal weight gain of greater than 10% of baseline body weight with at least one documented bout of hyponatremia (sNa < 136 mmol/l) in the past six months.

Measures to monitor water dysregulation included diurnal weights, serum sodium, and urine creatinine. The average 4 PM serum sodium was 133.6 pre-clozapine and 136.6 post-clozapine ($t(7) = -4.42$, $p < .003$). The average lowest sodium level was 129.9 pre-clozapine and 136.6 post-clozapine ($t(10) = 3.32$, $p < .013$). The average amount of fluid drunk calculated from urine creatinine was 6.67 liters pre-clozapine and 4.66 liters post-clozapine, approaching statistical significance ($t(5) = 2.10$, $p < .09$).

Clozapine may be the first identified pharmacologic treatment effective for both polydipsia and sodium dysregulation in PIP syndrome.

NR282 Tuesday, May 25, 12 noon-2:00 p.m.

Projections from Rat Entorhinal Cortex to Striatum

David M. Finch, Ph.D., Neurology, UCLA, Los Angeles, CA 90024; John Gigg, Ph.D., Aiko M. Tan, B.Sc., Joseph P. Kosoyan, Ph.D.

Summary:

Objective: The objective was to define the synaptic organization of projections from entorhinal cortex to striatum. Neuroanatomical studies have shown dense projections from the entorhinal cortex to the ventral striatum (nucleus accumbens).

Methods: In vivo intracellular recording and labeling; and multibarrel iontophoresis were used in adult anesthetized rats.

Results: Intracellular recording from ventral striatal neurons after electrical stimulation of the entorhinal cortex showed supra-threshold EPSPs followed by prolonged IPSPs (100's of msec). Iontophoresis of CNQX or DNQX (antagonists of the AMPA glutamate receptor subtype) blocked excitatory responses. Iontophoresis of bicuculline (antagonist of the $GABA_A$ receptor subtype) blocked only early inhibition. Iontophoresis of CGP-35348 (antagonist of the $GABA_B$ receptor) partially blocked late inhibition.

Conclusions: Excitatory projections from the entorhinal cortex to the ventral striatum act via the AMPA subtype of glutamate receptor. The prolonged inhibitory responses are most likely mediated by associational connections among striatal neurons acting via both $GABA_A$ and $GABA_B$ receptors. Since both medial temporal lobe and striatal structures have been associated with schizophrenia, the results provide a further basis for understanding the production and amelioration of its symptoms.

NR283 Tuesday, May 25, 12 noon-2:00 p.m.

Visual Attention and Schizophrenic Symptoms

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Summary:

This paper presents results from an ongoing longitudinal study to examine the relationship between sustained and selective visual attention and schizophrenic symptoms. Subjects were 22 consecutive inpatient admissions who met *DSM-III-R* criteria for schizophrenia. Positive and negative symptoms were assessed at hospitalization and again three months later during a period of remission. Visual attention was measured at both time periods using the Continuous Performance Task (CPT) and the Forced Choice Span of Apprehension Task (SPAN). Twenty-eight normal control subjects were assessed on the CPT and SPAN. Schizophrenics at follow-up scored significantly lower on the CPT and the SPAN than the controls. At hospitalization and at follow-up poor performance by the schizophrenics on the CPT and the SPAN was significantly associated with high levels of negative symptoms but not with positive symptoms. Despite a significant improvement in positive symptoms over time the schizophrenics' performance on the CPT and the SPAN remained stable at both time periods. These results support the hypothesis that deficits in visual attention may be negative symptom-linked markers and they have implications for identifying cognitive factors that may reflect personal vulnerability to schizophrenia.

NR284 Tuesday, May 25, 12 noon-2:00 p.m.

Symptom Stability in Geriatric Schizophrenia

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Summary:

Neurodevelopmental models of the etiology of schizophrenia suggest that negative symptoms should manifest trait-like characteristics, while positive symptoms fluctuate over time. Empirical studies have confirmed this in prospective studies of chronic schizophrenic patients. However, there is little research addressing the characteristics of positive and negative symptoms in geriatric schizophrenic patients. This study examined the course of positive and negative symptomatology in 147 geriatric schizophrenic inpatients who were assessed twice at a one-year interval with the PANSS. Correlations revealed that negative symptoms were considerably more stable than positive symptoms over the interval (r = .60 vs. .25). Paired t-tests revealed a significant increase in negative symptom severity for the sample as a whole (t = −3.6), with virtually no change in the sample's positive symptom severity (t = 0.3). Thus, even in chronic inpatients who have experienced a constant period of severe psychotic symptoms for over 45 years, positive symptom severity is not particularly stable within patients. It also appears that elderly schizophrenic patients continue to deteriorate, with this decline entirely due to a slight worsening of negative symptoms. These data indicate that the characteristics of negative and positive schizophrenic symptoms are similar in younger and geriatric schizophrenic patients, suggesting a continuity of the illness process as would be suggested by neurodevelopmental models postulating very early causal events.

NR285 Tuesday, May 25, 12 noon-2:00 p.m.

Soft Neurological Signs and Minor Physical Anomalies in Schizophrenia

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Summary:

Objective: To better understand the causes and the psychopathology of schizophrenia by examining for minor physical anomalies (MPA) (which may be temporal markers of fetal brain insult) and for soft neurological signs (SNS) (which may be localizing precursors or risk factors of schizophrenia) and correlating these with dimensions of psychopathology and results of psychological tests in patients with schizophrenia.

Method: 22 patients with chronic schizophrenia (mean age 38 years) have so far been examined for MPA and SNS and also with the Positive and Negative Symptoms Scale (PANSS) and a battery of psychological tests.

Results: MPA did not correlate with SNS and correlated inversely with the Positive subscale (p = .01) and the Excitement factor (p = .05) of the PANSS. Total SNS correlated with the Cognitive PANSS factor (p = .02) as did the Sequencing subscale (p = .01). Total SNS, Sequencing, Sensory, and Coordination SNS subscales correlated with several items from the California Verbal Learning Test and the Wisconsin Card Sort. Sequencing did not correlate with the Negative subscale.

Conclusions: Within a group of chronic schizophrenics, if MPA do indicate fetal brain insult, this may not contribute differentially to symptom clusters. SNS may help in understanding and localizing cognitive symptoms rather than negative symptoms. The results suggest that 'localizing' these in the frontal lobe only is overly simplistic.

NR286 Tuesday, May 25, 12 noon-2:00 p.m.

Evaluation of Functioning in Schizophrenia: Data Regarding the Validity of a New Scale

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M.A., Sidney Zisook, M.D., Tony Santucci, R.N., Shirley Bruce, R.N., David Pickar, M.D.

Summary:

This study investigates the psychometric parameters of the Scale of Functioning for Schizophrenia (SOF), an instrument designed to assess functioning of inpatients and outpatients. The SOF consists of 15 discrete ordinal times that have been operationalized. Specific descriptors characteristic of each item's ratings are incorporated, with higher scores positively related to higher levels of functional capabilities. Subjects were either inpatients at the NIMH Experimental Therapeutics Branch (N = 28) or outpatients at the UCSD Psychiatric Outpatient Clinic (N = 52). All subjects received either SCID or modified SADS interviews and concensus *DSM-III-R* diagnoses of schizophrenia. The SOF, Brief Psychiatric Rating Scale (BPRS) and Scale for the Assessment of Negative Symtoms (SANS) were administered to each subject. Repeated assessments were performed for the inpatient group, while the outpatient group was assessed at intake of a longitudinal study. Analysis of inpatient data (categorized by three medication conditions) found significant inverse correlations between SOF Total Scores and both the BPRS Totals Scores ($r = -0.72/-0.84/-0.70$, $p < 0.0001$) and SANS ($r = -0.67/-0.80/-0.64$, $p < 0.0001$). Outpatient group SOF Total Scores also demonstrated significant inverse relationships with BPRS Totals Scores ($r = -0.51$, $p < 0.001$), and the SANS ($r = -0.49$, $p < 0.001$). A one-way analysis of variance of inpatient SOF data resulted in an average rating reliability of 0.90, $p < 0.002$, N = 10. Factor analysis yielded five principal components accounting for 69% of observed variance. Data regarding face validity and construct validity will be further discussed.

NR287 Tuesday, May 25, 12 noon-2:00 p.m.

Polydipsia Does Not Cause ADH Defects in Psychosis

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Summary:

Objective: To determine if excessive water drinking causes the lowered set point for vasopressin release in polydipsic, hyponatremic schizophrenics. *Method:* Polydipsic, hyponatremic (n = 8); polydipsic, normonatremic (n = 7); nonpolydipsic, normonatremic (n = 8); and normal (n = 13) subjects received a standard oral water load and hypertonic saline infusion. Polydipsic groups were matched for severity and duration of polydipsia. Psychiatric groups were matched for diagnosis, duration of illness, and fluphenazine dose. Parameters of osmoregulation were compared by ANOVA, and differences between groups were assessed with a priori Helmert contrasts. *Results:* As predicted, the set point for vasopressin release was lower in the polydipsic hyponatremic subjects than the other three groups, which were similar to each other ($F = 3.48$, df = 32,3, $p = .027$, Helmert contrast $t = 2.9$, $p = .007$). *Conclusions:* Like other putative factors (e.g., neuroleptics, pharyngeal stimulation), polydipsia does not appear to lower the set point for vasopressin release in hyponatremic schizophrenics. Thus, factors more fundamental to the psychiatric illness may be involved.

NR288 Tuesday, May 25, 12 noon-2:00 p.m.

Rape and Attempted Rape in Women with Schizophrenia and Bipolar Disorder

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Summary:

Exposure to traumatic events (including sexual traumas) of populations with psychosis remains little studied. In addition, the clinical features developed by victims with psychosis after a traumatic event are rarely taken in account.

Sixty-one women with schizophrenia and 21 women with bipolar disorder (*DSM-III-R* diagnosed, 18-45 years old, mean age 34 years in both groups, both inpatients and outpatients) were interviewed with a clinician-rated battery of instruments (PANSS, Carpenter's criteria, and Axis V of *DSM-III-R*) and with a semistructured questionnaire related to sexual victimization and its possible impact.

Among the results, we observed the absence of significant differences between the two groups concerning the number of subjects exposed to rape and the perpetrators. During childhood and adolescence (<23 years) 26% of schizophrenics (vs. 20% of bipolars) were victims of rape or attempted rape and in both groups, 25% of the perpetrators were relatives but never the father. During their lifetime 25% of schizophrenics were victims of completed rape (vs. 19% of bipolars). On the other hand, a frequent repetition of sexual traumas (including experiences of prostitution) was observed among schizophrenic victims, whereas this "addiction to trauma" did not exist in bipolar victims. At the same time, among the schizophrenics the victims were more likely to develop substance or alcohol abuse or to attempt suicide.

The results suggest that there are transnosographic clinical features developed after victimization for which schizoprhenics are particularly at risk.

NR289 Tuesday, May 25, 12 noon-2:00 p.m.

Schizophrenia, Interleukin-1B, Kalig-1 and Dopamine D2 Receptors

Murray A. Cowen, M.D., Neurochemistry, Nathan Kline Institute, Orangeberg, NY 10962; Maurice Green, M.D.

Summary:

The Kallmann's Syndrome Variant model of the schizophrenias proposes that the predisposition to develop the nonparanoid forms of the psychosis is largely due to defects in the interactions of the KALIG-1 and interleukin-1b (IL-1b) proteins, which are necessary for the embryogenesis, maturation, and maintenance of the rhinencephalon and the neurons that cosecrete Luteinizing Hormone Releasing Hormone (LHRH) and Delta Sleep Inducing Peptide (DSIP) (1.2). The activation of IL-1b is dependent on the IL-1b Converting Enzyme (IL-1bCE), which is inhibited by orthopox viruses such as vaccinia, catpox, and monkeypox. An analysis of changes in admissions to all New York State mental hospitals preceding and following the emergency smallpox vaccination of five million downstaters in April 1947 showed a specific and selective downstate 60% increase in nonparanoid schizophrenia for the ensuing six years. IL-1b strongly inhibits LHRH secretion, while the dopamine D2 receptor is a major LHRH stimulator. Hence an IL-1b deficiency has similar LHRH actions as a D2 receptor hyperactivity. Further epidemiological and biochemical data will be presented that suggest that a defect in IL-1b and dopamine D2 interactions may underlie paranoid schizophrenia, paranoid involutional psychosis, and paranoid senile psychoses.

NR290 Tuesday, May 25, 12 noon-2:00 p.m.

Attentional Disorders in Schizophrenia: First Results of a Comparative Study Using Computerized Tests

Jean-Georges Rohmer, M.D., Psychiatry 2, C.H.R.U. Strasbourg, 1 Place De L'Hospital, Strasbourg-Cedex 67091, France; Blandine Kastler, Frederic Khidichian, Francois Biringer, Barbu Dumitresco, Michel Patris

Summary:

It's generally admitted that patients with schizophrenia present various degrees of attention disorders. These computerized tests, elaborated in our unit, are aimed at evaluating quantitatively various attention modalities (attention centered of one sensorial modality, divided attention, selective attention and attention disturbance induced by various perturbers).

In this study, we tried to determine the attention disorders in patients (40 cases) fulfilling the *DSM-III* criteria for schizophrenia compared with normal subjects matched for age, sex, study level, and marital status. The subjects were clinically stabilized under neuroleptic treatment for at least 15 days. Our data showed a global drop of the scores obtained by schizophrenics in all the tests regarding the mean reaction time and the number of errors. The schizophrenics are disturbed by aleatory stimuli and by orders referring to a symbolical category. They have difficulties in extracting pertinent information from context. Our tests showed great differences in attentional processes between patients with negative and positive symptoms scored with the PANSS.

From this we conclude that our tests are sensitive, and that standardized data collection allow studies of the cognitive tasks without bias due to nonstandardized stimuli. Our new project will study the specificity of the results found in schizophrenia in comparison with other pathologies.

NR291 Tuesday, May 25, 12 noon-2:00 p.m.

Appraisal and Coping with Stress in Schizophrenics

Joseph Ventura, M.A., Univ of Calif Los Angeles, 300 Medical Plaza Ste 200, Los Angeles, CA 90024; Keith H. Nuechterlein, Ph.D., Irwin Rosenfarb, Ph.D.

Summary:

Recent prospective results extended earlier retrospective studies showing an increase in the frequency of independent life events just prior to schizophrenic relapse. Knowledge of the appraisal and coping style of schizophrenic patients may further our understanding of the relationship between life events and relapse. The Persian Gulf War provided an opportunity to study appraisal and coping with an independent event using a modified version of the Ways of Coping Checklist. Twenty-eight recent-onset schizophrenic patients and 20 demographically matched normal controls in Los Angeles were interviewed about their reactions to the war. The appraisal data indicated that controls were significantly more preoccupied with the war and appraised their coping as very successful compared with schizophrenic patients. Both groups reported feeling moderately distressed. Normal controls used problem-focused coping significantly more often and showed a trend toward seeking social support more than did schizophrenic patients. Among schizophrenic patients, avoidance/denial was used significantly more often than problem-focused coping. Problem-focused coping and seeking social support was positively correlated in each group with appraisal of the war as distressing. Methods of appraisal and coping may be linked and could help to explain the variability in outcome after schizophrenic patients experience stressful events.

NR292 Tuesday, May 25, 12 noon-2:00 p.m.

M-CPP Effects on Cortical Blood Flow in OCD

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Summary:

We measured the effect of the partial serotonin agonist and obsessogenic agent m-CPP (0.5 mg/kg po) on 133-Xenon regional cerebral blood flow (rCBF) in 14 OCD patients. There were no significant effects or interactions with BP, P, Hct, or pC02. Following m-CPP, there was a substantial increase in OCD severity in seven patients (m-CPP responders) and no change in OCD symptoms in seven patients (m-CPP nonresponders). Overall, there was a significant increase in initial slope index (ISI), a measure of cortical blood flow (47 to 52) ($F = 10.19$, $df = 2,24$, $p = .001$). There was also a significant increase in frontal ISI (49 to 53) ($F = 9.05$, $df = 2,24$, $p = .001$). Peak increase in OCD symptoms following m-CPP correlated with peak increase in ISI blood flow ($r = .54$, $n = 14$, $p = .048$), such that greater OC exacerbation was associated with increased cortical blood flow. A significant group-by-time effect indicated that m-CPP responders had a greater increase in cortical blood than nonresponders ($F = 11.74$, $df = 2,24$, $p = .00001$). Regional hyperfrontality was also stronger in the m-CPP responders ($F = 11.74$, $df = 2,24$, $p = .00001$). These results parallel Zohar et al's findings of increased cortical blood flow during imaginal flooding. This study validates the behavioral response to m-CPP in OCD and suggests that OCD symptoms may be mediated by serotonergic activation and hyperfrontality.

NR293 Tuesday, May 25, 12 noon-2:00 p.m.

PET Study of OCD During Symtom Provocation

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Summary:

Objective: The purpose of this study was to explore the functional neuroanatomy of symptoms in obsessive compulsive disorder (OCD). Previous PET studies of OCD have compared OCD subjects to controls during neutral states. *Method:* Our study utilized an intrasubject repeated measures paradigm with behavioral challenge. PET determinations of regional cerebral blood flow (rCBF), using ^{15}O-CO_2, were performed on each of eight OCD subjects during resting and provoked conditions. PET data were transformed to the standard Talairach coordinate system, and analyzed via a statistical technique after Friston et al. *Results:* Individually tailored provocative stimuli were successful in provoking OCD symptoms, in comparison to paired control stimuli, as measured by self report on OCD analog scales ($p < .002$). Omnibus subtraction images demonstrated increases in rCBF during the symptomatic state versus the resting state in right caudate nucleus ($p < .006$), anterior cingulate cortex ($p < .045$), and orbitofrontal cortex ($p < .008$); differences approached statistical significance in left thalamus ($p = .07$). *Conclusions:* The regions activated during the provoked versus resting condition are consistent with previous neuroimaging studies and contemporary models of OCD. This represents the first PET study of OCD to use such a paradigm, and provides new insights into the mediating neuroanatomy of OCD symptoms.

NR294 Tuesday, May 25, 12 noon-2:00 p.m.

MRI Studies of Gyral Anatomy in Neuropsychiatry

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Summary:

We have established an MRI "scan bank" of volumetric aquisitions (1 mm resolution all planes) of the brains of normal subjects and patients with a variety of neurological and psychiatric diagnoses. The scans are transferred electronically from the MR scanner to a computer work station where quantitative measurements of gyral anatomy are made with a computer-guided cursor. The scans are acquired in the sagittal plane, in order to visualize the language processing regions surrounding the sylvian fissure. In the 150 brains studied to date we have identified several characteristic patterns of anomalies (extra or missing gyri) in the superior temporal planum and supramarginal gyrus of Wernicke's area and the pars triangularis of Broca's area. There are two major findings: (1) anomalies run in families; (2) similar anomalies characterize patients with a variety of diagnoses as well as some unaffected family members. (Diagnosis include pervasive developmental order, Angelman and Prader-Willi syndrome, schizophrenia, dyslexia, nonverbal learning disability, attention deficit disorder, and specific language impairment). We speculate that extra or missing gyri may result from disorders of neural migration or axonal pathfinding that compromise auditory information processing. Impaired auditory communication may act as a general stressor increasing the risk of behavioral disorders dependent on genetic and environmental factors.

NR295 Tuesday, May 25, 12 noon-2:00 p.m.

MRI Reveals Cerebral Anomalies in Patients with Generalized Resistance to Thyroid Hormone

Christiana M. Leonard, Ph.D., Dept. of Neuroscience, Univ of Florida Health Science Ctr., Box 100244, Gainesville, FL 32610; Edythe Wiggs, Ph.D., Steve An, B.A., Bruce D. Weintraub, M.D., Peter Hauser, M.D.

Summary:

Generalized resistance to thyroid hormone (GRTH) is a primarily autosomal dominant disease caused by mutations in the human thyroid receptor-beta (hTRβ) gene and characterized by reduced responsiveness of pituitary and peripheral tissues to the action of thyroid hormone. We have previously reported a systematic behavioral study in a large sample of 104 subjects that showed a strong association of attention deficit hyperactivity disorder (ADHD) and GRTH. Cerebral anomalies, in particular multiple Heschl's gyri and Sylvian fissure anomalies, have been demonstrated in learning disorders such as dyslexia. The purpose of this study was to determine whether patients with GRTH have anomalies of Sylvian fissure and Heschl's gyrus morphology. Magnetic resonance imaging (MRI) scans, using a 0.5 tesla scanner, were obtained on 26 subjects with GRTH and 22 unaffected family members from 14 families. Six contiguous 2 mm sagittal slices from the third quadrant that best visualizes the Heschl's gyrus and the Sylvian fissure were selected for each hemisphere and assessed by a rater blind to the subject diagnosis and sex. The results showed that a majority of GRTH affected males had multiple Heschl's gyri (11/15 or 73%) and anomalous fissures (10/15 or 67%) compared to unaffected family members (multiple Heschl's gyri 2/11 or 18%; P = 0.02; anomalous fissures 3/11 or 27%; P = 0.1). The percentage of affected females with anomalies did not differ from unaffected female family members (multiple Heschl's gyri 2/11 versus 3/11: anomalous fissures 3/11 v. 4/11). Although there were more affected males with the diagnosis of ADHD and cerebral anomalies, the two conditions assorted independently in all four groups. The structural and behavioral abnormalities are apparently independent results of mutations in the human thyroid receptor beta gene. The data also suggest that these two independent phenomena are more likely to occur in affected males than females.

NR296 Tuesday, May 25, 12 noon-2:00 p.m.

Cerebral Perfusion in Early and Late Opiate Withdrawal: A TC-99M-Exametazime SPECT Study

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Summary:

Decreased regional cerebral flow has been previously reported in alcoholics and, more, recently, focal perfusion defects have been demonstrated in cocaine abusers during early abstinence. The present study was conducted to determine whether cerebral flow alterations were also associated with heroin addiction.

Six male heroin addicts, physically healthy, admitted to an inpatient drug rehabilitation unit were used as subjects. Each patient had an initial Tc-99m HMPAO SPECT brain scan one week after opiate discontinuation and a repeat scan two weeks later.

The initial scans in all six patients demonstrated discrete cerebral blood flow defects, especially in the parietal and frontal cortices and, in one case, in the occipital cortex. Data quantification was achieved by calculating, in the midsagittal plane, the Tc-99m HMPAO uptake in discrete cortical regions and in the cerebellum, used as a standard. Repeat SPECT scans, two weeks later, showed, in all six patients, increased tracer uptake in the areas that had previously shown cerebral blood flow defects and increased cerebral/cerebellar uptake ratios. Other radiologic imaging studies (CT scans, MRIs) performed in these patients failed to reveal any lesion.

Conclusion: Discrete perfusion defects in cortical areas that are observed during early opiate withdrawal, improve after an additional two-week abstinence. The present study does not permit us to determine whether these defects are due to the toxic effects of opiates or to physiological changes associated with opiate withdrawal.

NR297 Tuesday, May 25, 12 noon-2:00 p.m.

Blunted Cerebral Blood Flow Response to Procaine in Mood Disorders

Terence A. Ketter, M.D., NIMH Bldg 10 RM 3N212, 9000 Rockville Pike, Bethesda, MD 20892; Paul J. Andreason, M.D., Mark S. George, M.D., Peggy J. Pazzaglia, M.D., Lauren B. Marangell, M.D., Robert M. Post, M.D.

Summary:

Objective: To assess differences in procaine activation of regional cerebral blood flow (rCBF) in patients with mood disorders compared to healthy controls.

Background: Animal studies indicate that procaine and related local anesthetics specifically activate the amygdala and associated limbic structures. In healthy controls, acute intravenous procaine induces a range of psychosensory and emotional experiences associated with increased rCBF in the anterior temporal lobes (aTL), inferior frontal lobes (iFL), and anterior cingulate gyri (aCG). This paralimbic distribution resembles that of the amygdala and its efferents (as delineated in primates).

Methods: Nine medication-free inpatients with mood disorders (six bipolar and three unipolar) and 18 age- and sex-matched healthy controls had oxygen-15 water positron emission tomography rCBF studies during a single-blind, acute, intravenous procaine challenge. Statistical parametric mapping (SPM) was used to assess group differences in procaine activated rCBF.

Results: Procaine-induced activation of rCBF in the aTL, iFL, and aCG was significantly blunted in mood disorders compared with healthy controls, despite qualitatively similar clinical responses.

Conclusions: These data suggest that mood disorders are associated with blunted paralimbic responses to procaine. Disturb-

ances in this neural substrate could mediate the affective dysregulation commonly seen in mood disorders.

NR298 Tuesday, May 25, 12 noon-2:00 p.m.

Reduced Resting Frontal Lobe Cerebral Blood Flow in Mood Disorders

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Summary:

Objective: To assess differences in resting regional cerebral blood flow (rCBF) in patients with mood disorders compared to healthy controls.

Background: Although most studies indicate primary and secondary depressions are associated with decreased frontal lobe metabolism and rCBF, some studies suggest other findings, including increased frontal lobe rCBF.

Methods: Nine medication-free inpatients with mood disorders (six bipolar and three unipolar) and 18 age- and sex-matched healthy controls had oxygen-15 water positron emission tomography rCBF studies at rest with eyes closed. Statistical parametric mapping (SPM) was used to assess group differences in resting rCBF.

Results: Subjects with mood disorders compared with healthy controls had significantly lower resting rCBF in the anterolateral prefrontal cortex (left > right), posterior superior temporal gyri (left > right), supramarginal gyri (left > right), left mesial temporal lobe, and right anterior cingulate gyrus.

Conclusions: These data support the emerging consensus that mood disorders are associated with frontal lobe hypoactivity. Divergent findings in some studies may be due to variations in scanning and data analysis methods and diagnostic and phase of illness differences between patient groups. Frontal lobe hypoactivity could yield decreased frontal modulation of limbic activity, resulting in the cognitive and affective disturbances commonly seen in depression.

NR299 Tuesday, May 25, 12 noon-2:00 p.m.

Age and Cerebral Metabolism in ADHD

Monique Ernst, M.D., Cereb. Metab. Lab., NIMH Bldg 10/4N317, 9000 Rockville Pike, Bethesda, MD 20892; Alan J. Zametkin, M.D., John A. Matochik, Ph.D., Laura L. Liebenauer, B.S., Glinda A. Fitzgerald, B.A., Robert M. Cohen, M.D.

Summary:

Objective: In a large study of Attention Deficit Hyperactivity Disorder (ADHD) and normal subjects, we report the effect of age on brain metabolism as a function of gender and diagnosis. Previous studies in normals have found a decrease of cerebral blood flow associated with increased age (Gur et al., 1987, Melamed et al., 1980). *Method:* Cerebral glucose metabolic rates (CMRglu), measured by means of 18-F-2-deoxyglucose PET, were studied in 96 subjects, 58 normal (19.0 to 56.0 years; 28 females, 30 males) and 38 with ADHD (18.0 to 51.0 years; 14 females and 24 males), during an auditory continuous performance test. *Results:* Of the four groups divided by diagnosis and gender, only the female ADHD group showed a significant correlation between age and global CMRglu ($r = -.57$, $p = .03$, $N = 14$). In this group, the regional CMRglu of 27 areas (27/60) significantly correlated with age (r: $-.52$ to $-.74$; p: .05 to .004) and were mostly in the frontal cortex (15/27), without right-or-left preference. *Conclusions:* The CMRglu reduction associated with increased age is most significant in ADHD women. This finding may reflect the course of ADHD primarily or secondarily on brain metabolism. The deficits related to ADHD are reported to be more severe in females (Ackerman et al., 1983). Also, ADHD women seem to have larger cerebral metabolism abnormalities than do ADHD men (Zametkin et al., 1990).

NR300 Tuesday, May 25, 12 noon-2:00 p.m.

1H MRS in Hepatic Encephalopathy

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Summary:

Localized brain ^{1}H magnetic resonance spectroscopy (MRS) was performed in conjunction with neuropsychiatric assessment in 20 patients with known liver disease, and five control subjects matched to a subset of patients on age and education. MR spectra were obtained from occipital gray and parietal white matter on a GE 1.5 T Clinical MR Scanner using STEAM at TR 1.5s, TE 30ms. Neuropsychiatric assessment was performed independently, without knowledge of MRS results, but in all cases within two hours of MRS study. This assessment included neurological and psychiatric exam, and a 40-minute battery of neuropsychological tests. Grade of encephalopathy was determined by Parsons-Smith criteria. A significant degree of metabolite disturbance and neuropsychological dysfunction was found in 17 of the 20 patients, including nine assessed as Parsons-Smith Grade 0 ("sub-clinical" disease). In occipital gray matter, significant associations were found between increased glutamine and neuropsychological dysfunction ($p < .05$), particularly motor control and memory; and between decreased choline and expressive fluency ($p < .05$). In parietal white matter, there appeared to be an association between decreased myoinositol and neuropsychological dysfunction, but correlations were not statistically significant ($p < .07$). No association was found between NAA and dysfunction. This is the first study to demonstrate that neuropsychological deficits are associated with well-defined metabolic disturbances measurable *in vivo* in hepatic encephalopathy.

NR301 Tuesday, May 25, 12 noon-2:00 p.m.

Emotional Word Activation of Psychopaths Using SPECT

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Summary:

Normals process emotionally charged words more efficiently than neutral words. Williamson, et al (1991) using a lexical decision task found that psychopaths do not show this emotional word advantage. To determine the neurophysiological basis for this abnormality we measured cerebral uptake of ^{99M}Tc-HMPAO by SPECT in eight adult drug-dependent psychopathic dextral males, (P) and eight nonpsychopathic controls, (NP) while performing a lexical decision task under two conditions: one using emotional words, and the other using neutral words. Subjects were classified by Hare's (1991) Psychopathy Check List (PCL). PCL > 25 classified as P and PCL<16 as NP. Cortical activation was determined in five horizontal slices each divided into 12 regions of interest normalized to whole brain. Univariate analyses on aggregated slices showed more activity for the P than NP in the ventral occipital region ($p < .024$). The NP were more active in the right temporal parietal region than P ($p < .064$). This group difference was inversely correlated in both conditions. ($r = -.8$, $p = .0005$). P showed less activity in the left temporal parietal region doing the emotional task ($p < .032$). These data suggest SPECT has the potential to discriminate between the two groups otherwise distinguished psychometrically.

NR302 Tuesday, May 25, 12 noon-2:00 p.m.

Post-Haloperidol RCBF: Schizophrenic Versus Normals

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Summary:

Objectives: This study investigated the acute effects of haloperidol on cerebral blood flow (CBF) in schizophrenic patients and healthy subjects. The effects of acute administration of haloperidol on cortical perfusion in humans is unknown.

Methods: We quantified cortical perfusion by the ^{133}Xenon technique in nine normal controls and eight unmedicated schizophrenics before and three hours after 5mg PO haloperidol. The groups did not differ on age, sex, or plasma haloperidol level.

Results: Repeated measures ANOVA for global cortical flow showed a significant main effect only for time ($p < .0001$) and a significant interaction of group with time ($p < .005$). Follow-up analyses indicated that, after covarying for pCO_2, the normals showed greater increase of CBF ($p < .03$) than the patients. Two-thirds of the normals versus none of the patients evidenced CBF elevations greater than 10% ($X^2 = 8.24$, $p < .005$). Changes of CBF were unrelated to plasma haloperidol levels or the presence of extrapyramidal side effects.

Conclusions: These data show that normals increase CBF with acute haloperidol administration. The failure of the schizophrenic brain to respond to acute haloperidol may be due to prior neuroleptic exposure, anxiety effects, or may reflect a fundamental feature of underlying biochemical imbalance in schizophrenia.

NR303 Tuesday, May 25, 12 noon-2:00 p.m.

Regional Cerebral Blood Flow and Negative Symptoms in Schizophrenia

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Summary:

Objectives: This study was conducted to investigate the relationship between negative symptoms in schizophrenia and prefrontal cortical dysfunction measured by regional cerebral blood flow (rCBF).

Method: rCBF was assessed by Xenon 133 inhalation in 15 hospitalized patients (aged 25-40) with a wide range of severity of negative symptoms (SANS total global ratings 2-22). Patients were studied on and off haloperidol in two conditions: rest ($n = 15$) and activation ($n = 9$) with a continuous performance task (CPT).

Results: In the resting condition (on and off medication), there were no regionally specific associations between rCBF and negative symptoms. There was, however, a significant correlation between change in perfusion with activation (CPT-rest) in the left frontal region and severity of negative symptoms ($p < 0.05$) in unmedicated patients. This association occurred particularly in the left medial prefrontal region. Higher flow with activation was association with fewer negative symptoms using global rating for alogia ($p < 0.003$), affective blunting ($p < 0.04$), anhedonia ($p < 0.02$), avolition ($p < 0.05$) and total negative symptoms ($p < 0.007$).

Conclusion: Our results supoort the relationship between hypofrontality and negative symptoms and suggest that this effect can occur with activation tasks requiring sustained attention.

NR304 Tuesday, May 25, 12 noon-2:00 p.m.

D2 Receptor PET Sex Differences in Schizophrenia

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Summary:

D2 dopamine receptor density estimates were obtained in 25 patients with *DSM-III-R* diagnoses of chronic schizophrenia and in 17 controls. Eighteen patients were drug naive at the time of scan and seven were free of neuroleptics for at least four months. The sample included 17 males and eight females (age = 34.88 +/− 2.66 (SEM)) years. Controls included 13 males and four females (age = 39.00 +/− 5.93). Bmax values for male patients (Bmax = 37.74 +/− 4.35) and female patients (Bmax = 24.16 +/− 3.98) were significantly different ($t = 2.30$, $p = .03$). Bmax values for males ($t = 4.46$, $p < 0.001$) but not females ($t = 1.84$, $p < .09$) were significantly different from controls. Male and female patients were significantly different when compared for premorbid adjustment (Cannon-Spoor Premorbid Adjustment scale; males = 6.57 +/ −0.57, females = 3.86 +/− 0.96; $t = 2.34$, $p = 0.04$) and for one-month prognosis (Strauss Carpenter Outcome Scale; males = 27.13 +/− 1.42, females = 34.00 +/− 2.04; $t = 2.77$, $p = 0.02$). These data highlight the importance of accounting for clinical heterogeneity in imaging studies, and support the concept of a gender-by-diagnosis effect.

NR305 Tuesday, May 25, 12 noon-2:00 p.m.

Involuntary Head Movements in Supine Subjects

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Summary:

Objective: To characterize the precise form of involuntary head movements in the supine position, 40 neurologically normal subjects and 10 with mild to moderate tardive dyskinesia (TD) were measured.

Methods: The custom-designed electromechanical device used to quantify these movements is capable of reliably transducing movements as small as 15 microns and has a flat frequency response from 0.1-16 Hz. All subjects were measured while lying supine on a flat rigid surface that was chosen to approximate the typical gurney of a magnetic resonance imager (MRI). Recording of the movements was made over 20 consecutive 20-second epochs for both left/right and front/back head movements. *Results:* Although the form of the movements in the left/right direction was more complex, all movements could be classified into cardiac, respiratory, and "large" movements. These latter movements were typically due to swallowing and myoclonic twitches in the normal subjects and to choreiform movements in the TD subjects. The magnitude of cardiac movements was similar in both groups and in both directions (mean 80 microns ± 40 microns) but was very complex in the left/right direction (i.e., the large initial response to systole was followed by multiple, slowly damping waves). The respiratory movements were greater in the TD group (mean 125 microns ± 150 vs. 60 microns ± 50). The large movements occurred on average once/min, were two seconds in duration, and were 600 microns ± 500 in peak amplitude in the normal group. The TD group had 4/min, of four seconds duration each, and 2200 microns ± 2500 in peak amplitude. *Conclusions:* The complex form of the transduced movements suggests that simple cardiac gating of the measurements collected during MRI scanning will be ineffective at removing either the relatively small ballistocardiographic or "large" movement artifacts.

NR306 Tuesday, May 25, 12 noon-2:00 p.m.

Fluoxetine and Cerebral Glucose Metabolism

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Summary:

Fluoxetine and clomipramine have been demonstrated to alter cerebral glucose metabolism after chronic administration (Baxter et. al., *Arch. Gen. Psychiatry, 49*: 681; Swedo et. al., *Arch. Gen. Psychiatry, 49*: 690). In a counterbalanced, double-blind, placebo-controlled trial, 40 mg of fluoxetine was administered to four normal adult volunteers (three men, one woman; age range 20-39), 60 minutes before injection of 6-7.5 mCi of [^{18}F]-2 deoxyglucose (FDG). Subjects were engaged in a visual monitoring task shortly before and during scanning with a PET-VI detector system. Fourteen standard regions were analyzed bilaterally. No regional effects were apparent. The regions were averaged to determine global CMRglu. Global CMRglu did not differ when placebo (8.94 ± 0.95 mg/100g/min) was compared with fluoxetine (8.60 ± 1.67 mg/100g/min; paired t 0.60, df 3, $p < 0.60$). Fluoxetine does not appear to be a suitable pharmacological challenge agent for PET use at the dosage of 40 mg orally administered 60 minutes before FDG injection. It also does not appear that an acute effect of fluoxetine on localized inferior frontal or basal ganglia metabolism accounts for the chronic effects of fluoxetine in patients with obsessive compulsive disorder, although the number of subjects in this study may have been too small to detect such effects.

NR307 Tuesday, May 25, 12 noon-2:00 p.m.

MRI Suggests Increased Brain Iron in Alzheimer's Disease

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Summary:

Objective: To evaluate postmortem evidence of abnormal iron metabolism in Alzheimer's disease (AD) using magnetic resonance imaging (MRI). *Method:* Field-dependent R_2 increase (FDRI), a parameter defined as the difference in transverse relaxation rate measured on two MRI instruments of differing field strengths, is a specific measure of tissue iron stores. Brain iron content in the basal ganglia and frontal white matter was measured *in vivo* using the FDRI method in five patients with AD and in eight elderly, age- and sex-matched normals. *Results:* In the basal ganglia, mean FDRI was greater in the AD group than in the normal group. The difference was statistically significant in the caudate ($t = 2.3$, $df = 11$, $p = .04$) and globus pallidus ($t = 2.4$, $df = 11$, $p = .04$), and a similar trend was observed in the putamen ($t = 1.9$, $df = 11$, $p = .08$). There was no difference in mean FDRI in the frontal white matter ($t = .14$, ns). One patient with AD had very *low* FDRI in the basal ganglia (up to 3.8 SD below the AD mean). Visual inspection of his MRI films indicated that the low FDRI values were probably an artifact of diffuse punctate CSF-intensity lesions. When removed from the analysis, the difference between the AD and normal groups was more dramatic in all basal ganglia regions, particularly the caudate ($t = 6.2$, $df = 10$, $p = .0001$). *Conclusions:* The results suggest that iron levels are increased in subcortical gray matter in AD and support the hypothesis that iron is a factor in the pathophysiology of AD.

NR308 Tuesday, May 25, 12 noon-2:00 p.m.

State Changes in Brain Activity Shown by the Uptake of 99MTC-Exametazime with SPECT in Major Depression Before/After Treatment

Guy M. Goodwin, M.D., MRC Brain Metabolism Unit, Royal Edinburgh Hospital, Morningside Park, Edinburgh EH10 5HF, United Kingdom; Marie-Paule Austin, M.D., Klaus Ebmeier, M.D.

Summary:

Objective: To compare uptake of the brain perfusion marker, ^{99m}Tc-Exametazime (HMPAO) in major depression before and after recovery. *Methods:* Twenty-eight unipolar patients with a major depressive episode were investigated with Single Photon Emission Tomography (SPET or SPECT) before and after full recovery. The uptake of ^{99m}Tc-HMPAO (Exametazime) was expressed relative to calcarine/occipital cortex. Sixteen patients were scanned, when optimally matched either for drug treatment (4) or on both occasions drug free (12). *Results:* Significant bilateral increases in tracer uptake were confined to basal ganglia and inferior anterior cingulate cortex in the matched group, where there were additional increases in thalamus and posterior cingulate cortex on the right side. The unmatched sample yielded inconclusive evidence of increased tracer uptake in left temporal cortex. *Conclusions:* The topography of the state change in brain function in depression may implicate dopamine projections.

NR309 Tuesday, May 25, 12 noon-2:00 p.m.

The Dopamine in Schizophrenia: A Six 18F-DOPA PET Study

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Summary:

Dysfunction of the dopamine system has been the most widely accepted hypothesis of schizophrenia. 6-^{18}F-DOPA, an analogue of L-DOPA when used with PET allows in vivo visualization of dopamine and its metabolites in the brain. We studied six normal controls (five males and one female, mean age 28.17 ± 8.3) and four schizophrenics (one female and three males, mean age 38.7 ± 8.3) using ^{18}F-DOPA, PET. All schizophrenics were on constant doses of neuroleptics for at least three months prior to scanning (one on fluphenazine, 16 mg/day and the other three, varying doses of clozapine). All subjects received 150 mg of carbidopa 60 min before ^{18}F-DOPA injection. The scan lasted for 120 min. Over the second hour the subjects received a continuous infusion of unlabeled large neutral amino acids solution (Travasol 5% 40 mg/kg). ROIS were placed on multiple cortical and subcortical areas. The ratios of specific to nonspecific (occipital cortex) activity (RA) were obtained between 90-120 min. We will also present data on neuroleptic-free schizophrenics we have been studying. This technique provides a very useful tool for examining the dopamine system in schizophrenics.

N310 Tuesday, May 25, 12 noon-2:00 p.m.

Genetic Analysis of a Genealogical Reconstruction

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Summary:

Objective: Autism appears as an etiologically heterogeneous disorder for which genetic inheritance has been evoked. In the present study, genealogical reconstruction has been used as an

original approach to furthermore highlight the genetic determination in autism. *Method:* Direct ascendant genealogies of 16 autistic probands from Eastern Quebec (Canada) were reconstructed by computer from a population register database in order to search for common ancestors that could link them. Three control groups matched for size (n = 16), race, sex, age, and region were drawn randomly from the database and similarly linked. Two ancestor couples were found to be related to, respectively, two sets of three autistic probands, as compared with four among the three control groups. Average kinship coefficient for the autistic group revealed only a remote relationship between probands. However, qualitative data analysis shows that these ancestors linking autistic probands were individuals not to be found in any of the three control groups. *Conclusion:* The findings suggest the interplay of genetic factors in autism in a number of our cases singled out by afference toward common ancestors. Reconstruction of autistic probands' genealogical trees thus appears to be a useful adjunct to conventional means of exploring the genetic determination of autism in particular cases.

NR311 Tuesday, May 25, 12 noon-2:00 p.m.

Co-Segregation of Mood Disorder and Darier's Disease

Nick J. Craddock, M.D., Psychol. Med., Univ Wales College of Med, Health Park, Cardiff CF44XN, England; Mike Owen, M.D., Susan M. Burge, M.D., Peter McGuffin, M.D.

Summary:

Objective: During a genetic study of bipolar disorder we ascertained a family in which there was co-occurrence of major affective disorder and Darier's disease (a rare autosomal dominant keratosis) in several members. Our objective was to investigate the association between the two disorders in this family.

Method: SADS-L interview and case note review were used to assess lifetime psychiatric diagnosis according to RDC and *DSM-III-R* criteria. Skin diagnoses were made by a dermatologist with a research interest in Darier disease who reviewed all dermatological data available for each individual (including, history, examination, photographs, and case notes).

Results: There was co-occurrence of major affective disorder and Darier disease in five members, and absence of both disorders in five members. One subject had bipolar disorder, three had recurrent major depression and one had single episode major depression.

Conclusion: The pedigree is consistent with genetic linkage between the Darier gene and a major autosomal dominant susceptibility locus for major affective disorder. When the Darier disease gene has been mapped, its chromosomal location will be an interesting candidate locus for linkage studies of major affective disorder.

NR312 Tuesday, May 25, 12 noon-2:00 p.m.

Visual Field Anomalies in Neuropsychiatric Disorder

Herbert A. Schreier, M.D., Psychiatry, Children's Hospital, 747 52nd Street, Oakland, CA 94609; Jay Enoch, Ph.D., Luiza Barosa, M.D.

Summary:

Objective: To examine subjects with OCD and bipolar disorder for step-like visual field anomalies as found in Tourette's syndrome (TS).

Method: Subjects and their parents when possible with TS, OCD, and bipolar disorder were examined blindly along with controls using noncomputerized visual field perimetry.

Results: In phase two the results for the TS patients and their families are comparable to original nonblind study: 87.5% of eight patients, 89% of their fathers, 75% of the mothers, and 80% of their sibs exhibited the step finding. There was only five patients with *DSM-III-R* criteria for obsessive compulsive disorder. All five exhibited the finding as did three of the four fathers and two of the five mothers. Of the patients with bipolar disorder, eight of the nine probands, five of the six mothers and fathers, and two of five siblings exhibited steps in visual field perimetry. These findings are of further interest given the recent research suggesting possible genetic links between OCD, TS, and bipolar disorders.

Conclusion: These findings suggest the possibility of a very sensitive and specific biologic marker in three disorders which have been linked genetically.

NR313 Tuesday, May 25, 12 noon-2:00 p.m.

Symptoms Which Distinguish Between Bipolar I and II Disorders

Sylvia G. Simpson, M.D., Psychiatry, Johns Hopkins University, Meyer 3-181 Johns Hopkins Hosp, Baltimore, MD 21287-7381; Francis J. McMahon, M.D., Susan E. Folstein, M.D., J. Raymond DePaulo, Jr., M.D.

Summary:

Previously we reported striking similarities in the age of onset distributions of Bipolar I (BPI) and Bipolar II (BPII) disorders. Now, based on an earlier analysis of BPII symptoms for DSM-IV by Frank and Kraemer, we report equally clear distinctions in both hypomanic symptoms and in depressive symptoms between the two bipolar groups. Hypomanic and depressive symptoms were compared across 122 individuals with BPI and 116 with BPI who were interviewed by psychiatrists using the SADS-L as part of a BPI linkage study. Not unexpectedly, significantly more BPIs than BPIIs had racing thoughts, grandiosity, decreased need for sleep, distractibility, and poor judgment (for all, $p = 0.000$). No difference was found between the two bipolar groups in regards to pressured speech and increased activity. In their most severe depressive episode, significantly more BPIs than BPIIs had sleep changes ($p = 0.028$), decreased energy ($p = 0.006$), and decreased interest ($p = 0.012$). While the differences in depressive symptoms between the two bipolar groups are not of diagnostic salience in individual cases, they do suggest a difference between the two bipolar conditions in pathogenic/etiologic mechanisms that remain unresolved.

NR314 Tuesday, May 25, 12 noon-2:00 p.m.

Maladaptive Denial of Physical Illness: A New Diagnosis Proposed for DSM-IV

Philip R. Muskin, M.D., C/L Psychiatry, Columbia Presbyterian, 622 West 168th St. Box 427, New York, NY 10032; Tovah Felthammer, M.D., Janice Gelfand, M.D., David H. Strauss, M.D.

Summary:

Objective: While denial is a ubiquitous psychological mechanism, research suggests a variety of roles for denial in the general hospital: it may play a positive role in myocardial infarction, a negative role in malignancies, and a enigmatic role in treatment refusal and noncompliance. The term *Maladaptive Denial of Physical Illness* was introduced to focus research on the clinical phenomena of patients who refuse to acknowledge that they are ill, or patients who refuse treatment, without symptoms of a psychiatric disorder that would explain their denial. This is the first prospective study of Maladaptive Denial in a population of general hospital patients seen for psychiatric consultation.

Method: Two attending psychiatrists saw all consultations at a metropolitan community hospital for six months. Cases were presented to the entire group by the consultant. Decisions about

whether or not patients met criteria for Maladaptive Denial were made by consensus of all the authors.

Results: 147 consecutive consultations were seen. The mean age of the sample was 64 years old. Ten cases were considered: seven cases met the published criteria for Maladaptive Denial (4.76% of the total sample); in three cases other diagnoses were sufficient to explain the denial or treatment refusal. Though 61 patients (41.5%) in the entire sample met criteria for dementia or delirium, only one of the seven cases had cognitive impairment and that was only of a minimal degree.

Conclusions: Psychiatrists are routinely asked to consult on uncooperative patients. An understanding of why "competent" people might make "irrational" choices is crucial in order both to adequately serve patients' needs and preserve their civil rights.

NR315 Tuesday, May 25, 12 noon-2:00 p.m.

Validating DSM-IV Schizophrenia

William S. Edell, Ph.D., Yale Psych. Institute, P.O. Box 12A, New Haven, CT 06520; Thomas H. McGlashan, M.D., Kathy Garnet, M.A., Kenneth N. Levy, B.A., Ernesto Roederer, M.D., Daniel Becker, M.D., Helen Sayward, M.S.

Summary:

Objective: To compare the concordance between three traditional and three proposed *DSM-IV* systems for diagnosing schizophrenia with that of an experienced clinical interviewer's impression of the most appropriate diagnostic category. *Methods:* 412 subjects (261 male and 151 females, average age 33.5) selected for likelihood of schizophrenic spectrum disorders participated in *DSM-IV* field trials across multiple centers to assess inter-rater and test-retest reliability of six operational diagnostic systems for schizophrenia and related disorders. These included: *DSM-III*; *DSM-III-R*, and *ICD-10* and three new sets of criteria proposed by the APA *DSM-IV* Committee on Psychotic Disorders (option I, II, and III). All interviews were performed reliably by experienced clinicians. *Results:* Kappa's of the agreement between the rater's best guess clinical diagnostic impression with that of the algorithmically derived diagnoses by each of the six systems were as follows: *DSM-III*, k = .84; *DSM-III-R*, k = .85; *ICD-10*, k = .75; option I, k = .86; option II, k = .88; option III, k = .81. *Conclusion:* Results indicate that all six systems are comparable in their agreement with clinicians' diagnostic impressions. *ICD-10* was the least concordant, while options I and II were the most concordant, but all were more alike than different. Results demonstrate a growing consensus of what constitute the core set of diagnostic criteria for schizophrenia, both nationally and internationally.

NR316 Tuesday, May 25, 12 noon-2:00 p.m.

Neuropsychological Test Results in BPD Inpatients

Constance J. Carpenter, Ph.D., DIRP NRH CRSB, NIMH, 2700 M.L. King Jr. Ave SE, Washington, DC 20032; James M. Gold, Ph.D., Wayne S. Fenton, M.D.

Summary:

Objective: Two recent studies of clinically stabilized patients with borderline personality disorder (BPD) have noted the presence of neuropsychological deficits, suggesting that cognitive impairment may contribute to some BPD symptoms (Judd & Ruff, in press; O'Leary, et al., 1991). Since BPD is heterogeneous in severity and core symptomatology, ranging from mild to catastrophic, the cognitive functioning of patients with more severe pathology is of interest. *Method:* In this study, 14 neuropsychological tests assessing five domains of cognition (attention, language, visual/spatial processing, abstract reasoning, and memory) were administered to 17 female BPD inpatients undergoing long-term, intensive treatment, and to 17 nonpsychiatric controls. *Results:* Patients scored significantly worse than controls in areas of attention, visual/spatial processing, and visual memory. *Conclusions:* These results are consistent with two previous reports of disturbed attention and visual memory in BPD. Thus, some of the perceptual-cognitive distortions in BPD typically considered to be the consequence of primitive defensive operations may, at least in some cases, be the result of stable neurocognitive dysfunctions. Symptomatic correlates of these deficits bear further investigation. The clinical assessment and management of BPD patients should include consideration of their cognitive capacities and limitations.

NR317 Tuesday, May 25, 12 noon-2:00 p.m.

Differential Diagnosis of Adult ADHD

Sheldon Benjamin, M.D., Psychiatry, Univ of Mass Medical Ctr, 55 Lake Avenue North, Worcester, MA 01655; Ceil Mikalac, M.D.

Summary:

Thirty unselected adults presenting to a general hospital outpatient clinic requesting assessment for ADHD were evaluated to determine the underlying cause of their attentional problem. Patients were given a semistructured interview, a psychiatric symptom checklist, an ADHD self-assessment questionnaire, MMPI, neuropsychological testing, and an unannounced urine toxicology screen. A family member or significant other was interviewed for corroboration of symptoms. Thirteen (43%) subjects met the *DSM-III-R* criteria for ADHD. However, the attention complaints of nine of these (69%) could be explained by other psychiatric diagnoses, usually substance abuse, personality disorder, or serious family problems. Seven subjects were referred for treatment of these other psychiatric diagnoses. The attention deficits of 12 of the 17 individuals who failed to meet *DSM-III-R* criteria for ADHD were due to other psychiatric diagnoses. Thus, in 21 of 30 subjects (70%), the attentional disturbance appeared to be due to other psychiatric disorders or substance abuse (30% were active substance abusers), emphasizing the importance of recognizing other treatable causes of attention deficit. This study supports the proposed *DSM-IV* exclusionary criteria for ADHD and suggests broadening them to include substance abuse and dependence.

NR318 Tuesday, May 25, 12 noon-2:00 p.m.

Instability of Adolescent Psychiatric Diagnoses

Jonathan J. Fleischacker, B.A., Psychology, UC Berkeley, 2150 Channing Way Apt 34, Berkeley, CA 94704; William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

Summary:

Objective: To test the two-year diagnostic stability of *DSM-III-R* Axis I conduct disorder (CD, N = 70) and major depressive disorder (MDD, N = 70), and of Axis II borderline personality disorder (BPD, N = 65) in severely disturbed adolescent patients at the Yale Psychiatric Institute. *Method:* Clinical diagnoses were given by the primary clinician at hospital admission and discharge using unstructured interviews, and evaluation diagnoses were given at admission by a diagnostic specialist using structured interviews. Diagnoses were assessed independently at two-year follow-up (FU) using the same structured interviews. *Results:* Structured measures were reliable. Using evaluation diagnosis, CD was the most stable diagnosis (Kappa = .38, $p < .0001$), BPD was the least stable (K = .06, $p > .10$), and MDD in between (K = .18, $p > .10$). Admission and discharge clinical diagnoses also failed to show high stability. Across methods of diagnosis, the structured evaluation diagnosis had higher sensitivity for FU (.95 of CD at FU were CD at baseline), while the unstructured clinical diagnosis demonstrated higher specificity (.57 of non CD at FU were non CD at baseline). *Conclusion:* These findings confirm other research showing much instability in some of the most common diagnoses

during adolescence. They offer a provocative challenge to the construct validity of these disorders in this life phase, especially MDD and BPD.

NR319 Tuesday, May 25, 12 noon-2:00 p.m.

Comorbidity in Axis I and Axis II in Inpatients

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Summary:

Objective: To calculate and compare rates of comorbidity among six *DSM-III-R* Axis I disorders (schizophrenia, bipolar disorder, major depressive disorder: MDD, dysthymia: DYS, anxiety disorders, substance abuse: SA), among all 11 *DSM-III-R* Axis II disorders, and between these Axis I & II disorders across samples of severely ill adolescent (age < 18, $N = 165$) and adult (age ≥ 18, $N = 141$) inpatients at the Yale Psychiatric Institute. *Methods:* Reliable diagnoses were generated using structured assessments for Axis I (SADS and K-SADS) and Axis II (PDE). Significant comorbidities were defined by the Kappa statistic and stringent significance ($P < 001$). *Results:* Axis I comorbidities were nonexistent except for MDD/DYS ($K = .31$ adolescent, $K = .38$ adult). Axis II personality disorder (PD) comorbidities were rare except for avoidant/dependent PD ($K = .41$, adult only). All significant Axis I & II comorbidities involved substance abuse, ie; SA and schizotypal PD ($K = .29$ adolescent, .16 adult), SA and borderline PD ($K = .30$ adolescent; 43 adult), and SA and antisocial PD ($K = .21$ adult only. *Significance:* In highly ill populations, diagnostic overlap is frequent (e.g., 70 patients had borderline PD and MDD). However, true comorbidity, defined as significant association beyond chance, is stringly uncommon. This discrepancy reflects the relative independence of major *DSM-III-R* Axis I and Axis II disorders as defined, at least for severely disturbed inpatient samples. It also highlights the importance of not equating high base rate syndromal overlap with pathophysiologic comorbidity.

NR320 Tuesday, May 25, 12 noon-2:00 p.m.

Treating Depression: A Comparison of Two Modalities of Cognitive Therapy, Pharmacotherapy and No Intervention

Avner Elizur, M.D., Psychiatry, Yehuda Abarbanel MHC, Bat Yam, Israel; Yona Teichman

Summary:

Based on interpersonal views of depression, on previous studies that indicated relationship between couple variables and depression, and findings that therapeutic focus on interpersonal and couple issues has a positive effect on outcome of interventions with depressed patients, the purpose of this study was to compare the efficacy of individual cognitive behavioral therapy (CT), marital cognitive therapy (MCT), pharmacotherapy, (tricyclic antidepressants PT), and no treatment (waiting list, NT), in treating depressed patients. Subjects were major depression and dysthimic outpatients in a major mental health center in Israel. Diagnosis was based on *DSM-III-R*, criteria and BDI (Beck Depression Inventory) scores. In all group patients and spouses were evaluated before treatment, after treatment, and after six-month follow up. The evaluation included cognitive, emotional, and behavioral measures that related to personal and interpersonal aspects. Outcome was evaluated by before-after comparison of BDI scores and by patients, spouses, and therapists. The comparison of the treatment groups indicates that CMT generated greatest amount of significant short- and long-term personal and interpersonal changes. This group was also most effective when compared with the NT group.

NR321 Tuesday, May 25, 12 noon-2:00 p.m.

Chronic Fatigue Syndrome in Psychiatric Patients

Gregory W. Mattingly, M.D., Psychiatry, Washington University, 5818 Walsh, St. Louis, MO 63109; Richard Anderson, M.D.

Summary:

Chronic fatigue syndrome is characterized by a number of unexplained somatic complaints. Prior studies have focused on patients in medical settings. The present study screened 285 consecutive patients seen by two psychiatrists in a general psychiatric clinic for symptoms of chronic fatigue according to the CDC symptom checklist, and correlated positive fatigue patients with psychiatric diagnoses. We report that 5% of all patients were seen positive for CDC symptom criteria. Patients with a predating history of somatization disorder were significantly more likely ($p < .0001$) to meet symptomatic criteria for chronic fatigue syndrome than were patients with other psychiatric diagnoses.

NR322 Tuesday, May 25, 12 noon-2:00 p.m.

Do Clinics Target Comorbid Depression and Anxiety?

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Summary:

Objective: The concept of comorbidity of anxiety and depression was examined as it relates to specialty clinics, an option increasingly available to mental health care consumers. Specifically, do mood and anxiety clinics attract comorbid diagnosis, seen in other studies to range from 11%-78%? Do clinics serve patients with comparable rates of self-reported anxiety and depressive symptoms? *Method:* Twenty-nine self-referred or physician-referred patients from an anxiety clinic were compared with 23 patients from a mood disorders clinic in a university-based outpatient setting. Axis I diagnoses were obtained by SCID-P, and several self-rating scales were given. *Results:* Co-occurence of mood and anxiety disorders was similar statistically for the clinics, but was at the lower end of the range cited above (26.1% and 37.9% respectively.) However, in using Student T-tests (significant for $P < .05$), the authors found clinically elevated symptoms of depression and anxiety for both clinic populations. *Conclusions:* Although patients from the clinics did not have high levels of *DSM-III-R* comorbidity, they did not report similar dysphoric symptoms. Research has examined the complex relationship between depression and anxiety, which share many symptoms and biological markers. Comorbidity is associated with higher rates of suicide and more psychosocial impairment. Targeting comorbid symptoms in the absence of formal diagnosis presents an important challenge to treatment planners in specialized clinics.

NR323 Tuesday, May 25, 12 noon-2:00 p.m.

Rhinotillexomania: Impulse Control Disorder or Habit?

James W. Jefferson, M.D., Dean Foundation, 8000 Excelsior Drive Ste 203, Madison, WI 53717; Trent D. Thompson, B.S.

Summary:

Conditions previously thought to be bad habits are now recognized as bona fide psychiatric disorders (trichotillomania, onychophagia). We hypothesized that: 1) nose picking is a widespread, relatively benign adult habit; 2) a small percent of people are truly troubled by the habit because it is time consuming, socially compromising, or physically damaging—an impulse control disorder known as rhinotillexomania.

We conducted the first population survey of the habit (nose picking) by mailing a four-page questionnaire to 1,000 randomly selected adult residents of Dane County, Wisconsin, who were asked to respond anonymously. Two hundred fifty-four were returned and analyzed according to age, sex, marital status, education level, and living arrangement. Nose picking was characterized by time involved, location, attitudes towards self and others regarding the habit, technique, disposal, reasons, complications (infection, nosebleeds, septal perforation, social embarrassment), and comorbid habits and psychiatric disorders.

The survey confirmed hypothesis one and characterized nose picking in a general population. Failure to confirm hypothesis two may have been a type II error. The project generated an enormous amount of national publicity, which produced a number of unsolicited letters from persons supporting the existence of rhinotillexomania. The survey results will be discussed and case examples presented.

NR324 Tuesday, May 25, 12 noon-2:00 p.m.

Underrecognition of Dual Diagnosis

Samuel Weisman, M.A., Psychiatry, St. Luke's Roosevelt Hosp, Amsterdam Avenue at 1114th St, New York, NY 10025; Denise Hien, Ph.D., Michael First, M.D., Sheldon Zimberg, M.D.

Summary:

Introduction: Effective treatment of dually diagnosed (DD) patients (i.e., patients with coexisting substance abuse and psychiatric disorders) requires that both their psychiatric and substance abuse problems be accurately diagnosed and accounted for in treatment planning. This study explores the extent to which clinicians identify DD patients, and document their problems in case records. *Methods:* A sample (n = 74) of patients from both outpatient psychiatric (n = 32) and substance abuse day treatment (n = 42) were assessed with the SCID independent of chart information. At a later time, case records were reviewed to determine whether the assessment findings corresponded to treating clinicians' diagnosis and documentation in treatment plans. *Results:* Overall, SCID assessments revealed 41 (55%) of the patients with a lifetime DD; a review of case records found that clinicians had formally diagnosed only 16 (39%) of the DD at some point during their treatment. The number increased to 27 (66%) when patients were added who were not given formal dual diagnoses, but whose DD status was noted in the treatment plan as a problem to be addressed. Patients' demographic characteristics (age, race, sex, length of treatment, and treatment setting were not significantly related to documentation of DD. *Discussion:* The majority of DD patients are not formally diagnosed, although clinicians more frequently refer to dual problems in treatment planning. These findings indicate a need for increased clinical training in the recognition and reporting of dual diagnoses.

NR325 Tuesday, May 25, 12 noon-2:00 p.m.

Subtypes and Correlates in Dual Diagnosis Outpatients

Denise Hien, Ph.D., Psychiatry-MICA, St. Lukes/Roosevelt Hosp., Amsterdam Avenue at 114th St., New York, NY 10025; Michael First, M.D., Sheldon Zimberg, M.D., Richard Shindledecker, M.A., Allen J. Frances, M.D.

Summary:

Because many patients present for treatment at mental health settings with coexisting psychiatric and substance use disorders (DD), determining primary/secondary relationships has been a major concern for DSM-IV.[1,2] There are few data available on subtypes of DD and clinical correlates. We investigated the prevalence of DD, three subtypes, and their associated features. *Method:* 113 (66M, 47F) outpatients, randomly selected from psychiatric and substance use treatment settings, received a broad battery including: modified SCID, GAF, BSI, SAS. DD's were classified into three subgroups based upon primary/secondary criteria. *Results:* 59% (N = 68) of the total sample received a lifetime DD: 22% primary psychiatric (PP), 24% primary substance abuse (PS), and 47% dual primary (DP). There were no differences in prevalence of lifetime DD by setting. DD's were significantly more impaired than patients without DD's as indicated by more frequent suicidal ideation, criminal behavior, family history of alcoholism, and more hospitalizations. Considering only psychotic patients, DP's, compared with PP's, had significantly earlier onset of substance use, more severe impairment, positive family history of alcoholism, longer duration of treatment, and more psychiatric hospitalizations. *Conclusions:* Results revealed the high and equivalent prevalence of DD patients in both psychiatric and substance use outpatient settings. Preliminary support for the discriminant validity of our subtyping was obtained. Implications for treatment and prognosis will be discussed.

NR326 Tuesday, May 25, 12 noon-2:00 p.m.

Accurate Diagnoses in Chronic State Inpatients

Cheryl K. Cantrell, M.D., Psychiatry, Delaware State Hospital, 1901 North Dupont Highway, New Castle, DE 19720; Eric S. Cole, Ph.D.

Summary:

Objective: Recent research has focused on the clinical and demographic characteristics of chronic psychiatric inpatients. This investigation further delineated this domain by detailed diagnostic reevaluation of very chronic state hospital inpatients in order to develop relevant treatment foci.

Method: A diagnostic review was undertaken of 38 inpatients on the most chronic ward of a state hospital. The only other selection criterion was continuous hospitalization for at least five years or hospitalization for at least 75% of adult life. The method of review encompassed chart review, six monthly structured psychiatric interviews, psychological testing, interviews with veteran staff members, and family interviews and school record reviews where possible.

Results: In both pre- and post-review formulations, 80% of the subjects were assigned Axis I psychotic disorders. Diagnostic changes or enhancements were made in 33% of the sample. The most significant changes were the finding of three subjects (8%) with pervasive developmental disorder and 14 subjects (37%) with significant cognitive impairment, as compared with 0 and 18%, respectively, in the pre-review formula.

Conclusions: The data indicate that exhaustive reevaluation of very chronic inpatients yields more accurate diagnostic formulations that can facilitate the development of treatment strategies.

NR327 Tuesday, May 25, 12 noon-2:00 p.m.

Outcomes of Care: Managed Versus Nonmanaged Care

Ellen P. Fischer, Ph.D., Psychiatry, Univ of Arkansas Med Ctr, 4301 W. Markham Slot 554, Little Rock, AR 72205; Martin Lazoritz, M.D., G. Richard Smith, M.D., Kathryn Rost, Ph.D.

Summary:

Objective: To determine whether outcomes of treatment for patients with major depression differ by type of insurance coverage (managed v. nonmanaged care).

Method: Standardized instruments were used to collect data on patient demographics, prognostic variables, treatment received, clinical status, and social, physical and emotional functioning. Data were obtained from patients and clinical providers at baseline, and

from patients and medical records at four-month intervals thereafter. Subjects were 401 patients seen by Florida Psychiatric Associates for a first episode or new episode of major depression from April 20-December 15, 1992 (91% participation rate).

Results and Conclusions: Statistically, the groups did not differ significantly on outcome, although a higher proportion of managed care patients met *DSM-III-R* criteria for major depression (35% v. 21%) at four-month follow-up. In each group, approximately 76% experienced a decrease in symptoms; 57% reported a decrease in bed-days; 43% reported a decrease in missed work days. Of the subjects, 86% had medications prescribed; of these, 90% reported compliance with medication instructions $\geq$ 5 days per week. Neither follow-up scores on SF36 social, physical, and emotional functioning scales, nor changes in these scales, differed significantly. Results will be interpreted in light of differences in prognostic variables (baseline severity, psychiatry and medical comorbidities, age at onset, family history, previous episodes), and treatment received.

NR328 Tuesday, May 25, 12 noon-2:00 p.m.

Survey of Personal and Institutional Influences on Child Psychiatry Research Careers

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Summary:

Objective: To identify individual or institutional factors that may influence the development and retention of child psychiatry researchers and to estimate academic survival rates of full-time researchers. *Method:* One hundred forty-seven (79%) of 187 physician-first authors of research posters presented at the annual meetings (1984 to 1990) of the American Academy of Child and Adolescent Psychiatry were surveyed for demographic data, career path from 1984 to 1991, level of research involvement, current academic status, and factors facilitating or hindering research career success. *Results:* Survival analysis of strictly defined, full-time researchers (N = 46) revealed a 67% seven-year survival rate. Investigators with more than two years of research training or with affiliation with major child psychiatric research institutions when beginning a full-time research position had significantly higher survival rates. Both factors were independent predictors of academic survival. *Conclusions:* Research training and affiliation with a major child psychiatric research institution are associated with longer academic survival for full-time child psychiatry researchers.

NR329 Tuesday, May 25, 12 noon-2:00 p.m.

Tetrahydrobiopterin in Brain Nitric Oxide Synthase

Kenneth L. Campos, M.D., LNC, NIMH, 11210 Cherry Hill Road #T-1, Beltsville, MD 20705; John Giovanelli, Ph.D., Seymour Kaufman, Ph.D.

Summary:

Objective: Nitric oxide is a novel neurotransmitter in the brain. This study examines the role of one of several cofactors of nitric oxide synthase (NOS), tetrahydrobiopterin (BH_4). The work examined enzyme specificity for BH_4; the time course of nitric oxide production with and without BH_4; the effect of BH_4 concentration; and its stoichiometric role. *Method:* NOS was purified from rat cerebella. Enzyme bound BH_4 was measured. Enzyme activity was measured by monitoring the production of ^{14}C-labelled citrulline: for varying times; in the presence of cofactor analogues; and with methotrexate, an inhibitor of enzymes that can convert (recycle) dihydrobiopterin to tetrahydrobiopterin. An assey for BH_4 recycling was devised. *Results:* BH_4 causes a marked and specific stimulation of NOS activity at extremely low concentrations. This effect is seen only after two minutes incubation time. NOS has 0.2 mol of bound BH_4 per mol subunit. Methotrexate has no inhibitory effect. No evidence of BH_4 recycling was found under various conditions. *Conclusions:* Added BH_4 is not a stoichiometric participant in the conversion of arginine to citrulline and nitric oxide. This basic research helps to clarify the role of nitric oxide in neural signalling, cGMP production, memory function, and regional cerebral blood flow.

NR330 Tuesday, May 25, 12 noon-2:00 p.m.

SF-36 Health Status Questionnaire Use in an Outpatient Setting

Jack D. Burke, Jr., M.D., Psychiatry, Texas A&M HSC, 2401 South 31st Street, Temple, TX 76508; Kimberly C. Burke, M.S., Jenny Hurt, B.S., Argye Hillis, Ph.D.

Summary:

Objective: As part of a larger study on the reliability of the SF-36 Health Status Questionnaire, this analysis examines the feasibility of assessing psychiatric outpatients with a general functional status questionnaire that is widely used as an outcome measure in other fields of medicine.

Methods: 152 consecutive patients seen in the department of psychiatry at the Scott and White Clinic between May and August, 1992 with a depressive or anxiety disorder were eligible for inclusion in the study. Only 10 patients refused to participate, yielding a 93% response rate. The remaining 142 patients completed the SF-36 after their appointment with a clinician in the department once the study was explained and signed informed consent was obtained. The SF-36 consists of 36 questions measuring eight health domains including physical, social, and emotional functioning, pain, mental health, and general health perceptions. A score from 0 to 100 is calculated for each of nine scales with a score of 100 indicating the highest level of functioning.

Results: Mean scores on the nine scales ranged from 35.5 (emotional role functioning) to 72.6 (physical functioning) with mean scale scores below 50 for four scales and below 75 for all scales. Three-fourths (77%) of the patients felt that the SF-36 asked the right questions to determine if patients are feeling better due to treatment, and the same proportion thought that the SF-36 should be given to all new outpatients in the department to monitor progress in treatment.

Conclusions: The feasibility of using the SF-36 appears to be acceptable if the reliability of the instrument can be demonstrated. These results for patients with depression and anxiety also demonstrate lower functioning than results from patients with nonpsychiatric medical conditions.

NR331 Tuesday, May 25, 12 noon-2:00 p.m.

A Population-Based Study of Erectile Dysfunction

Laurel A. Panser, M.S., Mayo Clinic, 200 First Street SW, Rochester, MN 55905; Hsing-Yi Chang, M.S., Cynthia J. Girman, M.S., Harry A. Guess, M.D., Christopher G. Chute, M.D., Michael M. Lieber, M.D., Joseph E. Oesterling, M.D.

Summary:

Limited population-based data are available about sexual functioning in middle-aged men. In the course of a population-based study of the natural history of benign prostatic hyperplasia, 1,412 randomly selected participants aged 40-59 were queried about their sexual functioning on a self-administed questionnaire. Worry about past month sexual functioning was ascertained on a 6-point Likert scale (1 = not at all, 6 = extremely). Similarly, past month ability to have erections when stimulated was ascertained on a 6-point Likert scale (1 = all of the time, 6 = none of the time). Seventy-five percent of men aged 40-49 were not at all worried compared

with 66% of men aged 50-59 years (X^2_{1df} = 51.7, P < 0.001). Seventy-seven percent of men aged 40-49 were always able to have an erection when stimulated during the past month compared with 59% of men aged 50-59 years (X^2_{1df} = 14.5, P < 0.001). Not surprisingly, the association between worry and some degree of erectile dysfunction was fairly strong (r_s = 0.44, P < 0.0001). These cross-sectional data suggest sexual functioning may decrease with advancing age. Further, these findings are congruent with the literature, which indicates erectile ability decreases with advancing age.

NR332 Tuesday, May 25, 12 noon-2:00 p.m.

The Longitudinal Course of PTSD

J. Douglas Bremmer, M.D. Psychiatry, Yale University, 116A West Haven, West Haven, CT 06516; Steven M. Southwick, M.D., Dennis S. Charney, M.D.

Summary:

Objective: Few studies have examined the longitudinal course of post-traumatic stress disorder (PTSD). The purpose of this study was to examine the longitudinal course of PTSD symptomatology and substance abuse in Vietnam combat veterans with PTSD. *Method:* A structured psychiatric interview was used to examine the longitudinal course of PTSD in 63 Vietnam combat veterans with the current diagnosis of PTSD who were consecutive admissions to an inpatient PTSD program. *Results:* Onset of symptomatology typically occurred at the time of exposure to combat trauma in Vietnam and increased rapidly during the first few years after the war, following which the disorder became chronic and unremitting. Hyperarousal symptoms developed first, followed by avoidant symptomatology, and lastly by symptoms from the intrusive cluster. The onset of alcohol and substance abuse typically was associated with the onset of symptoms of PTSD. Patients also reported that alcohol, marijuana, heroin, and benzodiazepines made most of their symptoms better, while cocaine made some symptoms (such as startle) worse. *Conclusions:* Our findings suggest that PTSD symptoms develop soon after exposure to trauma and are chronic and unremitting following the onset of the disorder. These data are also consistent with a relationship between substance abuse and PTSD.

NR333 Tuesday, May 25, 12 noon-2:00 p.m.

Depression As a Predictor of Abstinence Treatment

Norman S. Miller, M.D., Psychiatry, University of Illinois, 912 South Wood St. MC 913, Chicago, IL 60612; Norman Hoffman, Ph.D.

Summary:

We examined the predictive value of a lifetime diagnosis of major depression on the treatment outcome following treatment in abstinence based programs for alcohol/drug disorders. The sample consisted of 6,355 subjects in inpatient and outpatient programs from 41 independent sites. The subjects received a structured interview for diagnoses (*DSM-III-R*) and treatment outcome based on abstinence from alcohol/drug disorders. The evaluation of subjects was conducted prospectively in a personal interview on initial admission and by telephone at six and 12 months. Statistical approaches are used in a large sample to partial out variables in treatment responses. Subjects were: inpatient treatment site (78.4%), middle aged (35.7 years), male (70.6%), white (88.9%), high school educated (84.6%), employed (73.3%), married (43.3%). The prevalence of lifetime diagnosis of major depression was 56.3%. Major depression did not predict the abstinence rate at one year from alcohol and/or drugs (54.9% v. 54.4% in males and 58.0% v. 56.0% in females). Attendance at continuing care and Alcoholics Anonymous meetings was associated with significantly better abstinence rates for regular, occasional, no attendance (72.2% v. 45.5% v. 38.6%). Depressed patients were more likely to be regular attenders. A lifetime diagnosis of major depression did not predict abstinence in patients with alcohol/drug disorders enrolled in abstinence-based treatment programs.

NR334 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

The Dramatic Cluster Dimensions and Validators

Joanne R. Intrator, M.D. Psychiatry, Bronx VA Medical Center, 130 Kingsbridge Road 116A, Bronx, NY 10468; Robert L. Trestman, M.D., Vivian Mitropoulou, M.A., Irene Lopez, B.A., Eyal Pavell, M.A., Elena Taurke, M.A., Larry J. Siever, M.D.

Summary:

DSM-III criteria for dramatic cluster personality disorders (PD) reflect traits of impulsivity, affective instability, and psychopathy. As part of an ongoing study of external validators of PD, 25 DSM-III PD patients were administered the Eysenck (EPQ) and Cloninger (TPQ) personality questionnaires to examine the correlations between clinically defined dimensions and these personality schemata derived from psychometric studies of nonclinical populations. As personality dimensions have been hypothesized to relate to biologic variables, particularly the monoamines (Eysenck 1986, Cloninger 1987, Siever and Davis 1992), measures of cerebrospinal fluid (CSF; HVA, 5-HIAA) and responses to monoaminergic challenge agents (Clonidine, fenfluramine) were evaluated in these patients. Impulsive traits derived from the dramatic cluster correlated with psychoticism, impulsivity (EPQ), and novelty seeking (TPQ), and inversely with harm avoidance (TPQ ($p<.05$). Psychopathic traits correlated positively with extraversion, neuroticism, novelty seeking, and negatively with harm avoidance ($p<.05$). In the biological domain, impulsive traits correlated negatively with CSF 5-HIAA ($p<.06$), CSF HVA ($p<.05$), and the prolactin response to the serotonin-releasing agent, fenfluramine ($p<.05$). Traits of affective instability correlated with extroversion, neuroticism, empathy (EPQ), and harm avoidance (TPQ) ($p<.05$). Psychopathic traits were negatively correlated with CSF HVA ($p<.05$). No biological correlates were found in our preliminary analyses with subscales of the TPQ and EPQ. These results suggest that several clinical dimensions characteristic of the DMS-III dramatic cluster may be correlated with personality dimensions defined by the EPQ and TPQ, and that these clinically defined dimensions, but not those of the EPQ and TPQ, have significant biologic correlates in this population.

NR335 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Increased Ventricular Brain Ratio in Schizotypal Personality Disorder

Larry J. Siever, M.D., Psychiatry, Mt. Sinai Sch of Medicine, One Gustave Levy Pl. Box 1230, New York, NY 10029; Merril Rotter, M.D., Robert L. Trestman, M.D. Emil F. Coccaro, M.D., Miklos F. Losconzy, M.D., Kenneth L. Davis, M.D.

Summary:

An increased ventricular-brain ratio (VBR) has been one of the most replicated findings in chronic schizophrenic patients, but ventricular size has not been extensively investigated in the nonpsychotic, schizophrenia-related personality disorders. Thus, frontal horn, lateral ventricle, third ventricle, and posterior horn VBRs were obtained in medically healthy male subjects under 60 years of age, including 37 patients meeting DSM-III criteria for schizotypal personality disorder (SPD) and 18 patients meeting DSM-III criteria for other personality disorders (OPD), but meeting fewer than three criteria for SPD, (as diagnosed by operationalized interview [SIDP] with patient and informant), as well as in 41 normal controls. SPD patients demonstrated increased lateral VBRs compared with OPD

patients ($p<0.05$), with more pronounced differences on the left lateral VBR (SPD = 2.99 ± 1.30; OPD = 2.23 ± 0.91, $p < 0.01$). The left to right ratio and left to right difference of frontal horn (VBRs were significantly greater in the SPD patients compared with the OPD patients ($p<0.05$) and correlated with the psychotic-like symptoms of SPD ($p<0.05$, Pearson). While means of the values for the controls, who were not screened by the SIDP, were similar to those of the OPD patients, they did not differ significantly from the SPD patients. These results of the first study of VBR in a large, clinically well-characterized sample of SPD patients suggest that increased ventricular size and laterality alteration can occur in SPD patients as in schizophrenic patients and call for further investigation of structural brain abnormalities in these patients.

NR336 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Analysis of Suicidality in a Trauma Database

Michael Blumenfield, M.D., Psychiatry, NY Medical College, RM B006 Psych Inst. WCMC, Valhalla, NY 10595; William W. Witt, M.P.H., Daniel W. Byrne, M.S., William Stahl, M.D., Fred H. Moy, Ph.D., Gene C. Cayten, M.D.

Summary:

Background: Suicide accounts for more than 25,000 deaths annually in the United States. Little research has been done regarding suicide and trauma. The purpose of this study was to form a profile of the trauma suicide patient.

Methods: The data analyzed are from the registry of the Institute for Trauma and Emergency Care of New York Medical College in Valhalla. In order to form a profile of the trauma suicide patient, SPSS/PC+ crosstabulation and logistic regression were used.

Results: Risk factors for suicidality were young adulthood, male sex, Hispanic race, mental illness, drug abuse, and no insurance or Medicaid. Age, drug abuse, insurance status, and psychosis were of greatest predictive value. Suicidality peaked on Mondays and Fridays, near the middle of the month, and in the summer and mid-to-late autumn. The most frequent suicide methods, in order of decreasing lethality, were jumping in front of a motor vehicle, gun shot, jumping from a height, and stabbing/laceration. There were no differences in suicide method based upon age, sex, race, insurance status, or psychiatric diagnoses.

NR337 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Thyroid Disease Rates in Suicides and Accidents

Nicholas G. Ward, M.D., Psychiatry, University of Washington, Rp-10, Seattle, WA 98195; Sally Fitterer, M.D., Donald T. Reay, M.D.

Summary:

Previous studies have reported that thyroid disease can present as depression and is overrepresented in populations with major affective disorders. The purpose of this study was to determine if thyroid lumphocytosis and/or disease occurs more frequently in those who commit suicide when compared with death from natural causes, accidents, or homicide. Thyroid glands from autopsies of 891 adult males and 325 females were examined by a pathologists blinded to the cause of death. The prevalence of clinically significant thyroid pathology, particularly thyroiditis, was significantly increased in males but not in females who committed suicide (males–6.6% thyroid pathology in suicide vs. 9.1% other; females–11.1% suicide vs. 12.6% other). However, the prevalence of thyroid pathology, particularly thyroiditis, was significantly increased in males but not in females who had accidental deaths; 10.8% thyroid pathology in accident (77% of these thyroiditis) vs. 6.5% other forms of death (44% of these thyroiditis $p<.02$ Chi-square). Thyroiditis was significantly underrepresented in those who died by homicide (in males, 1.25% homicide vs. 6% other; $p<.02$). Because plasma thyroid studies were not done in this study, it was not known if hypothyroidism and/or hyperthyroidism contributed to death. Neuropsychological deficits associated with hypo- and hyperthyroidism could be factors in increased accidental death.

NR338 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

A Double-Blind Randomized Multicentre Placebo Controlled Parallel Group Study of Paroxetine With Panic Disorder

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Summary:

Paroxetine is a potent, highly selective, serotonin (5-HT) reuptake inhibitor with a half life of about one day and nonactive metabolites. Its use as an effective antidepressant has been well established. There is accumulating evidence to indicate that 5-HT mechanisms are involved in the pathogenesis of panic disorder (PD). This study compared the efficacy and tolerance of paroxetine with placebo in the treatment of PD. After three weeks of placebo run in, patients received 12 weeks of treatment with paroxetine (20, 40, or 60mg) or placebo, and finally two weeks of run-out placebo. Dosages were adjusted according to efficacy and tolerance. Standardized cognitive therapy was given to all patients.

The primary efficacy outcome was a reduction in the number of panic attacks. Analysis of the results showed statistically significant differences in favour of paroxetine between the two treatment groups in two out of three efficacy variables, i.e., 50% reduction in total number of panic attacks reduced to one or less over the study period. For the third efficacy variable, the mean change in the total number of attacks from baseline, there was a positive trend in favour of paroxetine. In conclusion, paroxetine is significantly more effective than placebo in the treatment of panic disorder.

NR339 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Cognitive-Behavioral Therapy for Benzodiazepine Discontinuation

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Summary:

Benzodiazepine treatment in panic disorder has come under increased scrutiny in part because of the difficulty of discontinuing patients from these agents. Discontinuation of both short and long half-life benzodiazepines is associated with the re-emergence of anxiety and panic symptoms, preventing many patients from successfully discontinuing their medications. The present study examined the efficacy of a cognitive-behavioral program as an adjunct to the regular monitoring and conservative taper schedule currently in use for benzodiazepine discontinuation. Outpatients being treated for panic disorder with alprazolam or clonazepam for a minimum of six months and expressing a desire to discontinue this medication were randomly assigned to one of two taper conditions; a slow taper condition alone, or a slow taper condition in conjunction with 10 weeks of group cognitive-behavior therapy. Thirty-three patients completed baseline assessment and initiated the taper program. Significantly more patients receiving cognitive-behavioral program (13 of 17; 76%) successfully discontinued their benzodiazepine medication compared with patients receiving the slow taper alone (four of 16; 25%). There was not a significant

difference in the likelihood of discontinuation success for patients treated with alprazolam versus clonazepam. These findings support the efficacy of cognitive-behavioral interventions to aid benzodiazepine discontinuation in patients with panic disorder.

NR340 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Anxiety Sensitivity and Response to CCK-4

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Summary:

It is hypothesized that fear of anxiety symptoms or anxiety sensitivity (AS) mediates panicogenic responses to biological challenges (Holloway & McNally, 1987). Thus, we determined whether AS mediated the panicogenic effects of cholecystokinin-tetrapeptide (CCK-4) in healthy subjects (28 males, eight females) with no history of panic attacks. From the distribution of scores on the Anxiety Sensitivity Index (Peterson & Reiss, 1987) subjects were classified as low (n = 9), medium (n = 17), or high (n = 10) AS. The three groups did not differ significantly in terms of the severity of somatic symptoms, ratings of anxiety, fear and/or apprehension, incidence of panic attacks, and increases in heart rate and blood pressure. By contrast, subjects with high AS reported more catastrophic cognitions ($p < 0.001$) than those with medium or low AS. Marked group effects were also noted for the degree of fear of somatic symptoms ($p<0.001$); post hoc analysis revealed that all three groups differed significantly from one another in the expected direction. While these data are in general agreement with the view that individuals with high AS have a predisposition to appraise unpleasant somatic sensations as threatening, they do not support the hypothesis that AS is a critical determinant of CCK-4-induced panic attacks.

NR341 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Plasma Catecholamines and Autonomic Function in PTSD

Mark B. Hamner, M.D., Psychiatry, VA Medical Center, 109 Bee Street, Charleston, SC 29401; Bruce I. Diamond, Ph.D.

Summary:

Abnormalities of autonomic function have been described in PTSD. We have recently reported a pilot, double-blind, placebo-controlled, yohimbine challenge study in which catecholamines and their metabolites were assayed by HPLC-EC for blood samples drawn at baseline and one and two hours following yohimbine (16.2 mg) or placebo administration. PTSD patients (n = 10) had elevated plasma dopamine (DA) compared with five healthy control subjects (MANOVA: $F_{1,22} = 5.93$, $p = 0.0235$). PTSD patients had lower and decreased plasma 3-methoxy-4-hydroxyphenylglycol (MHPG) levels ($F_{1,23} = 15.22$, $p = 0.0007$). Plasma norepinephrine (NE) and homovanillic acid (HVA) levels were comparable between groups, without significant changes observed in any catecholamine or metabolite on yohimbine administration. Further data analysis from this study revealed an inverse correlation between plasma MHPG and NE in PTSD only ($r = -0.678$, $p = 0.0445$) versus control ($r = -0.352$, n.s.). Pulse measurements had a weak correlation with MHPG ($r = -0.620$, $p = 0.0557$) and a weak positive correlation with MHPG ($r = 0.627$, $p = 0.0524$) in PTSD only. Plasma HVA demonstrated a significant inverse correlation with systolic blood pressure ($r = -0.467$, $p = 0.0379$) and diastolic blood pressure ($r = -0.452$, $p = 0.0453$) in PTSD patients only. These pilot data further support abnormalities of catecholamine function in PTSD and suggest a possible differential activation of NE and DA systems as a function of autonomic changes in PTSD.

NR342 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Psychotic Symptoms in PTSD

Mark B. Hamner, M.D., Psychiatry, VA Medical Center, 109 Bee Street, Charleston, SC 29401; Mark D. Fossey, M.D.

Summary:

Comorbid psychiatric disorders are of critical concern in the treatment of post-traumatic stress disorder (PTSD). Diagnoses frequently associated with PTSD include mood disorders, substance abuse, personality disorders, and other anxiety syndromes. There have been few reports in the literature assessing psychotic symptoms in association with PTSD. In a preliminary study, we reviewed the charts of 214 veterans seeking treatment in a VA outpatient PTSD treatment program. Thirty-two (15%) of these patients had a comorbid psychotic disorder or psychotic symptoms. Of these 32 patients, 17 (53%) had auditory and/or visual hallucinations described. Psychotic disorder diagnoses included major depression with psychotic features (31%), bipolar disorder with psychotic features (3%), brief reactive psychosis (6%), schizophrenia (9%), schizoaffective disorder (3%) and psychotic disorder NOS (48%). Antipsychotic medications were administered in 47%. Of 80 currently active cases, 25% had comorbid psychotic symptoms. Reexperiencing phenomena such as "flashbacks" may include transient psychotic-like symptoms that are generally recognized as such by experienced clinicians. This study supports further prospective assessment of more pervasive psychotic phenomena in these patients. Diagnostic and treatment implications will be discussed.

NR343 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Treatment of Panic Disorder With Low Dose Clomipramine

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Summary:

The serotonergic tricyclic antidepressant clomipramine has been reported to have efficacy in panic disorder at relatively low doses with more rapid onset compared with other tricyclics. This study examined the efficacy of low-dose clomipramine in panic disorder with or without agoraphobia in a 13-week open trial. Fifty-eight patients who met DSM-III-R criteria for panic disorder with or without agoraphobia were started on a low dose of clomipramine (10 mg/day) and gradually titrated up to 80 mg/day after nine weeks. After nine weeks, dosage was maintained in responders, and increased up to 250 mg/day in nonresponders. Twenty-three (40%) patients either dropped out due to adverse effects or were lost to follow-up before completing six weeks of treatment. Among completers, 79% were panic free at week 9, 68% were panic free for the last two weeks at week 13, and 50% were both panic free for two weeks and were rated not ill or minimally ill on overall severity at week 13. Mean dose at week 13 was 96.9 mg/d. Symptom ratings improved gradually throughout the course of the study, with reduction in panic attacks occurring more rapidly than reduction in phobic avoidance and anticipatory anxiety.

NR344 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Panic Disorder in the Cardiac Stress Laboratory

Cameron S. Carter, M.D., Psychiatry, Univ Calif. Davis, 4430 V Street, Sacramento, CA 95817; Richard Maddock, M.D., Michael Zoglio, M.D., Susan Jella, Ph.D., C. Lutrin, M.D., E. Amsterdam, M.D.

Summary:

Fifty consecutive referrals for stress cardiac scintigraphy for evaluation of complaints of chest pain, in the absence of previously documented coronary artery disease (CAD), were evaluated by structured clinical interview. Only seven (14%) of this group showed evidence of ischemic disease. Twenty-eight (56%) patients met criteria for panic disorder including one patient who also showed evidence of CAD. Of the 43 patients with a negative cardiac study, 27 (63%) met criteria for panic disorder. Neither age, gender, nor the choice of stress (treadmill or persantine) was significantly associated with the presence of coronary disease. However, the presence of panic disorder was significantly associated with an absence of coronary artery disease. Patients with panic disorder scored significantly higher than nonpanic patients on the Zung Anxiety Scale and the Anxiety Sensitivity Index. As potential screening devices for panic disorder in this population these measures were highly sensitive but not specific. These results again confirm the high prevalence of panic disorder among patients with complaints of chest pain in the absence of coronary artery disease. Data relating chest pain quality and medical and psychiatric comorbidity to the apparent low prevalence of CAD and high prevalence of panic disorder among patients referred to this clinical setting will be discussed. The relevance of comorbidity to the treatment of panic disorder in patients presenting to this setting will also be discussed.

NR345 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

The Seasonality of PTSD

Veronika Solt, M.D., Psychiatry, UMDNJ, 30 Bergen St. Bldg 15 #1501, Newark, NJ 07107; Chen-Jen Chen, M.D.

Summary:

There has been an increasing interest in seasonal variation of psychiatric symptoms. Seasonal patterns have been observed in behaviors of conditions involving serontonergic function. Recently, a seasonal variation of obsessive compulsive disorder symptomatology was identified. In our previous report, in line with support findings in the literature, we emphasized the intrusive and intense obsessive quality of the symptoms of post-traumatic stress disorder (PTSD). Based on these preliminary observations we hypothesized that PTSD might also exhibit seasonal variation in severity.

Charts of male veterans (n = 486) admitted to the East Orange Va Medical Center from 10/1/1988 to 10/1/1991 with diagnoses of PTSD were reviewed. Admission date was recorded providing that it was secondary to exacerbation of symptoms of PTSD (n = 104). The admission frequencies were grouped by calendar months and by seasons. Data were analyzed statistically by the Chi-square test. The major finding was a significant ($p<0.001$) increase of the frequency of admissions and exacerbation of symptoms during spring and summer months relative to the expected probability. These preliminary results suggest that the symptoms of PTSD have a seasonal variation and, therefore, may be related to the dysregulation of the serontonergic system.

NR346 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Postpartum Panic in Women With Pre-Existing Panic Disorder

Lee S. Cohen, M.D., Psychiatry, Mass General Hospital, 15 Parkman Street WACC 815, Boston, MA 02114; Deborah Sichel, M.D., Jacqueline Dimmock, B.S., Jerrold F. Rosenbaum, M.D.

Summary:

Introduction: The puerperium has typically been considered a time of risk for the development of psychiatric disorder. While the relationship between worsening of mood and the postpartum period has been investigated by some authors, the impact of the postpartum period on the course of anxiety disorders has not been adequately characterized. This report describes the postpartum clinical course of 40 nondepressed women with pre-existing panic disorder who were followed during pregnancy and the puerperium.

Methods: Through chart review and clinician interview, the clinical course of 40 women with pregravid panic disorder was assessed during the postpartum period. Severity of illness was assessed from the third trimester of pregnancy to the 12th postpartum week; treatment received during this period of time was also evaluated.

Results: While 26 patients (65%) either maintained (N = 23) or improved (N = 3) clinical status, 14 patients (35%) demonstrated puerperal worsening. Those patients who received pharmacotherapy by the third trimester of pregnancy were significantly less likely to experience puerperal worsening of anxiety than those who did not receive treatment prior to the puerperium ($p < .0001$).

Conclusion: Like women with histories of mood disorder, women with histories of pregravid panic disorder may be at risk for puerperal worsening of panic attacks. The potential role of antipanic medication for women at particular risk for puerperal worsening of panic disorder will also be discussed.

NR347 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Benzodiazepine Treatment of Veterans With PTSD

Mark D. Fossey, M.D., Psychiatry, VA Medical Center, 109 Bee Street, Charleston, SC 29401

Summary:

The use of benzodiazepines in the treatment of veterans with PTSD remains controversial. This retrospective study examines the records of 75 male veterans with PTSD-treated with benzodiazepines in a PTSD clinic. Subjects were randomly selected from 230 active patients. Fifty-six subjects (74.7%) had histories of alcohol abuse and 21 (28.0%) had histories of drug abuse. The mean duration of benzodiazepine treatment was 12.9 ± 8.4 months. Seventy-two subjects (96.0%) received diazepam for a mean duration of 8.7 ± 4.9 months. The highest mean dose of diazepam was 54.3 ± 29.1 mg/day. Thirty-six subjects (48.0%) received clonazepam for a mean duration of 7.2 ± 4.9 months. the highest mean dose of clonazepam was 3.7 ± 1.4 mg/day. In addition, 73 subjects (97.3%) were treated with antidepressants. Relapse of alcohol abuse requiring intervention occurred in nine individuals (12.0%) in conjunction with benzodiazepine treatment. Benzodiazepine abuse occurred in 10 subjects (13.3%). Seven of these individuals (70.0%) had histories of other drug abuse. These preliminary findings suggest that some benzodiazepines may be used safely in many male veterans with PTSD including those with histories of alcohol abuse. Caution is warranted, however, especially in patients with drug abuse histories. Prospective studies examining benzodiazepine treatment in this population are indicated.

NR348 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Lactate Diminishes Respiratory Sinus Arrhythmia

Vikram K. Yeragani, M.D., Psychiatry, Wayne St. Univ Sch of Med, 951 East Lafayette, Detroit, MI 48207; K. Srinivasan, M.D., Robert Pohl, M.D., Richard Balon, M.D., Richard Berchou, Pharm.D.

Summary:

We have previously shown that lactate infusions decrease cholinergic modulation of heart rate variability. In the present report, we used bivariate spectral analysis to determine the linear coupling between respiration, heart rate, and blood pressure, and the transfer function between these signals. Nine normal controls participated in this study (seven males and two females; age: 25 ± 0.55

years (mean ± SEM). While there was significant decrease of squared coherence ($p = 0.00001$) and modulus (beats per minute/liter of lung volume) ($p = 0.002$) between heart rate and respiration during lactate infusions, there was no such decrease during placebo infusions. There was also a significant decrease of modulus (beats per minute/liter of lung volume) 20 minutes after the infusion was complete ($p = 0.016$). These findings further support the antimuscarinic effect of lactate infusions. These findings also suggest that the role vagal withdrawal warrants further studies in the genesis of anxiety.

NR349 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Multicenter Findings in Generalized Anxiety Disorder: Efficacy and Safety of Ipsapirone and Lorazepam Versus Placebo

Jerome F. Costa, M.D, California Clin. Trails, 8500 Wilshire Blvd, Los Angeles, CA 90211; Neal R. Cutler, M.D., John J. Sramek, Pharm. D., Jan M. Keppel Hesselink, M.D., Alice Krol, Julie Roeschen, Karl Rickels, M.D., Edward Schweizer, M.D.

Summary:

A multicenter, double-blind, placebo-controlled study compared the efficacy and safety of ipsapirone (an azapirone) 10.0 – 30.0mg per day with lorazepam 2.0 – 6.0mg per day and placebo in outpatients with generalized anxiety disorder (GAD) of moderate or greater severity. Entry criteria included a Hamilton Anxiety Scale (HAM-A) score ≥ 18, a Covi Anxiety Scale ≥ 8, and ≤ 7 on the Raskin Depression Scale. The study design consisted of a one-week, single-blind placebo evaluation; a four-week, double = blind acute treatment period; a four-week extension period; and a two-week, single-blind taper and placebo withdrawal period. Efficacy was measured by changes in the HAM-A, Clinical Global Impression (CGI), Hamilton Depression Scale (HAM-D), and Zung-Anxiety Self-Rating scale (Zung-A) scores. Withdrawal reactions were assessed by the Physician Withdrawal Checklist and by a patient self-rating checklist. Of the 317 patients randomized, the 263 patients valid for analysis of efficacy in the three treatment groups were comparable in terms of demographics, duration of anxiety, and baseline rating scales. Both ipsapirone and lorazepam significantly ($p<0.05$) reduced HAM-A and CGI scores during the acute treatment phase. Two hundred and fifty-four patients completed the acute phase, while 16 patients dropped out of the study due to adverse events (ipsapirone, n = 7; lorazepam, n = 4; and placebo, n = 5). There were fewer withdrawal symptoms in the ipsapirone patients compared with lorazepam patients, which, in combination with the drugs' comparable efficacy, suggests that ipsapirone may represent a more rational and selective therapy for GAD.

NR350 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

MRI and EEG Brain Abnormalities in Panic Disorder

Karl Dantendorfer, M.D., Psychiatrie, Unviersitatsklinik, Wahringer Gurtel 18-20, Vienna A 1090, Austria; Daniela Wimberger, M.D., Josef Kramer, M.D., Herwig Imhof, M.D., Heinz Katschnig, M.D., Peter Berger, M.D.

Summary:

Objective: Based on recent studies about CNS abnormalities in panic disorder (PD) patients and Gormans proposition of the existence of a neuronal "panic disorder circuit" (consisting of cortical, limbic, and brainstem structures) we used MRI and EEG to assess frequency and localization of brain abnormalities in PD patients.

Method: At the Vienna University Clinic, 86 consecutive outpatients (48f/38m; mean age 33.6 ±8.7a) with PD, (DSM-III-R criteria, SCID diagnosis) under routine EEG; 41 of them had an MRI scan made.

Results: 31.4% of all patients (27 of 86) showed unspecific non-epileptic pathological EEGs. MRI found brain abnormalities in 43.9% (18 of 41) of our patients. Interestingly, 66.7% of patients with pathologic EEGs (14 of 21) as compared with only 20% of patients with normal EEGs (four of 20) showed such MRI abnormalities (sign. diff., p 0,001). Lesions were localized in three major brain areas: (1) the limbic system (n = 7), (2) the cortex (n = 11), (3) the white matter (n = 8).

Conclusions: We conclude that there is a subgroup of PD patients with focal CNS abnormalities. The CNS lesions found correspond remarkably to structures or pathways of the hypothetical PD circuit. Thus there seems to be heterogeneity in the pathogenesis of PD this could account for differences in psychopathology, prognosis, or response therapy.

NR351 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Standardization of Assessment in Panic Disorder

M. Katherine Shear, M.D., Anxiety Disorder, Univ of Pittsburgh, 3811 O'Hara Street, Pittsburgh, PA 15213; Jack Maser, Ph.D.

Summary:

The NIH Consensus Development Conference on Panic Disorder Treatment recommended standardization of assessment procedures to make outcome results from different study sites comparable. In response, the authors organized a conference with participants representing most major biological and psychosocial panic disorder research sites in the United States and Canada. Recommendations for a standard assessment battery resulted. The purpose of the presentation is to disseminate this conclusion and to highlight issues considered in need of further work.

Specific recommendations included standard assessment procedures for panic attacks, limited symptoms, anticipatory anxiety, phobic avoidance, comorbid symptomatology, and global severity and impairment. Appropriate instruments were suggested for each area. In some cases, there was a conclusion that no instrument exists that serves the purpose. This was true in particular for the assessment of panic-related phobic symptoms. Two important issues highlighted by conference participants were 1) the need to focus phobic symptom assessment on panic-related situational fear and avoidance, and 2) the importance of measuring dispositional fear of fear (fear of bodily sensations) in any panic disorder population. The group could not agree on definitions for remissions, recovery, recurrence, relapse, and response, although there was agreement on the need for defining these concepts. This presentation will review the conclusions and significance on the panic disorder assessment standardization conference.

NR352 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Life Events and the Corticotropin Releasing Factor Test in Panic Disorder

Dominique Servant, M.D., Anxiety Unit, University of Lille, 57 Boulevard De Mets, Lille Cedex 59037, France; Daniel Bailly, M.D., Didier Dewailly, M.D., Regis Beuscart, M.D., Philippe Jean Parquet, M.D.

Summary:

Objective: Recently CRF has been hypothesized to play a role in the pathophysiology of stress and anxiety. Some authors found blunted ACTH response to CRF in panic patients, while others did not. In humans, stressful conditions may alter CRF functioning. We wondered whether the inconsistencies in the reported CRF stimulation test in panic disorder may be related to the presence or absence of recent life stress.

Method: Seventeen drug-free patients with acute panic disorder episode and 17 normal controls received a IV injection of o-CRF

Plasma was assayed for ACTH and cortisol using specific RIA. Life events were recorded using multiple semistructured interviews.

Results: We found a negative correlation between ACTH response and number of life events occurred in the year preceding the onset of panic episode ($r = -0.64$, $p < 0.01$). Compared with healthy controls the panic patients group who experienced a recent severe event ($n = 8$) showed a blunted ACTH response to CRF by ANOVA ($F = 10.85$, $p < 0.01$).

Conclusions: These data suggest that stressful events may alter CRF functioning in panic patients and may explain the equivocal results of CRF stimulation test previously found in panic disorder.

NR353 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Dizziness, Panic and Vestibular Abnormalities

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Summary:

While several studies have shown that panic disorder occurs in vestibular disorder patients (Clark, et al., 1992; Jacob, et al., 1992), this relationship has not been documented by a controlled study. This study compared 50 patients presenting to an otolaryngology clinic with a complaint of dizziness to 50 patients presenting with hearing loss on questionnaire assessment of panic, anxiety, depression, and other variables, which was followed by structured interviews in selected cases. Clinical and laboratory evaluation of vestibular and audiological complaints was independently completed. Compared with hearing loss patients, patients with dizziness had significantly more panic disorder (20% vs. 0%, $Chi^2 = 18.4$, $p<.001$), anxiety (BAI: $t=3.4$, $p=.001$), depression (BDI: $t=3.5$, $p<.001$), and work-related disability (57% vs. 23%, $Chi^2 = 7.1$, $p<.01$). There were no differences between groups on demographic variables. The most common panic attack symptoms were dizziness (90%), nausea 55%), and palpitations (50%). Most patients with panic disorder had abnormal vestibular test results. The results suggest that consultation with an otolaryngologist should be considered in panic patients presenting with dizziness.

NR354 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Controlled Study of Eye Movement Desensitization and Reprocessing Treatment for PTSD

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Summary:

Objective: We evaluated Eye Movement Desensitization and Reprocessing (EMD/R), a novel treatment for post-traumatic stress disorder (PTSD). *Method:* Sixteen Vietnam veteran outpatients with chronic PTSD underwent up to six weekly sessions focusing on a specific combat experience, randomized to either an active, eye-movement condition (M) or a control, eyes-fixed condition (F). Each subject then crossed over to the other condition, focusing on another combat experience. Treatments were performed by experienced behavior therapists fully trained in the EMD/R procedure by its originator. Outcome measures included the Impact of Event Scale (IOES) intrusion (int) and avoidance (avd) subscales; the Clinician Administered PTSD Scale (CAPS) frequency (frq) and intensity (int) subscales; the Mississippi Scale for Combat-Related PTSD (MISS); and number of daily intrusions (COUNT). *Results:* Mean pre- to post-percent change in the outcome measures were: IOES-int: M −20%, F −26%; IOES-avd: M −12%, F −36%; CAPS-frq: M −01%, F −03%; CAPS-int: M +02%, F −03%; MISS: M +02%, F +04%; COUNT: M −12%, F −20%. ANOVA revealed significant treatment effects for IOES-int, IOES-avd, and COUNT but not CAPS-frq., CAPS-int., or MISS. There was a significant treatment x condition interaction for IOES-avd, with F superior to M. *Conclusions:* Treatment was not efficacious for global PTSD but was modestly effective for specific intrusion and avoidance symptomatology. The control condition was at least as effective as the active condition, not supporting a role for eye movements in mediating EMD/R's effect.

NR355 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Social Phobia in Suicide Attempters

Mocrane Abbar, M.D., Psychiatry, Hospital Lapeyronie, 555 Route De Ganges, Montpellier 34059, France; Jean-Michel Chignon, M.D., M.C. Picot, M.D., Y. Caer, M.D., L. Schenk, M.D., D. Castelnau, M.D.

Summary:

Recently, some authors have reported that social phobia in the community could be associated with significant morbidity. Comorbid social phobia was found particularly associated with an increased rate of suicide attempts. We evaluated psychiatric diagnoses and cormorbidity in 150 serious suicide attempters, 52 males and 98 females, who were hospitalized immediately after a suicide attempt. All patients were assessed with a modified version of the SADS-LA, which uses DSM-III-R criteria. Mean age of the population was 35.5 (SD:13.7) years. Ninety-three patients suffered from current major depressive episode, 29.3% from panic disorder, 26.7% from addictive disorders, and 15.3% (six men and 17 women) from social phobia. Women were more likely than men to have a history of depressive disorders (60.2% vs 48.1% : $p<.05$) but, addictive behaviors were more prevalent in males (57.7% vs 12.2% : $p<10\text{-}3$). The number of lifetime comorbid diagnoses was similar in males and in females (2.0 ± 1.3 vs 1.7 ± 1.3 ; NS). At the time of their inclusion, 23 patients (15.3%), five males and 18 females, did not suffered from any Axis I or II diagnosis, as defined in DSM-III-R.

Among patients with social phobia, we found a high rate of comorbidity. In fact, 78.3% of them reported having suffered from major depressive episode at least once in their life, 43.5% from panic disorder, and 10.8% from alcohol abuse and or dependence. Only two patients (8.7%) suffered from no comorbid social phobia.

So it appear that the rate of social phobia is high in suicide attempters, and that social phobia may interact with some comorbid disorders in regard to increasing risk of suicide attempts.

NR356 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

The Efficacy of Sertraline and Behavior Therapy in Adolescents With Treatment Resistant OCD

Hugh F. Johnston, M.D., Psychiatry, B6/210 Clinical Sci Ctr, 600 Highland Avenue, Madison, WI 53792; J. Jay Fruehling, M.L.S.

Summary:

Five adolescents (three boys, two girls, aged 13-17) with treatment-resistant obsessive compulsive disorder (OCD) were treated with sertraline (Zoloft) and behavior therapy in an open trial designed to generate pharmacokinetic data. Sertraline was started at 25 mg/day and incrementally increaesd to 200 mg/day over 21 days. At the beginning of the study the mean children's Yale-Brown Obsessive-Compulsive scale (CY-BOCS) was 25.4. After 42 days the mean CY-BOCS was 14.4 ($p \simeq 0.1$). No significant side effects were observed. Minor side effects reported included dizziness, stomach upset, dry mouth, and a "funny chest sensation." All of the adolescents enrolled in this study had previously been treated with a combination of behavior therapy and either clomipramine (five subjects), fluoxetine (three subjects), or both (three subjects).

Conclusions: (1) Sertraline + behavior therapy shows promise for treatment-resistant OCD adolescents. (2) Sertraline appears to be well tolerated in this age group. These findings must be considered preliminary in view of the small number of subjects and the open design of the trial.

NR357 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Instructional Set in Panic Disorder

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Summary:

The relative contribution of psychological and biological factors in the pathophysiology of panic disorder remains obscure. A number of recent studies argue that psychological manipulations may alter the outcome of laboratory panic-inducing procedures.

In order to assess the impact of one such psychological factor on carbon dioxide-induced panic, 22 panic patients randomly received "partial" (describes only the procedure) or "full" explanation (describes all expected symptoms and gives reassurance) before undergoing a series of respiratory challenges (5% and 7% CO2 inhalation, room air hyperventilation).

No significant differences were found for any of the parameters (panic rate, anxiety, apprehension) during any of the interventions between the two instruction groups.

Varying instructional sets failed to alter the reaction of panic disorder patients to a series of respiratory challenges. Cognitive manipulation may not be sufficient to reverse the panicogenic effects of CO2 inhalation.

NR358 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Psychopathology in Children of Panic Disorder Patients

Eve D. Richer, Psy.D., Phobia Clinic, LIJ-Hillside, P.O. Box 38, Glen Oaks, NY 11004; Charlotte M. Zitrin, M.D., Laszlo A. Papp, M.D.

Summary:

In order to assess psychiatric morbidity in children of parents with panic disorder and agoraphobia (PDAG), we blindly evaluated 31 children, ages 6-15, of randomly selected clinic patients with PDAG and 18 children of parents with either simple phobias (N = 10) or no Axis I disorder (N = 8).

Structured clinical interviews utilizing the Diagnostic Interview for Children and Adolescents (DICA) and self-report measures (Children's State/Trait Anxiety Scale and Childhood Depression Inventory) were administered to the children. Using the same diagnostic interview (DICA-Parent Form), parents were interviewed about their children.

According to the DICA, mood disorders (major depression and/or dysthymia) were significantly more frequent in the PDAG group (19/31) than in the comparison group (4/18) [$X^2 = 6.98$; $p<.008$] Trends toward increased rates of separation anxiety [$X^2 = 3.11$; $p < .08$] and phobias [$X^2 = 3.16$; $p<.07$] were also found in the PDAG group. Children of PDAG parents reported a trend toward greater trait anxiety on the State/Trait Anxiety Scale (11/31) than the comparison group (2/18) [$X^2 = 3.47$; $p<.06$]. Both groups of children reported significantly higher rates of mood disorders [$X^2 = 11.33$; $p <.001$] and obsessive compulsive disorder [$X^2 = 4.29$; $p<.04$] compared with their parents' reports.

The relevance of the psychopathology in children of PDAG parents and strategies for early intervention, based upon early and precise identification of symptoms, will be discussed.

NR359 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Assessment of Insight in Obsessions and Delusions

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Summary:

Objective: To pilot the use of a new rating scale designed to evaluate the degree of conviction and insight in obsessions and delusions—the Brown-Harvard Assessment of Beliefs scale (B-HABS). *Background:* There has been increasing interest in the relationship between obsessions, overvalued ideas, and delusions across a number of psychiatric syndromes including obsessive compulsive disorder (OCD) and body dysmorphic disorder (BDD). However, understanding of the possible continuum between these phenomena has been hampered by the lack of a reliable and valid instrument to measure degree of insight. *Methods:* We developed and administered a 14-item multidimensional rating scale designed to evaluate the degree of delusional thinking. Dimensions include conviction, fixity, pressure, and insight as well as associated features such as degree of impairment and distress. The scale was administered to 40 patients: 15 patients with OCD, 13 patients with BDD, and 12 patients with psychotic disorders.

Results: Pilot data showed good internal consistency with Crombach alpha coefficients ranging from .803 to .846. The items appeared to cluster into three groups. Integrating reliability data will also be presented. *Conclusions:* The B-HABS may be a useful tool for evaluating the degree of delusional thinking seen in a number of psychiatric disorders. Such an assessment might contribute to improved classification for these disorders and have implications for treatment.

NR360 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

REM Sleep in Veterans With PTSD and Depression

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Summary:

Major depression is accompanied by shortened rapid eye movement (REM) sleep latency and an increased percentage of REM sleep. Post-traumatic stress disorder (PTSD) is reportedly accompanied by prolonged REM latency and a reduced percentage of REM sleep. It is, therefore, of interest to examine sleep parameters in subjects with both major depression and PTSD. *Methods:* Three groups of age-matched, nonmedicated, male subjects are included in this ongoing study: Vietnam veterans with major depression and PTSD ($n=15$), veterans with major depression but no PTSD ($n=9$), veterans with no major depression and no PTSD ($n=9$). Each subject underwent at least two nights of polysomnographic study, the first night for adaptation purposes. *Results:* In comparison to the other two groups (which did not differ significantly in REM latency or %REM), depressed patients showed a trend toward reduced REM latency ($F=2.53$; $df=2,30$; $p=.096$), and a significant increase in %REM sleep ($F=5.36$; $df=2,30$; $p=.010$). REM efficiency (% of total time spent in REM within a given REM episode) was substantially reduced in REM1 and REM2 in the PTSD/depressed group only. *Conclusions:* The data are consistent with the hypothesis that PTSD patients "avoid" REM sleep. REM dream content is currently being examined in the three groups.

NR361 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

A Study of Defense Mechanisms in Panic Disorder

Fredric N. Busch, M.D., 10 East 78th Street, #5A, New York, NY 10021; Arnold M. Cooper, M.D., Theodore Shapiro, M.D., M. Katherine Shear, M.D., Andrew Leon, Ph.D., Amy L. Bloch, M.D.

Summary:

Although cognitive-behavioral approaches and medication have demonstrated success in the treatment of panic disorder, the frequency of relapse and the impact of the disorder on quality of life suggest that further efforts should be made to better understand and treat panic disorder. Psychodynamic factors have not been well studied in panic disorder, in part because so few tools for systematic research have been developed. The current study assessed defense mechanisms in panic patients (n = 22) compared with a group of dysthymic patients (n = 22) using Perry's Defense Mechanism Rating Scale (DMRS). The DMRS allows for systematic assessment of defense mechanisms based on a clinical interview. We found that panic patients employed the defenses of reaction formation and undoing to a significantly greater extent than dysthymic patients. Both panic and dysthymic patients demonstrated relatively immature defense mechanisms. The implications of these findings for the psychological functioning of panic patients will be explored as well how knowledge of the use of the particular defense mechanisms could aid in the treatment of panic patients, whether by cognitive-behavioral, medication, or psychodynamic approaches.

NR362 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Eye Movements in OCD

Stefano Pallanti, M.D., Neuropsych., Florence University, Florence, Italy; Lorella M. Grecu, M.D., Pier Luigi Cabras, M.D., Pier Franco Gangemi, M.D., Stefano Massi, M.D., Alessandro Parigi, M.D., G. Zaccara, M.D., Carlo Fararelli, M.D.

Summary:

Although abnormalities in Smooth Pursuit Eye Movements (SPEM) has been reported in several psychiatric conditions, scant attention has been paid to Obsessive Compulsive Disorder (OCD), moreover the few studies of SPEM in OCD reported controversial results.

Eye movements were investigated in 14 patients meeting a DSM-III diagnosis of OCD and 14 matched controls using the technique describe by Zaccara et al. (1991).

Compared with controls, OCD patients showed significantly poorer eye tracking both in Saccadic Movements and Smooth Pursuit.

In particular, patients' saccadic movements showed prolonged latency ($p = 0.0014$), reduced accuracy ($p = 0.0071$), lower peak velocity ($p = 0.0162$), whereas Smooth Pursuit was characterized by low gain (the TMTV mean value was $0.63 +- 0.06$ vs $0.75 +- 0.62$, $p < 0.0001$), increased number ($p = 0.007$) and greater amplitude ($p = 0.0036$) of anticipatory saccades.

NR363 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Nociception in Trichotillomania

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Summary:

Objective: Trichotillomania (TM) (chronic hair pulling) has recently been postulated to belong to a group of obsessive compulsive spectrum disorders, having in common pathological grooming compulsions. Trichotillomanics (TMs) have been reported to exhibit less pain when hair is plucked from affected areas for dermatological examination. It has been postulated that the typical tonsural pattern of scalp hair loss may be determined by a higher pain threshold in affected areas (Sanderson & Hall-Smith, 1970). Alternatively, trichotillomania may be related to general hypalgesia. Most (77.3%) of 141 TMs assessed by the authors denied pain during pulling. The present study investigated whether general hypalgesia may contribute to the persistance of TM. *Method:* Nociceptive responsivity was tested in 20 nondepressed (HAM-D < 15) TMs and 31 healthy controls using a Ugo Basile Pressure analgesiometer, a technique that has demonstrated elevated nociceptive thresholds in bulimia nervosa (Faris et al, 1992). *Results:* Neither pain detection thresholds (PDT) nor pain tolerance thresholds (PTT) were found to be elevated in TM as compared with controls ($p = .26$, PDT; $p = .55$, PTT). *Conclusions:* TM does not appear to be potentiated by a general hypalgesia; however, localized hypalgesia remains a potential contributor to hair pulling maintenance and should be investigated in future studies.

NR364 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Monthly Follow-up Study of Patients With GAD

James G. Barbee, M.D., Psychiatry, LSU Medical School, 1542 Tulane Avenue, New Orleans, LA 70112; Mark H. Townsend, M.D., Don Mercante, Ph.D.

Summary:

The long-term outcome of generalized anxiety disorder (GAD) remains controversial, and studies to date have utilized retrospective designs. The current report contains the results of the first six months of a 12-month prospective follow-up study of 31 patients with GAD (by DSM-III-R criteria), in which patients have been interviewed every four weeks. At each visit the Hamilton Anxiety Scale, Hamilton Depression Scale, the Holmes and Rahe Life Events Scale, and a self-rated GAD-symptom checklist were administered. Global and individual worry symptoms were also assessed.

Of the 31 patients, 23 were on daily medication at some time during follow-up; six individuals went into full remission (three on medication). Four developed newly emergent Axis I disorders. Most of the patients demonstrated a persistent, fluctuating course of illness with mild to moderate symptoms throughout the follow-up period. Thirteen individuals had episodes of moderate-severe anxiety (HAM-A > = 20). Results of analyses of symptom stability, patterns of worry, and the relationship of symptom severity to life events will be presented.

NR365 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Platelet Serotonin 2 and Serotonin Uptake Sites in OCD

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Summary:

Biological abnormalities in 5HT functioning have been noted in obsessive compulsive disorder (OCD), and medications enhancing 5HT functioning have been effective in treating OCD. 3-H-paroxetine and I-125-LSD were used to study binding kinetics at 5HT-2 and 5HT uptake sites in OCD patients and controls. In addition, kinetics were examined in patients before and after six-week treatment with the serotonergic medications, clomipramine and clonazepam. There were no differences between patients and controls in the number of sites (Bmax) nor in the affinities (Kd) for either binding site. There were no differences in binding kinetics at either site in patients treated with clonazepam. In patients treated with clomipramine, there was an apparent decrease in affinity for 3-H-paroxetine (219 vs 894 pM; $p < 0.001$), with no apparent change in Bmax, consistent with data reported in normal controls. There were no changes in the kinetics for I-125-LSD to 5HT-2 sites following treatment with clomipramine. These results provide no evidence of abnormalities in platelet serotonin binding sites in OCD.

NR366 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Improved Discrimination of Anxiety and Depression

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Summary:

Objective: This study examined whether integrating two new clinical models, "positive/negative affectivity (PA/NA)" (Watson & Tellegen, 1985) and the "cognitive content-specificity" model (Beck, 1976), could discriminate anxious from depressive symptoms better than either model in isolation. *Method:* Subjects were 159 adult psychiatric outpatients who were administered a self-report packet of randomized measures, which included the Positive/Negative Affect Schedule, the Cognition Checklist, and the Symptom Checklist 90-Revised. *Results:* Results demonstrated that a combination of high NA (e.g., emotions such as distress, fear, and nervousness) and anxiety cognitions (e.g., "Something bad is going to happen.") significantly predicted general anxiety, phobic anxiety, and obsessive compulsive symptoms better than measures of cognitions or affect alone. Depressive symptoms were significantly predicted by high NA, depressive cognitions (e.g., "I'm a social failure."), and low PA (e.g., emotions such as being active, elated, and strong). *Conclusions:* Results support the integration of both models in discriminating anxious from depressive symptoms. Traditional mood measures are actually NA measures, which are not able to discriminate between anxious and depressive symptoms. A future measure that has utility in discriminating anxiety and depressive symptoms might consist of specific anxiety cognitions, specific depressive cognitions, and positive cognitions.

NR367 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Predictors of Treatment Response in Panic Disorder

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Summary:

The authors sought to determine predictors of short-term treatment response in 66 patients with panic disorder who had completed three weeks of treatment with fluvoxamine (N=23), cognitive therapy (N=20), or placebo (N=23). Subjects were randomly assigned to medication or cognitive therapy; within the medication cell, assignment to fluvoxamine or placebo was double-blind. A three-week placebo washout (or observation) period was followed by eight weeks of treatment. patients receiving fluvoxamine were taking an average of 230 mg by the end of week 8. Patients receiving cognitive therapy had eight weekly sessions using a protocol developed and used during research on panic disorder at the Center for Cognitive Therapy in Philadelphia, by a therapy trained at the center. In addition to social demographic, and illness data, clinical and self-rated assessments were gathered at baseline, during and after treatment. Assessments included the Clinical Anxiety Scale, Clinical Global Impression ratings, the Sheehan Disability Scale, the Montgomery Asberg Rating Scale, the Maudsley Obsessive-Compulsive Inventory, the Whiteley Index, the Cognitive Dysfunction Questionnaire, a panic attack severity scale, and presence or absence of personality disorder based on an interview and a self-report instrument. Recovery was defined as a Clinical Global Impression score of "very much" or "much improved" by week 4 or the absence of panic attacks.

Using multiple logistic regression, we identified treatment with fluvoxamine, low panic attack severity score, and an absence of comorbid personality disorder assessed with the Personality Diagnostic Questionnaire as significant predictors of recovery. Interestingly, personality disorder was an important negative predictor of outcome with cognitive therapy. Eight of 20 persons receiving cognitive therapy had a personality disorder using the PDQ; seven were classified as nonresponders (Fisher's Exact Test p=.028). We conclude that the results support the efficacy of fluvoxamine and show that patients with low symptom severity and a normal personality respond well to treatment.

NR368 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Value of the Generalized Anxiety Disorder Symptoms

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Summary:

Objective: Determination of the frequency and severity of the 18 DSM-III-R symptoms of generalized anxiety disorder (GAD). *Method:* Forty-nine patients with a principal diagnosis of GAD were recruited for a drug study by the means of a diagnostic Structured Clinical Interview (SCID). The frequency of the GAD symptoms was considered at or above the DSM-III-R requirement of "often" if the symptoms were present for at least three days in every week over a six-month period. The severity of the symptoms was rated on a five-point scale, from 0 (symptom not present) to 4 (extreme or very severe). *Results:* The GAD symptoms that received the highest ratings were, in the order of the decreasing frequency and severity: "feeling keyed up or on edge," "muscle tension, aches, or soreness," "trouble falling or staying asleep," "restlessness," "irritability," "difficulty concentrating or 'mind going blank' because of anxiety," "easy fatigability," "exaggerated startle response," dry mouth," and "nausea, diarrhea, or other abdominal distress." Other symptoms were both less frequent and less intense. *Conclusions:* These results indicate that symptoms of hyperarousal and motor tension may be more important for the diagnosis of GAD than symptoms of autonomic hyperactivity, leading to a distinction between the "core" and secondary GAD symptoms.

NR369 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Is Irritable Bowel Syndrome Related to OCD?

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Summary:

Irritable bowel syndrome (IBS) is a bowel disorder commonly seen in North America. Recent research has suggested a possible connection between IBS and anxiety disorders, particularly panic disorder. The purpose of this study was to investigate the incidence of IBS among patients with obsessive compulsive disorder (OCD). We compared 54 consecutive admissions to an OCD clinic with 57 age- and sex- matched controls. All OCD patients met the DSM-III-R criteria for OCD. Controls were screened for OCD using the Maudsley Obsessive Compulsive Inventory (MOCI). Patients were excluded for any known history of active bowel disease, history of gastric or intestinal surgery, or use of medications known to affect GI motility. One patient in the OCD group was excluded as were five patients among the controls, leaving 53 in the OCD study group and 52 controls. All patients were administered a bowel symptom questionnaire designed to detect the presence of IBS. *Results:* 22 OCD patients met the criteria for IBS (41.5%). Of these 22 cases, 77.3% were female and 22.7% male. Among the controls, 15 (28.8%) had IBS; of which 73.3% were female and 26.7%, male. The incidence of IBS in the general population is about 15%. Our study revealed a higher incidence of IBS in both the study and control groups and a higher incidence among women than men. More importantly, the incidence of IBS was increased in the OCD

group (41.5% vs. 28.8%). The result was not statistically significant, however, due to small sample sizes. Further study to determine the relationship between IBS and OCD, as well as other anxiety disorders, is warranted.

NR370 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Telephone Behavior Therapy for Agoraphobia

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Summary:

Behavior therapy has been found to be an effective treatment for panic disorder with agoraphobia (PDA), but this type of specialty treatment is not widely available in rural areas, and many PDA patients are not mobile enough to attend treatment centers. The present study involves treating 40 PDA patients living in rural areas with 10 one-hour individual sessions of behavior therapy conducted by telephone. Twenty of the PDA patients were first placed on a 10-week waiting list as a control group. At present, 10 PDA patients have completed 10 sessions of treatment and were compared with 10 PDA patients who completed 10 weeks on the waiting list. ANOVAs revealed a significant treatment X time interaction effect for the agoraphobia subscale of the Fear Questionnaire, $F(1, 18) = 11.04$, $p < 0.005$, and the Anxiety Sensitivity Index, $F(1, 18) = 13.85$, $p<0.05$. These preliminary results support the efficacy of telephone-delivered behavior therapy, and six-month follow-up data will determine if the gains are maintained.

NR371 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Family Function and Family Group Treatment in OCD

Barbara L. Van Noppen, M.S.W., Outpatient, Butler Hospital, 345 Blackstone Blvd., Providence, RI 02906; Michele T. Pato, M.D., Steven Rasmussen, M.D., Richard Marsland, R.N.

Summary:

Psychosocial factors have recently been found to be important in predicting long-term outcome in OCD. (Leonard, in press). We report findings on 109 OCD families who were compared to the existing data on Family Assessment Device (FAD) scores in schizophrenic, depressed, and control families (Mille; 1986). The OCD population scored better than the other groups yet worse than controls. The percentage of families in the unhealthy range were: 42.4% problem solving, 55.1% communication, 45.9% roles, 56.0% affective responsiveness, 48.6% affective involvement, 52.3% behavior control, and 51.4% general functioning.

Group treatment is cost effective and mobilizes natural support systems. Although there are reports on the use of family groups for OCD (Tynes, 1991), none provided treatment efficacy data. Pre- and post-treatment data on 24 families in a multifamily psychoeducational and behavioral group were obtained for family function (FAD) and severity of OCD symptoms (YBOCS). A post-treatment change in affective responsiveness was significant at $p<.03$, and communication showed a trend toward significance. The relationship of affective responsiveness to expressed emotion and its relevance in OCD families will be explored.

These findings add to a growing literature on the importance of group treatment of families.

NR372 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

PTSD in Cancer Survivors and Chronic Illness

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Summary:

Although reexperience, arousal, and avoidance, which are typical of post traumatic stress disorder (PTSD), have been reported in survivors of cancer, DSM-III-R criteria for PTSD specifically excludes chronic illness as a stressor qualifying for diagnosis of PTSD. *Methods:* A group of 27 women cancer survivors, longer than three years from diagnosis, were compared with a demographically comparable group of 21 women who had undergone gynecologic surgery for a benign condition at least one year prior to interview. Assessment included 1)Structured Clinical Interview for DSM-III-R (SCID), PTSD and 2) Potential Stressful Life Events Interview. *Results:* Cancer survivors and gynecologic surgery patients had current PTSD rates of 4% and 5%, respectively; lifetime rates of PTSD were 22% and 5%, respectively ($p<0.09$). Patients endorsed lifetime-Reexperience criteria (criterion B, DSM-III-R PTSD) at a rate of 48% in the cancer group and 14% in the gynecologic surgery group ($p<0.01$). Lifetime-Arousal criteria (Criterion D) were met in 30% and 5%, respectively ($p<0.05$). Both the cancer group and the gynecologic surgery group have evidence of psychological distress, yet the specific symptoms of PTSD are greater in the cancer group. The symptoms reported closely resemble those of individuals who have experienced other traumatic events. Thus, PTSD may capture an important aspect of these patients' enduring psychological experience, not previously reported.

NR373 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Combat Stress, Childhood Trauma, Coping and Adaptation

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Summary:

That combat stress may lead to prolonged mental health sequelae has been documented (Lindy, 1988). However, few investigations have followed the newly returned veteran's stress reaction longitudinally (Solomon, Mikulincer, & Flum, 1988). This study is an investigation of the immediate and long-term impact of combat exposure and childhood trauma on coping and psychological functioning of Operation Desert Storm (ODS) veterans. A series of questionnaires (TIME 1) was completed by 325 reservists mobilized for ODS. Eighteen months later subjects were retested (TIME 2). At TIME 1 the greater the trauma exposure, the higher the level of psychological distress ($p<.05$). In addition, those exposed to higher levels of trauma were more likely to engage in coping behaviors that represent hallmark symptoms of PTSD (i.e., problem avoidance and social withdrawal: $p < .01$). Finally, while reliance on coping by means of problem avoidance, self-criticism, wishful thinking, and social withdrawal was significantly ($p<.01$) related to increased psychological distress in TIME 1 data, only seeking social support served any stress buffering role. Analysis of TIME 2 data is currently underway and will be presented. How these relationships change over time and whether or not TIME 1 coping is predictive of TIME 2 symptomology will be particularly important.

NR374 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Panic Disorder in a Homeless Population

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Summary:

Most studies that have examined mental illness among the homeless have focused on schizophrenia and the mood disorders, illnesses thought by many to be the most severe. Less attention has been paid to other disabling psychiatric conditions. In panic disorder, for example, follow-up studies have shown that patients die at two to five times the expected rate, and that suicide is common. We report the results of a study in which 77 patients who sought psychiatric care at a health clinic for the homeless were screened for panic disorder by clinical interview. Eleven patients (14%) fulfilled DSM-III-R criteria for panic disorder three with concurrent agoraphobia. Nine panic patients had comorbid major depression and five had substance abuse disorders. Six patients developed panic disorder after they had become homeless, while five reported that panic disorder preceded their homelessness. Regarding demographic variables, patients who developed panic while homeless were more highly educated ($p<0.05$) than were those in the other group. The results underscore the need for greater awareness of the presence of panic disorder in the homeless, and emphasize the strong associations among panic disorder, depression, and substance abuse.

NR375 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Comparative Assessment of OCD by Yale Brown Obsessive Compulsive Scale and Hamburg Obsession Compulsive Inventory

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Summary:

The current "gold standard" of assessor's evaluations of obsessive compulsive symptomatology in international OCD studies is the Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodmann et. al. 1986, 1989).

The Hamburg Obsession Compulsion Inventory (HOCI, english version by Klepsch et al., 1991) is a widely used self-rating scale in Germany, now used in several international drug- and behavior-therapy studies.

A direct comparison of both assessment instruments is presented, with data from two treatment studies: First results of a study with individual behavior therapy with nine patients, who had shown an extremely chronic course of illness (about 19 years) will be summarized. On the Y-BOCS, compulsions and obsessions were reduced by 3.3 and 4 points, respectively. The total change score almost reached significance, reduction of compulsions alone was significant on the 5% level. No significant decrease was measured on the HOCI. In fact "washing" compulsions even increased.

In a second study we compared Y-BOCS and HOCI ratings of patients ($N=45$) from expert-trained self-help groups: pre- and post-treatment, and at three months follow-up. All Y-BOCS ratings showed a highly significant decrease, whereas in the HOCI ratings, only one of six factors indicated a significant improvement. Results are consistent with those of the first study. Both scales have inherent problems, which may have contributed to these unexpected results. Which scale then does best reflect patients' changes in daily life?

NR376 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Panic Disorder and PCO2 in Cardiac Stress Testing

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Summary:

Hypocapnia at rest and response to anxiogenic stress has frequently been observed in PD patients who present in psychiatric settings. Approximately 50% of patients with chest pain undergoing cardiac stress testing to rule out coronary artery disease meet symptomatic criteria for panic disorder (PD). Bass et al. (1988) found lower PCO2 prior to treadmill testing in patients with symptoms suggestive of PD than in patients without such symptoms. We measured end-tidal pC02 in patients with chest pain undergoing cardiac stress scintigraphy (radionuclide imaging of myocardial perfusion during either treadmill exercise or dipyridamole infusion). Patients who met DSM-III-R criteria for PD had significantly lower resetting pCO2 ($N=13$, mean = 31.9 mm Hg, s.d. = 2.9 mm Hg) than those without PD ($N=10$, mean = 35.3 mm Hg, s.d. = 3.2 mm Hg; $t=2.7$, two-tailed $p=.01$). Patients with PD also had significantly lower pCO throughout the dipyridamole infusion. Our observation of hypocapnia in chest pain patients meeting symptomatic criteria for PD further validates the diagnosis of PD in these patients. Heart rate, blood pressure, and rating scale data will also be presented. The value of end-tidal pressure, pCO2 measurements in identifying PD in chest pain patients undergoing cardiac stress scintigraphy will be discussed.

NR377 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Behaviorally Oriented Self-Help Groups for OCD

Iver E. Hand, M.D., University UKE, Psychiatry Hamburg, Martinistrasse 52, 2000 Hamburg 20 D, Germany; Nichole E. Munchau, Ph.D., Ralf Schaible, Ph.D.

Summary:

Specific self-help groups for OCD are fairly popular in the USA. In several countries in Europe, groups have started. So far no data are published regarding their effectiveness. This study does investigate the effectiveness of OCD self-help groups (N = 6-8 patients), who had received expert-guided training in the first 10 weekly sessions. Main aims were to teach behavioral self-management techniques to reduce OCD symptomatology and to increase daily life effectiveness. These groups were then to continue in a pure self-help fashion. Most patients before this study had been chronically ill (about 17 years), with multiple obsessions and compulsions, in spite of previous drug treatments (58%) and behavior therapies (47%). A total of 55 patients started training in eight groups; 45 completed the professional training period. At three months follow-up, 32 had continued to participate in pure self-help meetings. Complex assessments (multi-symptomatology, personality, and quality of life variables) were conducted pre- and post-training and three months follow-up.

The Y-BOCS ratings from pre- to post-training ($N=45$) showed a change-score of 3.5. A subsample of 24 patients reached a change-score of 5.5 three months later at follow-up (data of the other patients will be added to the presentation). Compared with an average change-score in drug-studies of 8.5, particularly the follow-up results seem to be impressive.

Detailed analyses of responders and nonresponders and consequences for future group models will be presented.

NR378 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Axis I and Axis II Comorbidity in Hospitalized Adolescent Females With Anxiety Disorders

Roger C. Burket, M.D., University of Florida, P.O. Box 100234 UFHSC, Gainesville, FL 32610; Wade C. Myers, M.D.

Summary:

Anxiety disorders are common in the adolescent population and have been found to coexist with a variety of Axis I and II disorders.

Objective: This investigation further explored these interrelationships in psychiatrically hospitalized females. *Method:* Thirty-seven hospitalized adolescent females were assessed for DSM-III-R disorders using the Diagnostic Interview for Children and Adolescents (DICA-R-A), the Schedule for Affective Disorders and Schizophrenia for School Age Children (K-SADS-E), and the Structured Interview for DSM-III-R Personality Disorders (SIDP-R). *Results:* Nineteen (51.4%) of the subjects had at least one anxiety disorder, including 10 (27%) with overanxious disorder, nine (24%) with simple phobia, five (13.5%) with PTSD, and four (10.8%) each with panic disorder, separation anxiety disorder, and obsessive compulsive disorder. Nine subjects had one anxiety disorder, six had two, and four had more than two anxiety disorders. Subjects with anxiety disorders had significantly more major depression and total Axis I disorders than the group without anxiety disorders. No significant differences between the groups were present in Axis II pathology, intelligence scores, age, race, or socioeconomic status. *Conclusion:* Since anxiety disorders are common and may complicate the course of treatment in this population, clinicians should evaluate carefully for their presence and consider their management in treatment planning.

NR379 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Sexual and Physical Abuse in Anxiety Disorders

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Summary:

A history of childhood sexual or physical abuse is common in the general population, particularly in adults with psychiatric illness. Sexual abuse is associated with an increased risk of depression, substance abuse, and anxiety disorders.

To identify the occurrence of sexual and/or physical abuse in patients with anxiety disorders, 205 consecutive patients admitted to two anxiety disorders clinics in Hamilton, Canada were given questions from the Ontario Health Supplement to elicit a history of childhood sexual or physical abuse. The Ontario Health Supplement was the instrument used in an epidemiologic survey looking at the mental health of residents in Ontario, Canada.

Childhood sexual abuse was reported by 23.4%, childhood physical abuse by 55.1%, and 19.5% reported both. Sexually or physically abused patients had significantly higher Beck depression scores and more significant impairment in social functioning. Those sexually abused had significantly higher anxiety scores. Childhood sexual abuse or physical abuse was associated with significantly more concurrent major depression. The occurrence of sexual or physical abuse did not account for the presence of any particular primary anxiety disorder diagnosis.

Childhood sexual and/or physical abuse may affect the severity of the anxiety disorder as well as the presence of concurrent major depression, rather than the type of anxiety disorder.

NR380 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

The TRH Test and Basal Hormones in Dissociation

Mark H.N. Corrigan, M.D., Psychiatry, UNC-Chapel Hill, 809 Ruggles Drive, Raleigh, NC 27611; J. Garbutt, M.D., M. Senger, M.A., E. Ilgen, M.S.W., L. Miller, M.A., C. Sears, B.A.

Summary:

A reduced thyroid stimulating hormone (TSH) response to thyrotropin releasing hormone (TRH) test has been found to distinguish characteristics of depression, but has not to our knowledge been investigated in patients with dissociative disorders. We compared seven female patients with SCID-D diagnoses of dissociative disorder, five of whom were depressed, with 10 female normal controls. We also measured basal T4, T3, and T3U to examine whether dissociative disorder patients would have higher circulating T3, but not T4. In a previous sample of depressed patients we showed a significant association between basal T3 measures and clinical diagnoses of dissociative disorder. All subjects were in good medical health, euthyroid, drug and medication free at the time of testing. There was no significant age difference between groups. Dissociative disorder patients had significantly higher T3 than controls, 119.64 ± 17.93 vs. 106.15 ± 12.44 (Wilcoxon, $p = .035$), but not T4 7.39 ± 1.34 vs. 7.09 ± 1.23 ($t = -0.47$, $df = 14$, $p = .65$). Dissociatives did not differ for basal TSH 2.11 ± .85 vs. 1.51 ± .61 ($t = -1.71$, $df = 15$, $p = .11$), however had a more *pronounced* Δmax TSH response 20.79 ± 7.05 vs. 14.36 ± 4.60 ($t = -2.30$, $df = 15$, $p = .04$).

These findings indicate dysregulation within the thyroid axis in dissociative disordered patients. The increase in T3 could be related to changes in thyroid binding hormone capacity, system, or metabolism. The increase in Δmax TSH response in the presence of higher T3 indicates disturbances at the pituitary or hypothalamus.

NR381 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Gender Issues in Dissociative Disorders

Daniel R. Schiele, M.D., Sea Country Psychological, 27405 Puerta Real #360, Mission Viejo, CA 92691; Lynda Bjornson, Ph.D., Claudia Freihofer, Ph.D., Colin Ross, Ph.D., James Springfield, M.S.

Summary:

Objective: Increased demands for cost-effective clinical techniques are particularly pressing in the field of dissociation, where efficacious techniques for diagnostic testing ensure efficient intervention and patient treatment. Insufficient analyses of gender differences in dissociative disorders impede clinical recognition of the dissociative male. This study seeks to identify such differences to facilitate diagnosis and treatment of dissociative males, especially those with multiple personality disorder (MPD). *Method:* Twenty-three male and 50 female nonincarcerated dissociative subjects presented for testing in an inpatient or outpatient setting. Subjects were administered two widely recognized personality instruments [MCMI-II and MMPI-II, and reliable dissociative screening instruments [e.g., Dissociative Experience Scale (DES)]. Multivariate analysis of variance analyzed gender differences for each instrument. *Results:* Results displayed significant main effects for gender ($p \leq .01$). Univariate statistics showed a significant elevation for males on the MCMI-II Antisocial, Narcissistic, Aggressive/Sadistic, and Drug Dependence scales ($p \leq .01$). Males also scored higher on the MMPI-II Mania and Social Introversion-Extroversion scales ($p < .05$), but lower on the dissociative scales ($p < .05$). *Conclusions.* Dissociative males present differently from females on both personality and dissociative instruments. These findings question whether quid pro quo comparisons of male-to-male test results are appropriate in diagnosing/treating the dissociative disorder male.

NR382 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Obsessions and Compulsions in Eating Disorders

Theodore E. Weltzin, M.D., Eating Disorders, WPIC, 3811 O'Hara Street, Pittsburgh, PA 15213; Katherine Plotnicov, Ph.D., Cynthia Bulik, Ph.D., Shira Neuberger, Walter H. Kaye, M.D.

Summary:

Recently there has been a growing awareness that patients with eating disorders commonly have obsessive compulsive disorder (OCD) or symptoms. There has been less understanding, however, as to whether such symptoms exist in all subgroups of eating

disorder patients. Thus we compared patients with restricting-type anorexia nervosa (age = 20+9 yrs) to those at normal weight with bulimia nervosa (age = 21+6 yrs). Obsessive compulsive symptoms were assessed using the Leyton Obsessional Inventory (LOI) and the Yale-Brown Obsessive Compulsive Scale (YBOCS) (after excluding core eating disorder symptoms). Core eating disorder symptoms were assessed by the Eating Disorder Inventory (EDI). In addition, we assessed whether core eating disorder symptoms had obsessional (body image distortions, dietary preoccupation) and compulsive (ritualized eating, exercise) features by an instrument we had adapted from the YBOCS (YBOCS-ED).

On inpatient admission, 35 restrictor anorexics (70+7% weight) had significantly higher scores on the YBOCS 20.1 + 8.7 vs 12.8 + 10.0, $t = 3.39$, $p < .01$) and Leyton (24.4 + 10.9 vs 19.4 + 9.3, $t = 2.16$, $p < .04$) than did 49 normal weight bulimic women (101 + 7% weight). However, restrictor anorexics and normal weight bulimics had similar scores on the YBOCS-ED (24.9 + 9.1 vs 24.8 + 7.6) and all subscales of the EDI except maturity fears, body dissatisfaction and bulimia. We assessed 23 of the restrictor anorexic women after weight restoration (90 + 9% weight). Compared to themselves on admission, restrictor women after weight gain had a significant decreases on the YBOCS-ED (27.9 + 4.8 vs 20.5 + 8.0, $t = 4.04$, $p < .01$). Importantly, scores did *not* improve on the YBOCS or Leyton after weight restoration. These data suggest that classic obsessive compulsive symptoms are more severe in restrictor anorexics than in normal weight bulimic patients. Most importantly, the severity of classic obsessive compulsive symptoms in restrictor anorexics does not improve after weight restoration. In contrast, weight restoration was accompanied by a reduction in core eating disorder symptoms.

NR383 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Eating Disorders in Subjects With Cystic Fibrosis

Nancy C. Raymond, M.D., Psychiatry, University of Minn., Box 393 UMHC 420 Delaware St. SE, Minneapolis, MN 55455; Scott Crow, M.D., Pi-Nian Chang, Ph.D., James E. Mitchell, M.D., Ross D. Crosby, Ph.D.

Summary:

Objective: This study assessed the incidence of eating disorders (ED) and psychopathology in patients with cystic fibrosis (CF). Previous literature has presented conflicting evidence regarding the incidence of psychiatric disorders in this group.[1,2] *Methods:* All patients, ages 13 to 30, followed in our pediatrics clinic for CF were asked to participate. Each subject identified a friend to serve as a healthy age- and sex-matched control. Patients were interviewed using the Diagnostic Interview Schedule (adult or child version), Hamilton Depression Rating Scale, and a semi-structured interview asking about eating behaviors and attitudes. The Beck Depression Inventory, Sheehan Anxiety Scale, and Eating Disorder Inventory were also completed. *Results:* 59 CF patients (82% of the potential subjects) agreed to participate in the study (27 males, 32 females, mean age = 15). No subjects were diagnosed with ED. Six of 54 subjects were diagnosed with anxiety disorders, two with MDD, one with ADHD, one with oppositional defiant disorder, two with alcohol, and two with nicotine dependence. Group means on the rating scales did not differ from normative values. Conclusion: In this, the first study using structured interviews to assess ED in CF subjects, we did not find evidence for elevated levels of ED or other psychopathology.

NR384 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Pain Thresholds in Obese Binge Eating Subjects

Nancy C. Raymond, M.D., Psychiatry, Univ of Minn., Bx 393 UMHC 420 Delaware St SE, Minneapolis, MN 55455; Martina Dezwaan, M.D., Patricia Faris, Ph.D., Sean Nugent, B.S., James E. Mitchell, M.D.

Summary:

Objective: Our research group[1] and others[2] have found significantly elevated nociceptive thresholds in women with bulimia nervosa (BN). This elevation does not seem to be a function of general psychopathology, since subjects with major depression do not differ from controls on this parameter. To confirm that this elevation in pain thresholds was related to binge-eating behavior, we evaluated pain thresholds in subjects with the proposed *DSM-IV* diagnosis of binge eating disorder (BED). *Methods:* Nociceptive thresholds were tested in 40 obese BED subjects, 48 obese non-BED subjects, and 50 normal weight controls using a Ugo Basile pressure analgesiometer. *Results:* A significant difference in pain detection thresholds was found among the three groups (repeated measure ANOVA, $F = 6.06$, $p = 0.003$). Orthogonal contrasts revealed that the BED group was significantly higher than the other groups ($t = 2.98$, $p = 0.003$). The non-BED group was not significantly different from the controls. Pain tolerance thresholds were not significantly different between the three groups. *Conclusion:* These data represent the first reported evidence that obese BED subjects are biologically different from other obese subjects, and support the hypothesis that elevations in pain thresholds are seen in any individuals who engage in binge-eating behavior.

NR385 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

The Role of Bombesin-Like Peptides in Food Intake

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Summary:

Bombesin-like peptides and their receptors are found at high density in the gastrointestinal tract, particularly stomach, and in the hindbrain, and the limbic forebrain. We have demonstrated that peripheral administration of these peptides produces rapid, potent, dose-related, and behaviorally-specific reductions of food intake in laboratory animals; the same actions, without significant side effects, have recently been documented in human subjects. These results suggest that endogenous bombesin-like peptides, when released at a meal by ingested food, act as natural satiety signals to limit food intake. We have shown in rats that neural disconnection of gut from brain (abdominal vagotomy plus extensive dorsal rhizotomy) totally blocks the satiety action of exogenous bombesin, indicating that the site of action is peripheral, not central. Most recently, close arterial delivery of a dose range of bombesin into coeliac artery (perfusing stomach) was much more effective (e.g. 62% inhibition of feeding after $4\mu\text{-kg}^{-1}$) and rapid (5 min) than identical infusions into superior mesenteric artery, perfusing midgut (34% inhibition; 10-15 min); the difference strongly suggests that the peripheral site is gastric. The gut/brain bombesin-like peptide system may play an important role in regulating food intake in animals and humans. Studies to determine whether this system functions abnormally in bulimia and obesity are indicated.

NR386 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Predictors of Relapse in Bulimia Nervosa

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Summary:

Objective: The aim of this study was to identify vulnerability factors which predict relapse in women with remitted bulimia nervosa (BN). *Method:* Patients who had successfully completed in-

patient, outpatient, or day hospital treatment at the Toronto Hospital were asked to participate in a follow-up study. The study followed a prospective, longitudinal design with patients' psychosocial functioning and eating assessed every three months for up to 18 months. *Results:* Preliminary data based on 27 BN patients who were remitted at admission to the study indicated a 44% relapse rate within the first six months. Patients who relapsed had had lower minimum adult weights ($p<.03$) and a trend toward longer durations of illness ($p<.06$), suggesting a more chronic and debilitating course of illness. At the last assessment prior to relapse, patients who would relapse over the next three months had slightly elevated scores on the Bulimia subscale of the Eating Disorder Inventory ($p<.04$), lower scores on the Rosenberg Self-Esteem Inventory ($p<.04$), higher scores on the Social Support subscale of the Coping Strategies Inventory ($p<.05$), and higher scores on the standardized sum of support received from family, friends, and through professional treatment ($p < .004$). *Conclusions:* These findings suggest that patients who relapsed were characterized by feelings of low personal efficacy and a reliance on interacting with other people to modulate affect at times of stress. Although they were successful in obtaining more support from other people, this did not prevent relapse. It may be that the development of more autonomous coping strategies, which would always be available to the patient, would help avoid relapse.

NR387 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

One-Year Follow-Up in Bulemic Patients

Howard Steiger, Ph.D., Eating Disorder, Douglas Hospital, 6875 LaSalle Blvd Emer Rm Unit, Montreal PQ H4H 1R3, Canada; Stephen Stotland, Ph.D.

Summary:

Post-treatment data on bulimia nervosa (BN) usually implicate small samples, and brief or entirely uncontrolled treatments. We report results from the post-treatment leg of a prospective study on patients who received extensive therapies (ranging in duration from 4-28 months, and implicating individual, group, nutritional, and/or pharmacotherapy). Structured-interview and self-report assessments (on eating, personality and comorbidity psychiatric symptoms) were used to reflect status, most measures repeated at three-month intervals. Current data (ns are increasing as the study progresses) reflect post-treatment response in 70 cases, and three-, six-, and 12-month follow-ups in 50, 35, and 25 cases, respectively. A sizable (66%) end-of-treatment abstinence rate (defined as "no bulimic symptoms for one month") drops rapidly to 50% at three-month follow-ups, and 36% at 12-months. However, these figures most often represent "slips" into bulimic behaviors, full relapses into BN (of DSM-III-R proportions) remaining rare. Non-abstinence seemed linked to the following initial features: High binging/purging, more distorted eating attitudes, more depression and general psychiatric symptoms, and greater reliance upon primitive defenses. Our findings indicate that post-treatment response of bulimic patients may be more optimistic than suggested by some results, the majority of cases showing benefits from treatments of adequate duration.

NR388 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Prognostic Implications of Stable Versus Transient Borderline Features in Bulimic Patients

Howard Steiger, Ph.D., Eating Disorder, Douglas Hospital, 6875 LaSalle Blvd Emer Rm Unit, Montreal PQ H4H 1R3, Canada; Stephen Stotland, Ph.D.

Summary:

This study assessed response in 69 bulimic patients after six months of therapy (and in 43 of the same patients after 12 months), as a function of stability (early in therapy) of self-reported "borderline features." Scores on the Borderline Syndrome Index were used to reflect borderline features. Groups were formed in which such features were: (1) Present both at pre-treatment and at three months, (2) Transiently present (at pre-treatment only), or (3) Absent in initial and three-month assessments. Results after six and 12 months showed response (on eating and comorbid symptoms) to be substantially poorer in the "stably borderline" group than in either other group, and hierarchical regressions indicated predictive effects of the grouping factor to exist independently of effects due to severity of pre-treatment or three-month eating symptoms. Notably, BSI score patterns coincided only partially with impressions based on structured clinical personality-diagnostic interviews, and the former seemed to have a more direct prognostic value. Our findings corroborate others assigning a negative prognostic implication to "borderline features" in bulimic patients, but highlight the importance (with respect to prognosis) of distinguishing between "transient" and "stable" features of this type. We link our results to (a) previous findings on the prognostic value of personality (and especially borderline-type) disturbances in bulimia nervosa, and (b) general theory on the "character pathology" concept.

NR389 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Eating Disorders: Dissociation and Essential Behaviors

Kimberli E. McCallum, M.D., Psychiatry, Washington University, 4940 Audubon, St. Louis, MO 63110

Summary:

Objective: Patients with eating disorders score higher than most psychiatric populations on measures of dissociation. This study explores the relationship between dissociative symptoms and behaviors characteristic of anorexia and bulimia nervosa. *Method:* 38 patients identified with anorexia and/or bulimia nervosa from two sites completed the Dissociative Experience Scales (DES). Frequently experienced dissociative symptoms were explored by a uniformly administered clinical interview. Subjects were first asked if these symptoms occurred randomly. Next, subjects were asked to identify a temporal relationship between frequently experienced dissociative symptoms and environmental triggers, intoxication, the behaviors characteristic of their eating disorder, and sexual or self-harming behavior. *Results:* Although many of these symptoms occurred randomly, environmental triggers such as arguments and food were identified. Dissociative symptoms which occurred frequently were temporally associated with disordered eating behavior in 74% of our subjects. Subjects with dissociative disorders had a significantly higher number of associated behaviors. Rituals associated with these behaviors serve to bring patients in and out of dissociative states. Dissociative symptoms were also related to sexual behavior (40%) and self-harming behaviors (29%). *Conclusions:* Behaviors essential to eating disorders are frequently associated with dissociative states. Psychiatric interventions for patients who have eating disorders and dissociative symptoms may be better guided by an understanding of the temporal relationship between these phenomena.

NR390 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Illness Beliefs and Expectations in Bulimia Nervosa

David S. Goldbloom, M.D., Psychiatry, The Toronto Hospital, Eaton 8N 219 200 Elizabeth St., Toronto, Ontario M5G 2C4, Canada; Marion Olmsted, Ph.D., Ron Davis, Ph.D., Brian Shaw, Ph.D., Janet Clewes, Ph.D.

Summary:

Treatment studies of bulimia nervosa (BN) to date, such as pharmacotherapy and psychotherapy, reflect differing conceptual

models of illness. However, patients' understanding of the illness and expectations of treatment have not been systematically studied. *Objective:* To examine pre-treatment patient beliefs about the nature of their illness and expectations of specific aspects and benefits of treatment. *Method:* 76 women with *DSM-III-R* BN taking part in a randomized comparison of cognitive-behavioral therapy, fluoxetine therapy, and the two combined were studied at baseline with the Patient Attitudes and Expectations Questionnaire designed for this study. One-sample chi square analysis of the results was performed to determine which responses were endorsed significantly more often. *Results:* Patients identified depression triggering binges, low self-esteem, weight preoccupation, and perfectionism as casual factors. They anticipated a wide array of pharmacological, cognitive, behavioral, and interpersonal elements as potentially helpful and expected significant improvement within seven weeks. The gender of the therapist was not anticipated by patients to be relevant to outcome. A total of 72% expected to be much or completely better and most wanted combined therapy. *Conclusions:* Strong baseline beliefs and expectations may influence treatment outcome and merit study.

NR391 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Seasonal Symptom Patterns in Eating Disorders

Raymond W. Lam, M.D., Psychiatry, University of B.C., 2255 Wesbrook Mall, Vancouver BC V6T 2A1, Canada; Elliot M. Goldner, M.D.

Summary:

Objective: We have recently reported marked seasonal patterns of mood and eating disturbances in bulimia nervosa. To determine the specificity of these findings, we assessed all patients attending an eating disorder clinic using a retrospective seasonal questionnaire.

Methods: All patients assessed at a subspecialty eating disorders clinic completed the Seasonal Pattern Assessment Questionnaire (SPAQ), modified to include items relating to binge-eating and purging. A total of 91 patients had DSM-III-R diagnoses of bulimia nervosa (BN, $n=60$) and anorexia nervosa (AN, $n=31$).

Results: 28% of the BN group reported marked or extreme seasonal variation in bulimic symptoms (winter worst: 35%, summer worst: 20%, winter best: 3%, summer best: 22%). The mean Global Seasonality Score was significantly greater in the BN group than the AN group (12.0 vs. 7.6, $p<0.05$). 35% of the BN patients met SPAQ criteria for seasonal affective disorder compared to 6.5% of the AN group ($p<0.003$). Binge-purge worsening was associated with the seasonal mood pattern in 2/3 of the BN patients.

Conclusions: These results suggest that winter worsening of symptoms occurs in BN but not in AN, whether or not the AN patients also are bulimic. In BN patients who reported significant seasonal changes, the seasonal pattern of binge-purge worsening did not always coincide with seasonal worsening in mood.

NR392 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Compulsive Exercising in Eating Disorder Patients

Timothy D. Brewerton, M.D., Psychiatry, Medical Univ of SC, 171 Ashley Avenue, Charleston, SC 29425; Eileen J. Stellefson, R.D., Nancy Hibbs, R.D., E.L. Hodges, M.S.W., C.E. Cochrane, Ph.D.

Summary:

Introduction: Eating disorders (ED's) in athletes have been extensively studied, but little is known about the frequency and phenomenology of compulsive exercising in ED patients. *Methods:* A series of 110 patients who presented to the MUSC Eating Disorders Program and met lifetime *DSM-III-R* criteria for bulimia nervosa (BN, $n=71$), anorexia nervosa (AN, $n=18$), or both disorders ($n=21$) completed the Diagnostic Survey of the Eating Disorders (DSED), a self-report measure of demographic and clinical characteristics including time spent exercising daily. *Results:* 31 (28%) of the 110 ED patients reported that they exercised $\geq$60 min *every* day (mean $\pm$ SD = 105 $\pm$ 48 min) and were defined as "compulsive exercisers" (CE's). CE's had significantly greater ratings of body dissatisfaction ($p<0.03$) and of distress resulting from an imagined two-lb wt gain ($p<0.01$, chi-square) than non-CE's. CE's were less likely to vomit or use laxatives than CE's ($p<0.01$), and they had a lower frequency of binging ($p<0.006$, Kruskal-Wallis). There was a trend for a higher proportion of CE's in the restrictor AN group (38.5%) compared to the BN group (22.5%, $p\leq0.06$, chi square). There were no statistically significant differences between the groups in demographic features, wt (current, previous high/low), frequency of dieting, vomiting, or laxative abuse, history of stealing, suicide attempts, or substance abuse, and ratings of depression and anxiety. *Conclusion:* ED patients with CE often present for evaluation and treatment and tend to more likely have AN than BN. CE's have a greater degree of body image distortion than non-CE's, and may pose special problems in management.

NR393 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Eating Disorder History in Women with OCD

Marijo B. Tamburrino, M.D., Psychiatry, Medical College of Ohio, P.O. Box 10008, Toledo, OH 43699; Rachel Kaufman, M.D., John Hertzer

Summary:

Associations between obsessive-compulsive disorder (OCD) and eating disorders have been discussed in the literature. This study examined the frequency of a past history of eating disorders in women with OCD. Letters were sent to area psychiatrists asking them to refer patients diagnosed with OCD to a research study. Subjects completed a demographic questionnaire, the YBOCS and a survey including history of eating disorders. Thirty-one women participated in the study, Forty-four percent ($N=13$) had a past or current history of an eating disorder: anorexia nervosa alone – 26% ($N=8$), bulimia nervosa alone – 3% ($N=1$), and both anorexia and bulimia – 13% ($N=4$). Our study found a higher percentage of OCD patients with a history of eating disorders than reported by others. Perhaps specifically asking about history of weight loss, binging, and vomiting allowed for fuller disclosure of an eating disorder than other studies that relied either on a retrospective chart review or limited the survey to current eating symptoms. A past history of an eating disorder may be much more common than previously believed, and may frequently precede the diagnosis of OCD.

NR394 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Thyroid Disease in Eating Disordered and Depressed Patients

Richard C.W. Hall, M.D., Psychiatry, Florida Hospital, 601 East Rollins Street, Orlando, FL 32803; Sally C. Hazard, Ph.D., Ryan C.W. Hall, Carlos A. Pacheco, M.D., Robert E. Blakey, M.D., Joy Abraham, M.D.

Summary:

Objectives and Methods: In a retrospective study using patient charts, 46 eating disordered (ED) and 79 unipolar depressed patients (DEP) were compared for the incidence of clinical thyroid disease, severity of illness on hospital admission and discharge (using the DSM-IIIR GAF scale), hospital length of stay, and whether thyroid disease affected illness severity or hospital stay. *Results:* Chi Square tests showed that ED patients, aged 30-54 years, had a significantly higher incidence of thyroid disease (44%) than DEP (9%) or literature controls (10.5%). Clinical thyroid disease was determined from T3,T4, TSH levels, and physical exams.

A higher incidence of thyroid disease was also seen in female ED (23%) and DEP (16%) patients as compared to males (0%), and in older versus younger patients. ANCOVA tests showed that anorexics had longer lengths of hospital stay (39-43 days) as compared to other patients (5.0-30.7 days), but all patients had similar illness severity on admission and at discharge. Thyroid disease did not affect illness severity or length of hospital stay, but 70% to 78% of patients with thyroid disease were already being treated when admitted. *Conclusions:* Since thyroid disease produces depression-like symptoms, depression is often seen in ED patients, and ED patients have a high incidence of clinical thyroid disease, thyroid evaluation should be undertaken for all eating disordered patients. Also, anorexics require longer hospital stays to achieve similar discharge GAF scores as do other ED groups or DEP patients.

NR395 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

The Yale-Brown-Cornell Eating Disorders Scale

Steven J. Romano, M.D., Psychiatry, Cornell University, 21 Bloomingdale Road, White Plains, NY 10605; Carolyn Mazure, Ph.D., Suzanne Sunday, Ph.D., Katherine A. Halmi, M.D.

Summary:

There is a very wide range of eating-related preoccupations and ritualistic behaviors observed in patients diagnosed with eating disorders. Although there may be a limited number of "types" of eating disorders, this diversity in actual pathognomonic thoughts and behaviors has made it difficult to construct a rating scale for assessing severity and change that is inclusive of all possible symptoms. Certain other diagnoses, such as obsessive-compulsive disorder, share this feature in that a potentially infinite number of actual concerns can be held and behaviors exhibited across a patient sample. The Yale-Brown-Cornell Eating Disorders Scale (YBC-ED) has been constructed to address this specific problem in rating eating-related disordered thoughts and behaviors. The process-oriented approach to symptom assessment that has been successful in rating recurrent thoughts and repetitive behaviors in obsessive-compulsive disorder has been adapted to symptom assessment in eating disorders. Reliability of the YBC-ED was established on 40 female, primary eating disorder, patients. This instrument should be particularly useful for measuring changes in severity of symptoms during treatment.

NR396 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Alexithymia in Patients With Eating Disorders

Jose L. Ayuso-Gutierrez, M.D., Psychiatry, Hospital San Carlos, Martin Lagos S/N, Madrid 28040, Spain; Jose L. Ayuso-Mateos, M.D., Enrique Baca, M.D.

Summary:

Objective: This work studies the presence of alexithymic characteristics in patients with eating disorders, as well as its role in validating the division into bulimic and restrictive patients. *Method:* The sample consisted of 56 patients and 20 controls, all of them women over 18. The patient group met *DSM-III-R* criteria: 20 cases of anorexia nervosa, bulimic subtype (AMB); 20 cases of anorexia nervosa, restrictive subtype (ANR); and 16 cases of bulimia nervosa (BN). Alexithymic characteristics were studied with the Toronto Alexithymia Scale, the SAT9, and the Interoceptive Awareness Subscale of the Eating Disorder Inventory. Results: The prevalence of alexithymia, as determined by the TAT, was 70% for ANR, 65% for ANB, 50% for BN, and 5% in the control group. Restrictive patients showed a significantly higher ($p<0.05$) alteration in their capacity to symbolize compared to bulimic patients, as measured by the SAT9. *Conclusions:* Patients with eating disorders show alexithymic characteristics, with discernable differences in some of the features of this construct between patients who suffer from bulimic episodes and those who do not.

NR397 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Potential Role of IL-6 and Transforming Growth Factor-B in Anorectics

Elke D. Eckert, M.D., Psychiatry, University of Minn, 420 Delaware Street SE, Minneapolis, MN 55455; Claire Pomeroy, M.D., Beth Eiken, B.A., C. Chao, Ph.D., M. Mentink, B.S., S. Hu, M.D.

Summary:

Anorexia nervosa is a serious eating disorder characterized by extreme weight loss and abnormalities of the neuroendocrine and immune systems. To determine the potential role of the cytokines Tumor Necrosis Factor-α (TNF-α), Interleukin-6 (IL-6), and Transforming Growth Factor-β(TGF-β) in anorexia nervosa, serum concentration of these cytokines were measured in 16 patients with anorexia nervosa during starvation, ten days after initiation of refeeding, and after weight gain. We hypothesized that immunosuppression might be associated with elevated TGF-β production, and that, as in cancer cachexia, starvation in anorexia nervosa might be associated with increased TNF-α or IL-6 production. Serum TNF-α levels were not elevated at any time studied. Serum IL-6 and TFG-β concentrations were both significantly elevated during starvation and returned to levels comparable to those of normal weight controls by the end of therapy. The cytokines IL-6 and TGF-β may play previously unsuspected roles in the pathogenesis of anorexia nervosa. Potential effects of IL-6 include a role in weight loss, sustained hypercortisolism, or osteoporosis, while TGF-β may contribute to immunosuppression.

NR398 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Thirty-Year Drinking Outcomes and Familial Comorbidity

Elizabeth C. Penick, Ph.D., Psychiatry, Univ of Kansas Med Ctr, 3901 Rainbow Blvd, Kansas City, KS 66160; Donald W. Goodwin, M.D., Joachim Knop, M.D., Per Jensen, Ph.D., William F. Gabrielli, M.D., Fini Schulsinger, M.D.

Summary:

Objective: The study asks whether the drinking outcomes of 30-year-old men at high risk (father alcoholic) or low risk (father not alcoholic) for alcoholism are influenced by the presence or absence of multiple nonalcoholic psychiatric disorders among first-degree relatives. *Method:* Ten years ago, 330 boys aged 19-21 were selected for longitudinal study from a large ($N=8949$) Danish cohort born from 1959-1961. Two-thirds of the subjects had biological fathers who were alcoholic according to official Danish records; one-third had no history of paternal alcoholism. This sample was recently restudied ($N=241$) with structured interviews and psychometric tests that included a drinking history and a systematic review of 13 psychiatric disorders among first-degree relatives.

Results: Drinking outcomes were mostly influenced by the familial alcoholism risk status of the subjects. Comorbid alcoholic disorders among biological relatives were less influential, but appeared to exert their effect upon drinking outcomes through the manifestations of comorbid psychiatric disorders among the subjects themselves, especially the early appearance of antisocial behavior.

Conclusions: Our data indicate that drinking behavior is influenced not only by the drinking histories of the parents but also by the occurrence of nonalcoholic psychiatric illnesses among family members.

NR399 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Alcohol and Liver Transplant: Long-Term Follow-Up

Thomas P. Beresford, M.D., Psychiatry, VAMC/Univ of Colorado, 1055 Clermont Street, Denver, CO 80220; R. Merion, M.D., M. Lucey, M.D.

Summary:

The likelihood of relapse to uncontrolled alcohol use is a major concern when considering alcohol-dependent persons for liver transplant. While short-term (< 1 year) relapse rates have been reported to be low, no data exist describing the long term relapse rates. *Method:* We studied 52 patients who underwent transplant between 2/88 and 1/91. All patients met DSM-III-R criteria for alcohol dependence at preoperative evaluation and were accepted for transplantation only if they were considered to be at low risk for alcoholism relapse as determined by assessing a series of reported prognostic factors; these were quantified in a Prognostic Score (PS) and a Prognostic Index (PI). Preoperative sobriety was not required. Patients who did not survive for six months (n = 13) were excluded as was one whose preop evaluation was not available. *Results:* 38 patients were followed from six to 63 months postop with a mean of 36 months. Actuarially defined posttransplant abstinence was 92% at one year and 74% at both two and three years. Five patients had alcohol relapses requiring medical hospitalization; one of these died and another suffers severe allograft dysfunction. Seven additional patients experienced limited drinking relapses for brief periods and did not require hospitalization. Cox proportional hazards regression demonstrated that neither the length of preop abstinence, the PS nor the PI at baseline reliably predicted subsequent alcohol use. *Conclusion:* Over the long term, the majority (63%) of selected alcohol-dependent recipients remain abstinent, while a minority experience either brief relapse (18%) or return to pathologic drinking (13%). While these data argue for continued allocation of liver grafts to carefully selected alcohol-dependent candidates, they also point up the need for reliable prognostic methods.

NR400 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Serotonin Agonist M-CPP Decreases Cocaine Craving

Marc H. Branchey, M.D., AMB Care 11C, VA Medical Center, 800 Poly Place, Brooklyn, NY 11209; Laure B. Buydens-Branchey, M.D., Paul Fergeson, M.A.

Summary:

Very few studies have explored the role of serotonin (5-HT) in cocaine seeking behavior. We explored this role in 28 cocaine addicts through challenges with either the 5-HT partial agonist m-chloropheylpiperazine (m-CPP) or placebo. M-CPP (.5 mg/kg body weight) and placebo were administered as identically looking capsules at 9:30 AM, on two different days, separated by 48 hours. On protocol days, cocaine craving was assessed prior to and following drug administration with analog scales where 0 indicated no craving at all and 100 the most craving ever. There was an average 15% decline in cocaine craving 90 minutes after administration of the placebo capsules. This could be attributed to the placebo effect of the placebo capsules or to circadian variations in craving. The effect of m-CPP on craving appeared to be dramatic. There was a 74% decline in craving after 90 minutes. After 210 minutes, the decline remained virtually unchanged and averaged 79%. Craving remained low in the afternoon of the m-CPP study day, long after the dissipation of other side effects.

In conclusion, our data could indicate the existence of a 5-HT dysfunction in some cocaine addicts. They could also indicate that substances modifying the serotonergic tone could influence cocaine consumption.

NR401 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Benefit of Psychiatric Care for Dual Diagnosis

Andrew J. Saxon, M.D., Psychiatry, VA Medical Ctr., 1660 S. Columbia Way 116DDTP, Seattle, WA 98108; Donald A. Calsyn, Ph.D.

Summary:

Objective: This study examines outcome of treatment for psychoactive substance dependence in a clinic which made psychiatric care readily available to patients with dual diagnoses.

Method: 220 veterans entering outpatient treatment for opiod (n = 113, 51.4%), cocaine (n = 64, 29.1%) or other substance (n = 43, 19.5%) dependence received psychiatric evaluation for additional Axis I disorders using *DSM-III-R* criteria. Patients provided urine toxicology specimens at least weekly. Outcome was compared for patients with dual diagnosis (DDs) and with substance only diagnosis (SDs). Urinalysis results and treatment retention served as outcome measures.

Results: Dual diagnoses occurred for 102 (46.4%) subjects and included mood (63.7%), anxiety (17.6%), mood and anxiety (14.7%), and psychotic disorders (3.9%). Psychotropic medications were prescribed for 81.2% of the DDs. In the first six months of treatment DDs compared to SDs gave a greater percentage of urines positive for cocaine (mean ± SD = 12.9 ± 23.1 vs. 6.9 ± 16.1, $p < .04$, Mann-Whitney) and opiods (10.1 ± 20.0 vs. 3.9 ± 9.5, $p < .005$, Mann-Whitney). In the second six months DDs who remained (n = 70, 68.6%) reduced from the first six months their percentage of cocaine (8.7 ± 17.8 vs. 12.8 ± 23.1, $p < .07$, Wilcoxon) and opiod positives (5.8 ± 12.4 vs 8.8 ± 17.4, $p < .05$ Wilcoxon). SDs who continued past six months (n = 67, 56.8%) neither decreased their percent positives nor differed in percent positive from DDs in the second six months. Treatment retention of DDs (mean ± SD months = 20.4 ± 17.5) exceeded that of SDs (13.3 ± 13.0, $t = 3.47$, $p = .001$).

Conclusions: DDs may initially perform more poorly than SDs in substance dependence treatment. However, in the presence of psychiatric care, they eventually exhibit comparable success.

NR402 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Intravenous Clomipramine for OCD

Lorrin M. Koran, M.D., Psychiatry, Stanford Univ Med Center, Dept of Psych TD 114, Stanford, CA 94305; Carlo Faraelli, M.D., Stefano Pallanti, M.D.

Summary:

Obsessive-compulsive disorder (OCD) usually responds to treatment with serotonin reuptake blockers, but rarely until after four to five weeks of treatment. In Florence, Italy, we treated six outpatients with *DSM-III-R* OCD and concomitant major depression with daily, intravenous clomipramine (CMI) infusions beginning at 25 mg/day and increasing 25-50 mg/day as tolerated to 200 mg/day.

Patients' OCD symptoms improved nearly twice as rapidly as is usual with oral CMI. Weekly YBOCS scores fell a mean of 29% after three weeks and a mean of 42% after four weeks of i.v. CMI. Changes in YBOCS ratings of OCD and depression ratings (HAM-D scale were not significantly correlated. Patients experienced no serious side effects.

Despite widespread use in Europe i.v. CMI is available to few U.S. investigators. Controlled trials are needed to determine whether i.v. CMI identifies responders more rapidly than oral CMI, benefits treatment-resistant patients, or shortens the time needed to reach maximum benefit from drug treatment.

NR403 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Opiate Dose and Cocaine Effect on Withdrawal

Susan M. Stine, M.D., Psychiatry, Yale University, VA Med Ctr 950 Campbell Avenue, West Haven, CT 06516; Thomas R. Kosten, M.D.

Summary:

Cocaine-opiate interaction contributes to concurrent abuse. Contradictory observations regarding the effect of cocaine on opiate withdrawal, i.e., exacerbation vs. attenuation of withdrawal, may be explained by opiate dose. We have analyzed opiate withdrawal symptoms and cocaine use in a six-month trial comparing 125 opiate dependent patients who were assigned to four treatment groups (2mg or 6mg of buprenorphine and 35mg or 65mg of methadone). The four groups were comparable demographically and in drug use history. Subjects had urine samples weekly to test for opiate and cocaine use, and had weekly assessments of opiate withdrawal. The unit of analysis was each concurrent assessment of withdrawal and urine toxicology for each of the patients. The difference scores in withdrawal symptoms between the cocaine-free weeks and cocaine positive weeks were contrasted between the dosage (high vs. low) and the medication (buprenorphine vs. methadone) groups. In the high dose group, withdrawal symptoms were significantly higher in cocaine positive weeks, whereas in the low dose group presence of cocaine was associated with lower withdrawal. No differences in this pattern were observed between buprenorphine and methadone groups. Thus, subjects maintained on relatively high doses of opiates are more sensitive to withdrawal when they abuse cocaine. This is consistent with known interactions between the opioid and alpha -2 adrenergic system.

NR404 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Dopamine Agonists Sensitize C-FOS Expression

Andrew B. Norman, Ph.D., Psychiatry, University of Cincinnati, 231 Bethesda Avenue ML 559, Cincinnati, OH 45267; Jennifer M. Klug, B.S., Sunny Y. Lu, M.D., Eugene Somoza, M.D.

Summary:

Following a second challenge with amphetamine, there is a sensitization of the behavioral response (1) and of c-fos expression in rat striatum (2). The sensitization of these responses could be produced by changes in dopamine release or by changes in postsynamptic dopamine receptor mechanisms. Therefore, we measured c-fos expression induced by a single or multiple challenges with the dopamine receptor agonist apomorphine in rats with unilateral lesions of the dopamine afferents to the striatum. Rats received unilateral injections of 6-hydroxydopamine into the medial forebrain bundle. After two to five weeks the rats were divided into four groups: 1) three injections of apomorphine (0.25 mg/kg s.c.), with each injection separated by a three-day interval; 2) two saline injections followed by an injection of apomorphine; 3) two injections of apomorphine followed by an injection of saline; 4) three injections of saline. Three hours following the last injection the rats were perfused and brain sections were processed for fos immunocytochemistry. The apomorphine-induced stimulation of c-fos expression in the lesioned striatum was transient and had returned to baseline levels by three days following the last injection of apomorphine (group 3). In the lesioned striatum of rats challenged three times with apomorphine (group 1) there was a significant increase in the total number of fos immunoreactive cells and in the intensity of staining as compared to that observed in the striatum of rats receiving a single injection of apomorphine (group 2). Thus, there was sensitization of apomorphine-induced c-fos expression indicating that the sensitization in lesioned striatum is independent of dopaminergic input and may be mediated by postsynaptic dopamine receptors. This sensitization of the expression of a protein which regulates the expression of other genes may be responsible for the long-term changes in the sensitivity to psychomotor stimulants and dopamine receptor agonists which are produced following repeated treatments.

NR405 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Carbamazepine in the Treatment of Cocaine Abuse

Ross D. Crosby, Ph.D., Psychiatry, Univ of Minn Hospital, 420 Delaware Street SE, Minneapolis, MN 55455; James A. Halikas, M.D., Nina M. Graves, Pharm.D., Victoria L. Pearson, M.T., Gregory A. Carlson, B.A.

Summary:

Previous research (Halikas, et. al., 1991) has suggested that carbamazepine may be useful in the treatment of cocaine abuse. A 12-week, double-blind, placebo controlled study of carbamazepine (Tegretol) in the treatment of cocaine abuse was conducted. All patients met *DSM-III-R* criteria for cocaine dependence and reported a minimum of 25 days cocaine use in the previous 100 days. One hundred fifty (150) patients were randomized to one of three parallel fixed-dose conditions: 800 mg, 400 mg, or placebo. All participants were enrolled in the Chemical Dependency Outpatient Treatment Program. Subjects reported for weekly research visits, during which clinical ratings and self-report data were collected, blood and urine samples obtained, medication dispensed, and side effects assessed. Primary measures of outcome included patient retention, weekly quantitative cocaine urinalysis, self-reported cocaine use, cocaine craving, Drug Impairment Rating Scale scores, and clinical and global ratings of patient improvement. Completion rates for the three treatment groups were as follows: 800 mg – 28.0% 400 mg – 46.9%; Placebo – 39.2%. Survival analysis revealed no significant differences between groups in retention rates. Random regression analyses failed to identify significant differences between groups on any of the outcome measures. Subgroup analyses of response to carbamazepine by psychiatric diagnoses and demographic characteristics are presented.

NR406 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Psychopathology in Outpatient Cocaine Abusers

Ross D. Crosby, Ph.D., Psychiatry, Univ of Minn Hospital, 420 Delaware St. SE, Minneapolis, MN 55455; James A. Halikas, M.D., Sean M. Nugent, B.A., Victoria L. Pearson, M.T., Gregory A. Carlson, B.A.

Summary:

Rates of psychiatric diagnoses were determined in 207 cocaine abusers seeking outpatient treatment using the National Institute of Mental Health Diagnostic Interview Schedule (DIS). Subjects responded by telephone for cocaine abuse as part of a controlled pharmacologic trial. All subjects met *DSM-III-R* criteria for cocaine dependence and reported a minimum of 25 days cocaine use in the previous 100 days prior to admission. Well over half the subjects (62%) met diagnostic criteria for a current psychiatric disorder, and nearly three quarters (73%) met lifetime criteria for at least one psychiatric disorder other than substance abuse. Antisocial personality (40% lifetime), affective disorders (17% current, 28% lifetime), and anxiety disorders (30% current, 37% lifetime) accounted for the majority of psychiatric illnesses. Women were found to have significantly higher rates of current and lifetime psychopathology than men. Poly-substance abuse was also common, with 37% meeting criteria for current alcohol dependence and 33% for another substance (other than cocaine or alcohol). The findings from this sample are compared to previously reported rates of psychopathology in other cocaine abusing populations (Rounsaville, et. al., 1991; Carroll & Rounsaville, 1992).

NR407 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Quality of Life in Patients Treated for Alcohol Abuse

Patrick Martin, Pharm.D., Benefit Research GP, 2 Rue L. Armand, Asnieres 92600, France; Jean-Michel Chignon, M.D., Eric Souetre, M.D., Catherine Dissoubray, M.D., Jean Ades, M.D.

Summary:

Alcoholism is one of the most prevalent health problems. Moreover, the Epidemiological Catechement Area program and other epidemiological and clinical studies confirmed the frequent comorbidity between alcoholism and other psychiatric disorders, particularly anxiety and/or depression. It could be emphasized that alcoholism by itself and when associated with other disorders might alter the quality of life (QOL).

We have undertaken a cross-sectional study to investigate the socio-demographic, clinical, and therapeutic variables with alcohol abuse and/or dependence according to *DSM-III-R* criteria. Using the Functional Status Questionnaire (FSQ) which is a generic instrument including six main dimensions, we evaluate scores of QOL in these patients and their correlations with clinical data such as alcoholism severity evaluated with the CAGE questionnaire, consumption of psychotropic drugs, and comorbidity rates.

Results indicate a significant correlation among QOL dimensions and CAGE in this population ($p<0.001$). Psychological function, sexual relationships, and feeling about health appear to be the most sensitive QOL dimensions ($p<0.001$, respectively).

The QOL scores of alcoholics with comorbid disorders are significantly decreased when compared with those of patients without comorbidity ($p<0.001$). In addition, the QOL scores of patients who were treated with psychotropic drugs are also significantly decreased ($p<0.001$ for BZD; $p<0.001$ for antidepressants and for neuroleptics $p<0.01$).

NR408 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Dopamine Transporter MRNA in Prenatal Cocaine Exposure

Andrea De Bartolomeis, M.D., ETB, NIMH NIH Bldg 10 4N214, 9000 Rockville Pike, Bethesda, MD 20892; Mark C. Austin, Ph.D., Linda P. Spear, Ph.D., David Pickar, M.D., Jacqueline N. Crawley, Ph.D.

Summary:

Objective: The dopamine (DA) transporter is considered to be the major site of action of cocaine. The present study was designed to investigate the effects of prenatal cocaine exposure on dopamine transporter gene expression in juvenile rats with emphasis on the ventral tegmental area, which may have a pivotal role in drug addiction. An animal model of prenatal cocaine exposure is of particular importance, considering the increasing number of infants exposed in utero to cocaine and the variability introduced in human studies by polydrug abuse, malnutrition, and psychiatric pathologies. *Method.* Pregnant rats were treated from gestational day 8 to 20, with: 1) cocaine hydrochloride 40 mg/kg/day/s.c.; II) 0.9% saline injection and pair fed with cocaine group; III) no injection; IV) 0.9% saline injection + diet composed of 60% cellulose and 40% normal lab chow. The offspring were sacrificed at post natal day 21, the brain removed, and 12 μm sections cut through the midbrain and processed for in situ hybridization histochemistry. A 48-base oligonucleotide probe for the rat dopamine transporter gene was designed and characterized for specificity. *Results:* Computer-assisted analysis of the film autoradiographic images revealed no significant differences in the substantial nigra or the ventral tegmental area for dopamine transporter mRNA levels among the experimental groups. *Conclusions:* These results demonstrate, at least in the present animal model, that the transcription of the dopamine transporter gene is not impaired in juvenile rats that have been exposed to cocaine prenatally.

NR409 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Improving Outcome: Matching Patients to Treatment Setting

Helen M. Pettinati, Ph.D., Research, Carrier Foundation, Rt 601, Belle Mead, NJ 08502; Bradley D. Evans, M.D., Charles Ruetsch, M.S., F. Kaplan, B.A.

Summary:

Although a review of inpatient versus outpatient alcohol treatment studies concluded that there was no "justification" for inpatient treatment (Miller and Hester, 1986), further examination of these studies revealed short-comings in study design, specifically that psychiatrically-complicated patients, those patients most in need of inpatient care were generally excluded. This paper will present results from a cost effectiveness study of inpatient vs outpatient treatment settings for alcohol and cocaine dependence. A matched-to-treatment design was developed to include patients who present with psychiatric impairment so as to address the needs of this clinical subgroup. *A priori* predictions are that patients with high psychiatric severity and/or poor social support systems will have a positive outcome with inpatient treatment, while patients with low psychiatric severity and/or good social support systems will benefit from outpatient treatment without accruing the higher costs of inpatient care.

Preliminary results indicated that outpatients were more likely than inpatients to fail treatment during the intensive phase (35% vs 10.5%, respectively, $X^2 = 41.19$, $df = 1$, $p < .01$). In addition, various matching criteria are currently being examined to determine their ability to predict treatment outcome. More specifically, the relationship of alcohol severity to psychiatric severity and social support status is being evaluated. Agreement between two matching analogs (one with, one without alcohol severity) was modest ($r = .40$). However, the matching criterion which included alcohol severity as a component was significantly related to early treatment failure ($X^2 = 7.49$, $df = 1$, $p < .01$) and poor outcome at three months ($X^2 = 4.25$, $df = 1$, $p < .05$). These results highlight the need for further investigation of the specificity of the criteria and its efficacy in determining the risk of early treatment failure and poor outcome.

NR410 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Alcohol and Cocaine Dependence: Diagnostic Severity

Helen M. Pettinati, Ph.D., Research, Carrier Foundation, Rt 601, Belle Mead, NJ 08502; Charles Ruetsch, M.S., Gina B. Byrnes, B.A., Jacqueline Jensen, M.A., George E. Woody, M.D.

Summary:

Two measures of alcohol dependence severity, as derived from the Structured Clinical Interview for *DSM* (SCID), were examined by work group representative G. Woody, M.D., and advisor H. Pettinati, Ph.D., as part of the information requested by the substance use disorder work group of the *DSM-IV* task force. First, a simple count of symptoms was employed. Dependence was categorized as mild (3-4 symptoms), moderate (5-8 symptoms), and severe (9-10 symptoms). Second, nonphysiological dependence vs two subtypes of physiological dependence was examined. Subtype I used the criteria specified in *DSM-IV*, Option #1: presence of any of the *DSM* physical symptoms of tolerance, withdrawal, and/or substance use to relieve or avoid withdrawal. Subtype II required at least one of the withdrawal symptoms, while excluding *Ss* whose only physical symptom was tolerance. The sample consisted of 173 patients (63.6% inpatient) with a primary diagnosis of either alcohol dependence (73.4%) or alcohol and cocaine dependence in addiction recovery treatment at a nonprofit, private, psychiatric hospital. The agreement between the two methods of examining severity was only moderate ($r = .58$), suggesting that the information con-

tained in one index does not completely duplicate the other. Preliminary results indicated that symptom count severity was related to alcohol severity ($t = -5.4$, $p<.01$), while level of physiological dependence was related to Hamilton Depression Score ($t = 2.02$ $p < .05$), social functioning ($t = -2.00$, $p<.05$), and alcohol severity ($t = 3.36$, $p<.05$), at baseline. The relationship between each of the presented methods of assessing substance use diagnostic severity and outcome at three and six months post-discharge is currently being explored.

NR411 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Antisocial Personality and Cocaine Dependence

Jorge Leal, M.D., 27 Syilan Avenue, New Haven, CT 06519; Douglas M. Ziedonis, M.D., Thomas R. Kosten, M.D.

Summary:

Pharmacotherapy response was compared in 94 cocaine-abusing methadone patients with and without antisocial personality disorder (ASP) (n = 19), in a 12-week, randomized, double-blind trial using desipramine at 150mg daily (n = 30), amantadine at 300mg daily (n = 33), and placebo (n = 31). Retention rates were lower for the ASP group (ASP 61% vs non-ASP 87%). The percentage of cocaine-free urine toxicologies during the last two weeks of treatment was 30% for the non-ASP compared to 7% for the ASP patients. Both ASP and non-ASP patients on placebo showed no difference in the percentage of cocaine-free urines between the first and last two weeks of treatment. However, the non-ASP patients on medication showed an increase in the percentage of cocaine-free urines (15% to 32%), while the ASP patients showed a decline (14% to 10%). Thus, antisocial personality disorder was a poor prognostic factor for treatment retention and continued cocaine abuse, and medication did not improve treatment outcome for the ASP patients, but did for the non-ASP patients.

NR412 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Alcoholic Versus Non-Alcoholic Major Depressive

Jack R. Cornelius, M.D., Psychiatry, WPIC, Univ of Pittsburgh, 3811 O'Hara St. RM 1092, Pittsburgh, PA 15213; Ihsan M. Salloum, M.D., Juan E. Mezzich, M.D., Marie D. Cornelius, Ph.D., Joan G. Ehler, M.D., Richard F. Ulrich, M.S.

Summary:

Objective: The purpose of this study was to clarify the clinical features of depressed alcoholics who present for initial psychiatric evaluation and treatment. *Method:* A sample of patients with both major depression and alcohol dependence MDD/AD (N = 107) was compared to a sample of MDD alone patients (N = 5625) using ANCOVA, with covariates including race, gender, and presence of antisocial personality. *Results and Conclusions:* The MDD/AD patients were significantly more likely to be African American (27% vs 15% and male (57% vs 32%), and had lower education and occupation levels. MDD/AD patients demonstrated significantly greater suicidality than MDD alone patients ($p < 0.001$), and also demonstrated higher levels of low self-esteem, self-neglect, and depressed mood, but did not differ on neurovegetative symptoms of depression. MDD/AD patients also demonstrated significantly greater severity than MDD patients on a variety of non-depressive symptoms, including alcohol use, impulsivity, unstable relationships, auditory hallucinations, antisocial behavior, and lability of mood. Surprisingly, there were no symptoms which were more severe in the MDD group. MDD/AD patients demonstrated significantly more medical diagnoses on Axis III than MDD patients. Adaptive functioning was more impaired in the MDD/AD patients than in the MDD patients ($p < 0.001$). MDD/AD patients also demonstrated more unemployment, marital dysharmony, lack of confidante, lack of interpersonal and community supports, and perinatal, developmental, academic, and behavior problems.

NR413 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Gender Differences in Substance Use Disorders

Kathleen T. Brady, M.D., Psychiatry, Med. Univ of SC, 171 Ashley Avenue, Charleston, SC 29425; Dorothy Grice, M.D., Lorraine Dustan, M.D., Carrie Randall, Ph.D.

Summary:

Objective: This study was deigned to explore gender differences in substance use disorders.

Methods: One-hundred treatment-seeking substance abusers (50 men/50 women) were compared on demographics, victimization, and co-morbid psychiatric diagnosis using the SCID and a structured interview for sexual and physical victimization.

Results: Men were more likely to have a higher household income ($p < 0.01$) and be alcohol dependent ($p < 0.01$). Women were more likely to be victims of sexual assault ($p < 0.01$), multiple assaults ($p < 0.01$), and assaults continuing from childhood into adulthood ($p < 0.05$). Women were more likely to have another Axis I disorder ($p < 0.05$), particularly anxiety disorders ($p < 0.05$). Female alcoholics had significantly more ($p < 0.01$) affective and anxiety disorders than male alcoholics, but these differences were consistent with gender ratios of these disorders found in the general population. For cocaine abusers, female/male ratios for anxiety and affective disorders were inconsistent with general population ratios and indicated more psychopathology than would be expected in males. There were no gender differences in Axis II diagnoses.

Conclusions: There are gender differences in male and female substance abusers with important assessment and treatment implication. Such data must be considered in relation to gender differences in psychopathology and victimization in the general population.

NR414 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Fluoxetine for Cocaine Abuse: Depression and Antisocial Personality Disorder

Steven L. Batki, M.D., Psychiatry UCSF, San Fran Gen Hosp Ward 93, 1001 Potrero Avenue, San Francisco, CA 94110; Allyson M. Wasburn, Ph.D., Luisa B. Manfredi, M.P.H., Mark D. Herbst, M.D., Jennifer Murphy, R.T. Jones, M.D.

Summary:

Method: Two double-blind, placebo-controlled 12-week trials of 32 fluoxetine treated primary cocaine dependent (PCD) and 52 secondary cocaine dependent (SCD) patients. SCD patients were in methadone maintenance treatment. The SCID was used to diagnose current and lifetime major depressive disorder (MDD) and antisocial personality disorder (ASPD). Depression was measured by the Hamilton Depression Scale (HAM-D). *Results:* Current MDD was diagnosed in 19 (37.3%) of SCD subjects, but in only three (9.4%) PCD subjects (chi square, $p < .01$). There was also a trend toward a higher rate of lifetime MDD in the SCD group. Mean intake HAM-D scores were 16.9 for SCD subjects, but only 12.1 for PCD subjects (t test, $p < .05$). For subjects with current MDD, HAM-D scores decreased significant at the end of treatment in the FLX but not the PLA group. ASPD was diagnosed in 25 (51%) of the SCD subjects but only six subjects (18.8%) with PCD (chi square, $p < .05$). *Conclusion:* MMT subjects with SCD had significantly higher rates of current MDD and of ASPD than subjects with primary cocaine dependence. SCD subjects also had significantly higher levels of depressive symptoms at intake. Finally, in subjects with current MDD, FLX was associated with significantly greater improvement in depression than was PLA.

NR415 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Irregular Discharge on a Dual Diagnosis Unit

William M. Greenberg, M.D., Psychiatry, Bergen Pines Hospital, East Ridgewood Avenue, Paramus, NJ 07652; Juan Otero, M.A., Linda Villanueva, M.D., Hubert J. Moran, B.A.

Summary:

Objective: Irregular discharges, previously studied on pure psychiatric or on pure substance dependency units, are particularly problematic for dual diagnosis units. We undertook to study demographic and clinical characteristics for their value in predicting what type of discharge patients would receive from a 20-bed acute dual diagnosis unit. *Method:* We examined 316 consecutive admissions over a two-year period by retrospective chart review, collecting demographic and clinical data. *Results:* One hundred and nineteen (37.7%) failure to receive a regular discharge (61 AMA, 31 administrative, 27 elopements). We found that younger age ($p = .007$), discharge diagnosis of antisocial personality disorder ($p < .001$), and attending psychiatrist ($p = .016$) were all variables predictive of discharge type; demographic variables (sex, ethnicity, marital status, religion, employment, education, living circumstances), and Axis 1 diagnosis, and type or number of substances abused were not predictive of discharge type. Patients irregularly discharged within the first week (40% of irregular discharges) were significantly less likely to have known legal involvement ($p = .006$). No significant temporal clustering of irregular discharges was found, on a daily, weekly, or monthly basis. *Conclusion:* These findings are generally consistent with several studies on non-dual diagnosis units. Regarding program completion, they suggest that risk factors for irregular discharge (substance abuse, personality disorder, clinician skills) have not been adequately addressed by creating dual-dx units.

NR416 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Alcohol Withdrawal in Elderly and Younger Patients

Kirk J. Brower, M.D., Psychiatry, University of Michigan, 400 E. Eisenhower, Ste A, Ann Arbor, MI 48104; Sharon A. Mudd, M.S., Frederic C. Blow, Ph.D., James P. Young, M.S., Elizabeth M. Hill, Ph.D.

Summary:

Objective: We compared the severity and treatment of alcohol withdrawal in older ($n = 50$; mean age = 69) and younger ($n = 51$; mean age = 30) patients. *Method:* A retrospective chart review of consecutive discharges from a residential/inpatient alcohol treatment center was conducted. All patients received a sedative for detoxification (converted to chlordiazepoxide [CDZ] equivalents). The number, duration, and type of withdrawal symptoms were compared as were the dose and duration of CDZ. *Results:* The elderly had more women (38% vs. 20%, $p = 0.041$), but other results were not gender-related. The elderly were problem drinkers for more years (19.1 vs 10.7, $p = 0.003$), but the frequency and quantity of current drinking were equivalent as was the time of last drink before admission. The elderly had significantly more withdrawal symptoms (6.7 vs 5.3, $p = 0.001$) for a longer duration (8.9 vs. 6.3 days, $p = 0.002$) than the younger group. The elderly also had more symptoms of cognitive impairment (48% vs. 8%, $p < 0.001$), daytime sleepiness (43% vs. 22%, $p = 0.023$), weakness (48% vs. 6%, $p < 0.001$), and high blood pressure (88% vs 69%, $p = 0.018$). Differences in withdrawal symptoms were not attributable in preliminary analyses to more medical illness in the elderly or to side effects of detoxification medication. No significant differences were found between age groups in either the total dosage (2.2 vs. 2.0 mg/kg, $p = 0.660$) or number of days (3.8 vs. 2.7, $p = 0.090$) of CDZ given for detoxification. *Conclusions:* Alcohol withdrawal may be more severe in the elderly than in younger persons. Accordingly, treatment may take longer and should target the specific profile of symptoms that characterize alcohol withdrawal in the elderly.

NR417 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Buprenorphine: Reduced Dosing Frequency

Richard B. Resnick, M.D., Psychiatry, NYU School of Medicine, 43 West 94th Street, New York, NY 10025; Colette Pycha, M.S.N., Marc Galanter, M.D.

Summary:

The public health importance of developing buprenorphine for addiction treatment is underscored by recent findings of its acceptance by many heroin addicts who refuse methadone maintenance. In contrast to methadone maintenance, however, take-home doses have not been authorized, so that daily clinic attendance has been necessary. Diversion of medication is thus prevented, but it imposes a hardship that may compromise compliance in long-term treatment and penalizes those who prefer buprenorphine to methadone. The present open-label trial assessed the feasibility of reducing frequency of clinic visits by administering higher doses, as an alternative to dispensing take-home doses. Abstinent subjects ($N = 23$) maintained on buprenorphine (4-10 mg/day) for one to 12 months, received double their usual daily dose, administered every other day ($N = 23$), and a triple dose, administered every three days ($N = 10$). Assessments were made, on each clinic visit, of agonist effects and abstinence symptoms, including craving for heroin. One subject received a quadruple dose of 32 mg, instead of 24 mg, on two separate occasions. Results showed that abstinence symptoms emerged 30-40 hours after 8 mg in two subjects who had been maintained on 4 mg/day, and after both 32 mg doses, in a subject who had no abstinence symptoms for 72 hours after a 24 mg dose. No other subjects reported abstinence symptoms within 48 hours after 8 mg ($N = 2$), 10 mg ($N = 3$), 12 mg ($N = 2$), 14 mg ($N = 2$), 16 mg ($N = 8$), or 20 mg ($N = 3$); or 72 hours after 12 mg ($N = 2$), 15 mg ($N = 1$), 18 mg ($N = 1$), 21 mg ($N = 1$), 24 mg ($N = 4$) or 30 mg ($N = 2$). One subject maintained on a 6 mg/day reported increased agonist effects after 12 mg, but not after 10 mg, administered every two days. This group ($N = 21$) had continued heroin abstinence with a reduced dosing frequency of three to six days per week (3-days, $N = 11$; 4-days, $N = 7$; 6-days, $N = 3$). The gratitude expressed for fewer visits required for medication, suggests that compliance in long-term buprenorphine maintenance may be improved and treatment costs decreased, without the need to dispense take-home medication.

NR418 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Prevalence of Alcohol Abuse in Head Injury

Paul A. Kettl, M.D., Penn State-Hershey, 500 University Drive, Hershey, PA 17033

Summary:

Few injuries are as personally devastating or as costly to the medical care system as head injuries. Therefore, preventive public health interest demand an investigation of factors that may contribute to these injuries.

We investigated the prevalence of alcohol abuse in 44 head injured patients successively admitted to the Penn State University Rehabilitation Center. To receive a diagnosis of Alcohol abuse, patients had to satisfy *DSM-III-R* criteria for alcohol abuse obtained from a clinical psychiatric interview, and have a Michigan Alcohol Screening Test Score of 5 or greater. If an individual was delirious, or too severely injured to be interviewed, information about alcohol abuse was obtained from family members or significant others. Using these criteria, 40 of 44 patients could be adequately evaluated for alcohol abuse.

A total of 43% of our patients received a diagnosis of alcohol abuse. The average MAST score for the alcohol abuse group was 16.

A dramatically high number of those with brain injury suffer from alcohol abuse. Treatment of brain injury victims, therefore, must include evaluation and treatment for alcohol abuse for patients and their families. Moreover, it follows that public health approaches that decrease drinking and driving and call attention to the dangers of alcohol abuse could dramatically reduce the number of brain injuries.

NR419 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Beer Advertising, Spending and Amount of Drinking on Television

Paul A. Kettl, M.D., Penn-State-Hersehy, 500 University Drive, Hershey, PA 17033; Michelle Sredy, M.D.

Summary:

Television is a pervasive influence in American society, having a substantial influence on our culture and behavior. The content of television entertainment frequently features extensive, unrealistic, and often irresponsible alcohol use. Moreover, between 1976 and 1984, the number of alcohol acts (drinking or preparing to drink alcohol on TV) doubled, and then started to decrease.[1] Why did the amount of alcohol in television entertainment increase?

It is obvious that television depends on advertisement expenditures to exist, and that beer companies advertise to great extent. We wondered if the increase in depictions of alcohol on TV correlated with beer industry media spending.

To investigate this, we correlated previously obtained measures of the number of alcohol acts per hour on television between 1976-1986[1] with the amount of beer advertising expenditures (per capita ad spending in all media in constant 1987 dollars) obtained from the Beer Institute. Beer ad spending dramatically correlated with the amount of alcohol in television entertainment during these years ($r = 0.91$, $p = 0.002$).

These data fuel the suspicion that advertising spending influences the content of television programming. It further raises the question: Is the amount and nature of alcohol consumption in television programming influenced by the amount of media advertising by beer companies?

NR420 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Euphorogenic Properties of M-CPP in Cocaine Addicts

Laure B. Buydens-Branchey, M.D., ASOCS 11S, VA Medical Center, 800 Poly Place, Brooklyn, NY 11209; Marc H. Branchey, M.D., Paul Fergeson, M.A.

Summary:

Alterations in serotonergic neurotransmission have remained virtually unexplored in cocaine abusers. We explored the behavioral responses of 28 cocaine addicts to challenges with either a placebo or with the serotonin (5-HT) partial agonist m-chloro-phenylpiperazine (m-CPP). M-CPP (.5 mg/kg body weight) and placebo were administered orally at 9:30 AM on two different days, separated by 48 hours. Twenty-three patients experienced elation after m-CPP. None of the patients experienced elation after the placebo. Feelings of elation peaked 90 minutes after m-CPP and were of different intensities and durations. They were short lived and lasted for a few hours. There was no association between the presence, intensity, or duration of elation and blood m-CPP levels. Increases in elevation over baseline after m-CPP were correlated with pretest aggressive tendencies, as assessed with the Buss-Durkee Hostility Inventory ($p < .002$) as well as with impulsiveness, as assessed with the Barratt Impulsiveness Scale ($p < .001$).

Thus, our data could indicate the existence of a 5-HT dysfunction in some cocaine addicts. In addition, the fact that individuals with aggressive tendencies tended to be more sensitive to m-CPP could indicate that cocaine addicts are biologically heterogeneous. The nature of the 5-HT dysfunction and whether it precedes or is a consequence of cocaine use remains to be determined.

NR421 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Opiate Addicts on LAAM Versus Methadone: Cocaine Use

Joan Kotun, M.D., Psychiatry, NCSC Va Martinez, 150 Muir Road, Martinez, CA; Peter Barglow, M.D.

Summary:

We compared the "orphan drug" LAAM with traditional methadone maintenance treatment of cocaine abusing heroin addicts in an open trial. LAAM is a synthetic opioid with a 72-hour duration of action, which is likely to receive FDA approval for opiate maintenance treatment in 1993. Given the interaction of opiates and cocaine in reward and reinforcement, it is not clear if this longer acting opiate will enhance or impair efforts to treat cocaine abuse in opioid addicts. To address this question, we studied eight patients on LAAM and 19 who continued on methadone over a 12-week period. Cocaine abuse did not change significantly as measured by urine toxicology or the Addiction Severity Index. The percentage of patients with baseline positive urines was 55% for methadone and 31% for LAAM. These levels varied but showed no consistent pattern of change in either group. The Addiction Severity Index score at baseline was 13 in methadone vs. 22 in LAAM maintained patients, but did not differ significantly in measures at six and 12 weeks. Cocaine abuse in opiate maintenance treatment is a topic of intense interest clinically and neurobiologically. LAAM use does not appear to have an adverse effect on cocaine use in heroin addicts.

NR422 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

A Simple Objective Measure of Nicotine Craving in Psychiatric Patients

Neil Hartman, M.D., Psychiatry, UCLA, 25322 Joyce Place, Stevenson Ranch, CA 91381; David Wine, Ph.D., Sid Gold, M.D., Stryder Lewis, B.A., Murray E. Jarvik, M.D.

Summary:

In preparing to study the use of transdermal nicotine maintenance in psychiatric patients (Hartman et al 1991), especially to relieve the suffering and psychomotor agitation of those confined involuntarily on locked smoke free units, we have found that the standard questionnaires for quantifying nicotine craving and withdrawal are not well suited to this population of severely impaired and often uncooperative individuals. Therefore, we have developed a completely objective, behavioral measure. Informed consent was obtained from ten nicotine addicted (greater than one pack per day) patients at the West Los Angeles VA Medical Center. Each was videotaped while smoking their first cigarette of the morning (verified by carbon monoxide as well as by self-report) and a second cigarette within the next ten minutes. The most consistent difference, ($p = 0.001$ chi square) present in 9/10 subjects was in the first few interpuff intervals, far shorter for the first cigarette, as compared to the second, a difference which tended to diminish after the fifth puff, presumably reflecting the increase in blood nicotine to nonabstinant levels. By timing the first five interpuff intervals, two blind raters were easily able to correctly order the smoking sessions from a dubbed tape in which the order had been randomized. One exceptional subject, for whom the interpuff intervals were extremely long for both cigarettes, the first being slightly longer

than the second, later confessed that he was, in fact, not a regular smoker.

NR423 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Substance Abuse and Hallucinations

Kenneth N. Sokolski, M.D., Psychiatry, Long Beach VA UCI, 5901 East Seventh Street, Long Beach, CA 90822; Jeffrey L. Cummings, M.D., Edward M. Demet, Ph.D., Bruce I. Abrams, M.D., Lori Katz, Ph.D., Jerome L. Costa, M.D.

Summary:

Rates and treatment responses of auditory, visual, tactile, olfactory, and gustatory hallucinations were determined in 113 consecutive cooperative admissions to a state psychiatric hospital. Patients were divided into two groups based on past substance abuse. Diagnostic groups large enough to be analyzed included chronic undifferentiated schizophrenia (N = 30), chronic paronoid schizophrenia (N = 41), and bipolar mania (N = 21). As a group, dual diagnosis patients with substance abuse and psychiatric illness had first admissions at an earlier age than patients who had no substance abuse. Visual and olfactory hallucinations occurred more frequently in schizophrenic patients with substance abuse than those without, and auditory and tactile symptoms were less responsive to treatment in subjects with mania and schizophrenia when these patients had histories of illicit drug exposure. These results suggest that abused substances may interact with primary psychiatric illness to produce an increased occurrence and treatment refractoriness of hallucinations. They further indicate the hallucinations offer a means of separating patients with substance abuse from those with no prior exposure to illicit drugs.

NR424 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Cocaine and Marijuana Effects in Schizophrenia

Jeffrey N. Wilkins, M.D., Psychiatry Room 19, WLA VA Medical Center, 11301 Wilshire Blvd Bldg 257, Los Angeles, CA 90073; David A. Gorelick, M.D., Andrew Shaner, M.D., David Y. Setoda, B.S., Valerie von Raffay, M.A., Douglas E. Tucker, M.D.

Summary:

Objective and Method: In order to systematically evaluate the effects of cocaine (COC) and marijuana (MJ) on mood, and positive and negative symptoms in schizophrenia, 481 quantified urine analyze levels of COC, MJ, amphetamines, phencyclidine, opiates, barbiturates, and benzodiazepines were matched with same day Brief Psychiatric Rating Scale (BPRS), Beck Depression Inventory (BDI), and Scale for Assessment of Negative Symptoms (SANS) assessments in 45 male schizophrenic patients, diagnosed with the Structured Interview for *DSM III-R* (SCID). The weekly urines were collected during a 12-week medication period of a NIDA-funded, double-blind trial of desipramine for the treatment of cocaine dependent schizophrenics. *Results:* Using Pearson Correlation Coefficients, 29 subjects with urines positive for COC (COC only) and MJ (COC and MJ) were characterized as manifesting either "positive" or "negative" correlation between urine values and the BPRS, BDI, and SANS scales. Almost all subjects in the COC only, but not COC and MJ, had positive correlation with the BDI total depression score (12 pos, 1 neg vs. 6 pos, 8 neg, Fisher's Stat = 7.334, p = 0.013), and a similar, but inverse, relationship with the BPRS negative symptom subscale (2 pos, 11 neg vs. 7 pos, 7 neg, Fisher's Stat = 3.483, p = 0.103). Conversely, the COC only and COC and MJ had similar positive correlation with the BPRS hostility/suspiciousness subscale (11 pos & 4 neg, 10 pos & 4 neg, Student "t" = 2.81, p = 0.009). *Provisional Conclusion:* In schizophrenic patients, COC produces depression but may reduce negative symptoms; COC, and COC and MJ induce hostility and suspiciousness. Concomitant MJ use prevents COC-induced depression. Stimulation of the MJ receptor may ameliorate depression, even in patients with depleted brain catecholamines.

NR425 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Tuberculosis Exposure in Substance Abusing Veterans: An Epidemiologic Profile

John T. Moranville, M.D., Psychiatry, San Francisco VAMC, 4150 Clement Street, San Francisco, CA 94121; Bonnie S. Cook, R.N., Barbara J. Spahr, R.N.C.

Summary:

Objective: Substance abusing veterans are at significantly greater risk for tuberculosis. Homelessness, IV drug use, HIV infection, and excessively crowded housing facilities contribute to this risk. This epidemiologic profile defines the prevalence and incidence of TB exposure in a high risk population of dually diagnosed veterans. *Method:* Veterans admitted to the Substance Abuse Inpatient Unit of the San Francisco VA Medical Center are routinely screened for TB exposure. Of 73 veterans admitted during a two-month period, 40.6% had been homeless or in shelters, 23.4% had recently used IV drugs, 7.8% were known HIV positive, and 39.1% had a coexisting mental illness. Twenty-seven patients (37%) were not tested-11% because of ongoing antitubercular therapy, 41% had had a prior course of antitubercular therapy, 18.5% had a positive PPD with no known antitubercular therapy, and 29.5% were not tested for various other reasons. The remaining 46 patients completed a 72-hour testing program, including PPD and two controls. *Results:* Of 46 patients tested, 26% were anergic, 52% were PPD negative, and 15% were PPD positive. *Conclusion:* The 36% prevalence of TB exposure observed among our substance abusing veterans is nearly ten times greater than the national prevalence of 4%. The PPD conversion rate of 10% is also five to ten times greater than the 1-2% conversion rate reported for the state of California. In addition, 12 of 46 patients tested were anergic. These results confirm a high risk of TB exposure. Intensive screening of this population is needed.

NR426 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

A Pharmaco-Epidemiological Study Among Alcoholic Outpatients

Jean-Michel Chignon, M.D., Psychiatry, Hospital Mourier, 178 rue des Renouillers, Colombes 92700, France; Patrick Martin, Ph.D., Catherine Dissoubray, M.D., Jean Ades, M.D.

Summary:

Several recent studies suggest that a majority of alcoholic patients suffer from comorbid anxiety and/or depressive disorders. This comorbidity could have an impact on treatment strategies.

In a cross-sectional study, including patients who met *DSM-III-R* criteria for alcohol abuse or dependence, we wanted to evaluate the consumption of different psychotropic agents and the impact of comorbidity, namely with depressive and anxiety disorders, on therapeutic strategies.

In this study, we include 507 patients (343 males and 164 females). The mean age at the intake of the study was 43.2 (SD : 9.6) years without difference between males and females. The lifetime prevalence of major depressive episode was 49.1% and was found higher in females than in males (61.5 vs 43.1% ; p < 0.1). Similarly, the frequence of lifetime panic disorder and agoraphobia were higher in females (respectively : 25.0% vs 15.7%, p < .05 ; 21.3% vs 13.7%, p < .05). Even if we found a high prevalence of social phobia and generalized anxiety disorder, this frequence was statistically similar in females and in males (respectively : 25.0% vs 20.7%, NS; 56.1% vs 48.7%, NS). Among these 57 patients, 392 (77.3%), 141 females (86.0%), and 251 males (73.1%) received at least one psychotropic with a large majority

receiving benzodiazepines (73.2%) and antidepressants (45.7%). Even if the consumption of hypnotics was found similar in both sexes, the anxiolytic consumption was statistically higher in females (81.6% vs 66.9%; $p < 0.1$). Moreover, the consumption of antidepressants was found higher in females (61.7% vs 36.7%; $p < .01$). Even if the existence of a depressive episode and anxiety disorder were associated with a prescription of antidepressants ($p < .001$) and anxiolytics ($p < .001$), 51.3% among patients without psychiatric comorbidity received anxiolytics, and 20.5% received antidepressants. So, the different patterns of therapeutic strategies in alcoholic patients will be presented and discussed with logistic regression models integrating socio-demographic and clinical parameters.

NR427 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Cocaine and Alcohol Co-Abuse Impact on Physical Health

Ihsan M. Salloum, M.D., Psychiatry, WPIC Univ of Pitts., 3811 O'Hara Street, Pittsburgh, PA 15213; Juan E. Mezzich, M.D., Jack R. Cornelius, M.D., Dennis C. Daley, M.S.W.

Summary:

The aim of this study is to assess key hepatic, cardiac, and other physical variables among substance abusing psychiatric patients, and particularly in cocaine-alcohol co-abusers. Three groups of patients (cocaine-alcohol co-abuse ($n = 42$), alcohol use ($n = 38$) and cocaine use ($n = 27$) only) selected from 153 consecutive admissions to a dual diagnosis unit were comparatively examined for the presence of abnormal results on electrocardiogram (EKG) examination and liver function tests. Additionally, these groups were compared on rates of viral hepatitis and the presence of sexually transmitted diseases. High rates of EKG non-specific abnormalities were found in the three groups. Liver function tests abnormalities, on the other hand, were similarly high in the co-abuse and the alcohol use groups, and they were significantly higher than in the cocaine use group ($p < 0.001$). The cocaine-alcohol co-abuse group differed significantly from both single drug groups by having higher rates of hepatitis C sero-positive test ($p < 0.03$), and approaching statistical significant higher rates in the hepatitis B sero-positive test ($p < 0.06$). The co-abuse group also had higher rates of sexually transmitted diseases and intravenous drug use ($p < 0.02$ and $p < 0.001$ respectively). These results highlight the significant impact of cocaine-alcohol co-abuse on general physical health, and underscore the importance of a routine physical examination and hepatitis screen in these patients.

NR428 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Lethality Indicators in Cocaine and Alcohol Co-Abusers

Ihsan M. Salloum, M.D., Psychiatry, WPIC Univ of Pitts., 3811 O'Hara Street, Pittsburgh, PA 15213; Dennis C. Daley, M.S.W., Jack R. Cornelius, M.D., Juan E. Mezzich, M.D.

Summary:

The aim of the present study is to elucidate the effects of concomitant cocaine-alcohol abuse on the presence and severity of suicidal and homicidal behavior. Three groups of patients (cocaine-alcohol co-abuse ($n = 42$), alcohol use ($n = 38$), and cocaine use ($n = 27$) only) selected from 153 consecutive admissions to a dual diagnosis unit were comparatively examined for the presence of current and past suicidal and homicidal behavior. The co-abuse group differed from both groups in demonstrating lower employment status ($p < 0.05$) and income ($p < 0.03$), and approached statistical significance in having higher homelessness rates ($p < 0.06$). High rates of suicidal behavior were found among the three groups. In terms of presence of suicidal plans, the co-abuse group was significantly higher than the alcohol group ($p < 0.005$) and was similar to the cocaine group. Regarding past multiple suicide attempts, the alcohol and the co-abuse groups were similar to each other, and both groups demonstrated higher levels than the cocaine group ($p < 0.01$). On current homicidal ideation and plans, the co-abuse group had a significantly ($p < 0.01$) higher rate than either single substance group. These results document the prominence of lethal behaviors among substance abusing psychiatric inpatients. Furthermore, co-abuse of cocaine and alcohol, as compared to single drug abuse, is particularly associated with higher levels of psychosocial problems and impairments as well as homicidal behavior among these patients.

NR429 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Affect Disturbance in Substance Abusing Veterans

Brian D. Higgins, M.S., Psychiatry, Bronx VA Med Center, 130 W. Kingsbridge Road, Bronx, NY 10468; David P. Bernstein, Ph.D., Leonard Handelsman, M.D., Laura Travaglini, M.A., Paul Rinaldi, M.A., Karen Holloway, M.D.

Summary:

High levels of affective disturbance are reported in substance abusers; however, the relationship between substance use and different dimensions of affective abnormalities remains inadequately understood. A total of 166 male veterans in drug (DRG, $n = 125$) and alcohol (ALC, $n = 41$) treatment gave substance use histories (Addiction Severity Index) and completed self-report measures of affect intensity, hostility, depression, and alexithymia (Affect Intensity Measure, Buss-Durkee Hostility Index, Beck Depression Inventory, Toronto Alexithymia Scale). Sample sizes for pairwise correlational analyses varied. Although polysubstance use was evident in both groups, DRG patients displayed more extensive drug use, while ALC patients displayed more extensive alcohol use histories. Patterns of association of drug or alcohol use with affective abnormalities differed between the DRG and ALC groups; there were also complex relationships between affective disturbances and patterns of co-morbid substance use. In the DRG group, recent and lifetime cocaine use were associated with alexithymia ($n = 59$, $r = 27$, $p < .05$ for both comparisons), while co-morbid recent alcohol use was associated with affect intensity ($n = 42$, $r = .33$, $p < .05$), hostility ($n = 125$, $r = .18$, $p < .05$) and depression ($n = 122$, $r = .25$, $p < .01$). In the ALC group, recent and lifetime alcohol use were associated with affect intensity ($n = 38$, $r = .33$, $p < .05$ and $n = 38$, $r = .37$, $p < .05$, respectively), while co-morbid lifetime opiate and recent cocaine use were associated with hostility ($n = 40$, $r = .32$, $p < .05$; $n = 41$, $r = .39$, $p < .05$). These results will be discussed with regard to possible common biological substrates of substance abuse and affective abnormalities.

NR430 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Psychiatric Diagnoses and Prenatal Care

Laura J. Bierut, M.D., Psychiatry, University of Washington, Mailstop RP-10, Seattle, WA 98195; Therese M. Grant, M.Ed., Ann P. Streissguth, Ph.D.

Summary:

This ongoing study evaluates psychiatric diagnoses and social histories in women with prenatal drug or alcohol abuse who received no prenatal care before 28 weeks gestation. We hypothesize that high rates of psychiatric illnesses among these women impair their access to health care. We hope to prevent future high-risk pregnancies by better characterizing these mothers, whose children are at high risk for medical, psychiatric and social complications.

Recruitment was through the systematic screening of all births at two large hospitals which serve the majority of the local low income population, and by referral from local health care providers, Each woman was given a structured psychiatric interview, the Diagnostic Interview Schedule (DIS).

Fourteen interviews have been completed: mean age is 25.6 years (17-37 years), education level 10.5 years (8-14 years), number of children 2.9 (1-6), number of children in mother's custody 1.4 (1-6). Child Protection Services has intervened in ten of 14 families seven of 14 mothers had themselves been in foster care. 11 of 14 women have a history of arrest. The primary psychiatric diagnoses were cocaine dependence (13/14), alcohol dependence (10/14), amphetamine dependence (2/14), heroin dependence (2/14), major depression (3/14), schizophrenia (1/14), and antisocial personality disorder (7/14).

This survey captures a representative sample of women who abused alcohol or drugs during pregnancy and received no prenatal care. These women demonstrate profound psychopathology, often beginning in childhood. Only a few have ever been treated in the mental health care system. Successful prevention programs for this high-risk population must take these findings into account.

NR431 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Axis II Correlates of Childhood Trauma

Joseph Ruggiero, M.A., Psychiatry Serv. 116A, Bronx VA Med Center, 130 W. Kingsbridge Road, Bronx, NY 10468; David P. Bernstein, Ph.D., Laura Fink, Ph.D., Leonard Handelsman, M.D., Jeffrey Foote, Ph.D., Meg Lovejoy, B.A.

Summary:

The present study examines the relationship between childhood trauma and personality disorder (PD) symptoms in 160 substance dependent patients: male cocaine or heroin addicts (N = 69), male alcoholics (N = 70), and female cocaine or heroin addicts (N = 21). All participants were given a battery of self-report measures, including the Personality Diagnostic Questionnaire-Revised (PDQR) and the Childhood Trauma Questionnaire (CTQ), a new scale assessing severity of childhood trauma in several areas: physical, sexual, and emotional abuse; physical neglect; family conflict; and (lack of) emotional support. No significant differences were found between the two groups of male patients (drug addicts and alcoholics) in severity of childhood trauma; however, female addicts displayed significantly higher levels of sexual abuse than either male group. In all three groups, childhood trauma was significantly associated with personality disorders characterized by acting out and aggression (borderline and antisocial PDs) and by suspiciousness and eccentricity (paranoid and schizotypal PDs). In addition, trauma was associated with schizoid PD in male patients, and with histrionic, avoidant, dependent, and obsessive-compulsive PDs in female patients. In general, severity of personality disorder symptoms was more highly and consistently associated with levels of physical abuse than with other forms of trauma. However, in female patients, strong and significant relationships were found between sexual abuse and symptoms of avoidant ($r = .52$, $p = .01$), histrionic ($r = .45$, $p < .05$), and schizotypal ($r = .51$, $p = .01$) personality disorders. Results will be discussed regarding the possible role of childhood trauma in the etiology of personality disorders and substance abuse.

NR432 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Outmoded Treatments for Alcohol Detoxification

Elizabeth F. Howell, M.D., Psychiatry, Emory Clinic, 1365 Clifton Road NE, Atlanta, GA 30322; Francis J. Kane, Jr., M.D.

Summary:

Purpose: To assess the use of outmoded treatments for alcohol detoxification in several teaching hospitals. *Methodology:* Pharmacy records of five teaching hospitals were surveyed for the use of intravenous or oral alcohol and paraldehyde. *Results:* During a recent one-year period in a large teaching hospital, six patients received intravenous alcohol and 11 patients received oral beverage alcohol. Nine of these 17 patients underwent surgical procedures, only two of which were emergencies. Two patients were allowed to use their own liquor in the hospital; another patient was prescribed beer when she refused treatment for her addiction. In most cases, alcohol was prescribed by medicine, surgery, neurology, or pain services to treat or prevent alcohol withdrawal. Alcohol and benzodiazepines were prescribed together in five patients. Psychiatric consultations, when they were done, were delayed. Of the five teaching hospitals, three reported paraldehyde use. In one hospital, 142 patients were treated with paraldehyde over a 23-month period; the other hospitals reported paraldehyde use in only a few patients. *Conclusions:* The use of outmoded treatments for alcohol dependence and withdrawal persists in teaching institutions and indicates the need for better education in general hospital services, and for a more active role of psychiatric consultation services in treating addictive disorders.

NR433 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Serotonergic Challenges in Cocaine Addicts and Alcoholics

Leonard Handelsman, M.D., Psychiatry, Bronx Va Med Center, 130 W. Kingsbridge Road, Bronx, NY 10468; Karen Holloway, M.D., Iqbal Sheikh, M.D., Chris Sturiano, B.A., David Bernstein, Ph.D.

Summary:

5HT abnormalities are reported in alcoholics and are related to impulsive, hostile behavior, which is a common problematic correlate of both cocaine and alcohol dependencies. Studies using dynamic responses of prolactin (PRL), cortisol (CORT), or temperature (temp) to 5HT agonist probes report puzzling and contradictory associations between CNS 5HT activity and aggression. A total of 13 alcoholics and nine cocaine addicts were orally given metachlorophenylpiperazine (mCPP). .35 mg/kg., fenfluramine (FEN) 60 mg, or placebo in a double-blind partially counterbalanced design with FEN administered last. Alcoholics were studied two to four weeks after Librium detox, cocaine addicts two to four weeks after cessation of cocaine use. Hostility was assessed by the subscales of the Buss-Durkee Hostility Index (BDHI) and depression by the Beck Depression Inventory. PRL responses (response = difference between peak and baseline values) to mCPP and FEN were correlated in both groups (Alc: $r = .64$, $p < .05$; Coc: $r = .91$, $p < .05$). In alcoholics, PRL and temp responses to mCPP were correlated ($r = .64$, $p < .05$); in cocaine addicts, PRL and CORT responses to mCPP were correlated ($r = .78$, $p < .05$). In alcoholics, PRL and temp responses were each correlated inversely with multiple BDHI scales including assaultiveness. However, in cocaine addicts, PRL and CORT responses to mCPP were correlated ($r = .78$, $p < .05$). In alcoholics, PRL and temp responses were each correlated inversely with multiple BDHI scales including assaultiveness. However, in cocaine addicts, PRL and CORT responses were associated positively with these results indicate 1) that contradictory findings of 5HT/behavior correlations in addicts are not caused by the user of mCPP vs. FEN; 2) that the 5HT correlates of hostility may be different in alcholics vs. cocaine addicts.

NR434 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Substance Abuse, Comorbidity and Re-Injury Behavior After Trauma

Cheryl H. Cottrol, M.D., Psychiatry, University Hospital, 185 South Orange Avenue, Newark, NJ 07103; Richard J. Frances, M.D.

Summary:

Objective: The purpose of this study is two-fold: 1) to examine whether trauma patients with a prior history of injury are more likely to score positive for substance abuse on current trauma admission than those patients without a prior history of injury and 2) to determine which psychiatric diagnoses may be correlated with this substance abuse behavior. *Method:* 58 patients on the trauma service of University Hospital in Newark New Jersey were randomly selected for this study. Inclusion criteria were 1) recent admission following a physical trauma 2) age range between 18-65 3) English speaking 4) consent and 5) achieving a criterion score on cognitive screening measures. Subjects were surveyed on several variables, including demographics, type of injury, prior injury record, psychiatric diagnosis, and substance abuse history. *Results:* 58% of our sample gave a positive history of substance abuse three months prior to and including date of injury. 2) 47% of our sample reported they had a prior history of traumatic injury within their lifetime. We found that having a prior injury had no influence on stopping substance abuse in this population. Specifically, 66% of the subjects with a prior history of trauma had a positive substance abuse history while only 28% of those without a prior history of trauma had a positive substance abuse history. Differences in these two populations were $p = .0066$. Several diagnoses were positively correlated with substance abuse, the highest of which was PTSD. Implications of findings will be discussed.

NR435 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Comorbidity of Revolving Door Alcoholics

Kristinn Tomasson, M.D., Psychiatry, National University Hosp, Eiriksgotu, Reykjavik 101, Iceland

Summary:

The purpose of the study is to compare psychiatric comorbidity and some social characteristics of alcoholics who are revolving door patients with other alcoholics admitted for detoxification. Revolving door patients are defined as those who have a history of five or more prior detoxification treatments. A sample of patients seeking inpatient detoxification treatment in Iceland was drawn. The study utilized the Diagnostic Interview Schedule, and a questionnaire about social characteristics, drinking behavior, and treatment history.

Approximately one third of the patients were revolving door patients. More than 70% of the alcoholics had an additional lifetime psychiatric diagnosis. The revolving door patients had less stable social characteristics in terms of marriage, employment, and homelessness. Over 90% of them had an additional psychiatric diagnosis. They were more poly-symptomatic, with other substance abuse, anxiety disorders, dementia, and antisocial personality disorder being particularly prevalent among them. A proper psychiatric assessment is necessary in the evaluation of all alcoholics admitted because treatment of the comorbid disorders may prevent the revolving career.

NR436 Tuesday, May 25, 3:00 p.m.-5:00 p.m.

Neuroendocrine Profiles of Alcoholic Men

Eve J. Wiseman, M.D., Psychiatry, Univ of Arkansas Med Sci, 4415 North Lookout, Little Rock, AR 72205; Michael H. Creer, M.D.

Summary:

Objectives: To determine whether neuroendocrine profiles distinguish men with severe alcoholism from those with milder alcoholism.

Method: A cross-sectional comparison of inpatients from the North Little Rock Veterans Administration rehabilitation unit. Subjects with at least three weeks of abstinence were recruited. All of those approached (22) consented to participate, and 20 subjects completed the study. They were classified as having "mild-moderate" or "severe" alcoholism according to *DSM-III-R* criteria. Blood samples were obtained to measure testosterone, luteinizing hormone, estradiol, prolactin, and cortisol by immunoassay procedures. T-tests were used to compare measurements between groups.

Results: Ten subjects met criteria for each group. Those with severe alcoholism were older (mean age 56.4 versus 41.6, $p < 0.001$) and had longer duration of alcoholism (33.7 years versus 14.9 years, $p < 0.005$). Despite differences in age and exposure to alcohol, hormonal values were similar between groups. Only prolactin distinguished the severe from the milder group (5.32 ng/ml for the severe group versus 9.51 ng/ml, $p < 0.03$).

Conclusions: Men with severe alcoholism may have lower prolactin levels during abstinent intervals than those with milder alcoholism. Replication of these results will verify whether prolactin levels represent a marker for alcoholism severity. Lower prolactin levels may indicate a serotonergic deficit, possibly responsive to pharmacotherapy.

NR437 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

Utilization Management: Effect on Inpatient Care

A. Lawrence Rubin, M.D., Medical, Holliswood Hospital, 87-37 Palermo Street, Holliswood, NY 11423; Lee S. Cohen, M.D., Andre Jaeger, M.D., Marc Reitman, M.D., Andrew Levin, M.D., Arnold Mandelstam, M.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to better understand the financial and clinical impact of utilization management on the treatment of psychiatric inpatients.

Summary:

Although 80% of Americans have medical treatment subject to some form of utilization management, its impact on cost containment and clinical outcome is unclear. This retrospective study uses case material of a private psychiatric hospital to examine the effect of two techniques of utilization management, precertification and concurrent review, on clinical care and length of stay.

In the first part of this study, 50 patients requiring precertification and 50 patients who did not were compared for severity of illness at time of admission as measured by Clinical Global Impression Scale (CGI) and DSM-III-R diagnoses. Analysis indicated no difference between the two groups on CGI (4.7 ± 1.0 vs. 4.7 ± 1.1, $t = .22$, $df = 97$,n.s.) and DSM-III-R diagnoses ($X2 = .43$, $df = 2$,n.s.). In the second part, outcome and length of stay for 62 patients with major depression who were subject to concurrent review were compared with those for 33 depressed patients without concurrent review. Length of stay did not differ between the two groups (41.4 ± 23.7 vs. 44.2 ± 22.9 days, $t = -.55$, $df = 93$,n.s.), but was positively correlated with time limitations of insurance coverage in both groups ($r = 4467$, $p = .0001$; $r = 3807$, $p = .029$, concurrent and no concurrent review, respectively). Patients who had been concurrently reviewed had a significantly poorer outcome as measured by the Global Impression Scale on discharge (2.4 ± 0.7 vs. 2.1 ± 0.6, $t = 2.17$, $df = 93$, $p = .033$). These findings suggest that utilization management may not provide cost efficiencies and may be detrimental to the clinical process.

References:

1. Tischler GL: Utilization management of mental health services by private third parties. Am J Psychiatry 147:967-973, 100.

2. Borenstein DB: Managed care: a means of rationing psychiatric treatment. Hospital and Community Psychiatry 41:1095-1098, 1990.

NR438 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

Tryptophan Depletion Increases Binge Eating

Theodore E. Weltzin, M.D., Eating Disorders, WPIC, 3811 O'Hara Street, Pittsburgh, PA 15213; Madelyn Fernstrom, Ph.D., John Fernstrom, Ph.D., Shira Neuberger, Walter H. Kaye, M.D.

Educational Objectives:

At the conclusion of this presentation the participant will have learned the possibility that a deficiency of serotonin activity in bulimic women may contribute to bingeing behavior.

Summary:

It is well known that an increase in serotonin activity produces satiety in animals and humans. It remains uncertain, however, whether reduced serotonin activity contributes to bingeing behavior in patients with normal-weight bulimia nervosa. To test this hypothesis, we administered the acute tryptophan depletion (ATD) paradigm to 10 normal-weight bulimic women (23 ± 5 yrs. old, 97 ± 10% average body weight) and 10 matched, healthy volunteer women (25 ± 6 yrs. old, 104 ± 9% average body weight). We hypothesized that a reduction in dietary tryptophan, which presumably produces a reduction in brain serotonin, would promote bingeing in bulimic women.

This study was done using a double-blind, placebo-control design on two separate days. Subjects fasted from midnight and ingested the amino acid mixtures at 8:00 a.m. On one day subjects ingested 100 gms of a mixture of amino acids with *no* tryptophan (the TRP depleted mixture). On the other day subjects ingested 100 gms of amino acids *plus* 4.6 gm of TRP (the TRP supplemented mixture). Subjects were allowed to select food "ad lib" from a cafeteria-like selection of foods from 3:00 p.m. until 8:00 p.m. on each day after ingesting the amino acids.

As per our expectations, the bulimic women consumed more caloric intake on the TRP depleted day, in comparison with the TRP supplemented day (mean increase 915 ± 2292 kcal). In contrast, we found that the control women ate fewer calories (mean decrease 233 ± 460 kcal) on the TRP depleted day. These results were significantly different between groups (Mann-Whitney $U = 78.0$, $p = .03$).

These data support the possibility that a deficiency of serotonin activity in bulimic women may contribute to bingeing behavior. In contrast, a similar depletion of dietary tryptophan did not result in an increase in caloric intake in healthy volunteer women.

References:

1. Weltzin TE, Fernstrom JD, McConaha C, Kaye, WH: Acute tryptophan depletion produces substantial reductions in the ratio of tryptophan to large neutral amino acids. *Biol Psych*, in press.

2. Young SN, Tjourman SV, Teff KL, et al: *Biology, Biochemistry and Behavior*, Vol. 31, pp. 149-142, Pergamon Press, 1988.

NR439 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

Differential Biology of Aggression and Suicide

Robert L. Trestman, M.D., Psychiatry, Mt. Sinai Sch of Medicine, One Gustave Levy Pl Box 1230, New York, NY 10029; Maria Devegvar, M.D., Emil F. Coccaro, M.D., Vivian Mitropoulou, M.A., Irene Lopez, B.A., Steven Gabriel, Ph.D., Larry J. Siever, M.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to understand the concepts of, and research evidence suggesting, differential contributions of the serotonergic & noradrenergic systems to impulsivity, aggression, & suicidal behavior in personality disorders & depression.

Summary:

Impulsivity/aggression and suicidal behavior are critical concerns in the care of patients with major depression (MDD) and/or personality disorders (PD). Given prior, but inconsistent, evidence of potential contributions from the noradrenergic (NA) and serotonergic (5-HT) systems, we hypothesized 1) increased central NA function is associated with irritability or overreactivity to the environment (in PD patients); 2) reduced NA function is associated with disengagement from the environment (in MDD patients); 3) reduced central 5-HT function is associated with disinhibition of aggression (in both MDD and PD patients); 4) increased NA function coupled with decreased 5-HT function would occur in PD patients and be expressed as externally directed aggression; and 5) combined deficits in NA and 5-HT function would be associated with suicidal behavior in MDD patients. Thirty-nine patients with primary DSM-III PD and 44 patients with primary MDD from two medical centers participated in this extension of previous studies (Coccaro et al, AGP 1989; Siever et al, NPP 1992). The GH response to IV clonidine (central $a\text{-}_2$ NA function) correlated with self-rated measures of irritability (BDHI-Irritability $p<0.07$, Verbal Hostility $p<0.03$) but not overt violence (BDHI-Assault: ns) or history of suicidal behavior in PD patients. The prolactin (PRL) response to fenfluramine (net central 5HT function) correlated inversely in males with impulsivity and aggression ($n=32$; BIS-I Motor Impulsivity $p<0.03$; BDHI-Assault $p<0.001$), and with suicidal behavior ($p<0.03$). CSF 5-HIAA (presynaptic central 5HT function, $n=14$ males) correlated inversely with PRL response to FEN ($p<0.05$), but with none of the behavioral measures. Present or past MDD in the PD patients did not alter the above findings. Of 49 MDD or PD patients who participated in both challenges, seven patients were blunted in both measures: all seven were primary MDD patients and all seven had attempted suicide. No other MDD patient in our sample attempted suicide. The NA and 5-HT systems may, therefore, each contribute differentially to aggression and suicidal behavior in MDD and in PD.

References:

1. Siever LJ, Davis KL: A psychobiologic perspective on the personality disorders. *Am J Psychiatry*, 148:1647-1658, 1991.

2. Coccaro EF, Siever LJ, Klar H, et al: Serotonergic studies in patients with affective and personality disorders correlates with suicidal and impulsive aggressive behavior. *Arch Gen Psychiat* 46:587-599, 1989.

NR440 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

Twin Study of Adult and Child Antisocial Criteria

Michael J. Lyons, Ph.D., Psychology, Boston University, 64 Cummington Street, Boston, MA 02215; Lindon Eaves, D.Sc., Ming T. Tsuang, M.D., Seth Eisen, M.D., Jack Goldberg, Ph.D., William True, Ph.D.

Educational Objectives:

At the end of this presentation the participant will learn about genetic and environmental influences on adult and childhood symptoms of antisocial personality disorder.

Summary:

Objective: The objective is to determine genetic and environmental influences on adult and childhood symptoms of antisocial personality disorder.

Methods: Subjects were 6,938 twins from the Vietnam Era Twin Registry, comprised of male-male twin pairs in which both members served in the military 1965 to 1975. Subjects were interviewed by telephone using a modified DIS interview. Principal components analysis was applied to childhood and adult antisocial personality disorder diagnostic criteria separately, providing psychometrically sound summary scores for adult and childhood symptoms. A bivariate genetic analysis of the childhood and adult antisocial criteria was conducted to determine the relative contribution of genetic factors to adult and childhood criteria individually and jointly.

Results: The family environment had a substantial influence on childhood antisocial criteria, while genetic factors specific to childhood criteria had little effect. The story was quite different for adult antisocial criteria; genetic factors were quite important, while the family environment contributed little.

Conclusion: These findings indicate that antisocial behavior seen during childhood is primarily influenced by the environment, including the family environment, with only a small genetic contribution. However, adult antisocial behavior is strongly influenced by genetic factors.

References:

1. Carey G: Twim imiatation for antisocial behavior: Implications for genetic and family environment research. *J Abnormal Psychology*, 101: 18-25, 1992.

2. Grove WM, et al: Heritability of substance abuse and antisocial behavior. *Biol Psychiatry*, 27: 1293-1304, 1990.

NR441 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

A Follow-up Study of Antisocial Personality Disorder

Donald W. Black, M.D., Psychiatry, University of Iowa, 200 Hawkins Drive #2887 JPP, Iowa City, IA 52242; Connie Baumgard, BSN, Sue E. Bell, M.S.W.

Educational Objectives:

Participants will learn what becomes of adult male antisocials followed for 20 to 30 years.

Summary:

Antisocial personality disorder (ASPD) is characterized by a pattern of socially irresponsible, exploitative, and guiltless behavior, and has a prevalence of 2% to 4% in men and 0.5% to 1% in women. There is little knowledge about its long-term outcome, but clinical lore suggests that it "burns out" with age. The best work on prognosis in ASPD (Robins, 1966) found that of 82 antisocials interviewed an average of 30 years after referral to a child guidance clinic, 12% had remitted, 27% had improved, and 61% were unimproved.

We identified a cohort of 71 adult antisocials hospitalized between 1945 and 1970 at the University of Iowa Psychiatric Hospital, we limited our sample to males to make the sample more homogeneous and to facilitate follow-up. Field follow-up took place between 1986 and 1990. We were able to trace 97% of subjects. Twenty-five subjects were interviewed by telephone or in person, 27 were located but refused interviews, two were not located, and 17 were deceased. Based on information from subjects, informants, hospital charts, prison records or death certificates, we were able to assign ratings to nearly one-half of deceased and more than half of living subjects. Using an overall global rating we determine that 18% had remitted, 40% had improved but not remitted, and 42% were unimproved. When we rated patients in terms of outcome in marital status, housing, occupation, and psychiatric symptoms and compared them with schizophrenics, depressives, and controls subjects in the "Iowa 500" study, we determined that antisocials had better outcome than schizophrenics for marital status and housing, but were not significantly different from them in terms of occupational adjustment or impairment from psychiatric symptoms. Depressed patients did significantly better than antisocials in terms of marital adjustment, occupation, and psychiatric symptoms. Control subjects did better than antisocials in all four areas. The results of this follow-up indicate that ASPD is, for most individuals, a life-long disorder that results in significant impairment in important domains of life. Patients may "burn out" in terms of arrest and conviction records, but impairment from antisocial symptoms, alcohol and other substance abuse, depression and anxiety continue for most, and create severe impairment.

References:

1. Robins, LN: Deviant Children Grown Up. Baltimore, Williams & Wilkins, 1966.

2. Cleckley H: The Mask of Sanity, 5th Edition, St. Louis, CV Mosby, 1976.

NR442 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

Nalmefene Modification of Alcohol Dependence: A Pilot Study

Barbara J. Mason, Ph.D., Psychiatry, Univ of Miami Med., 1400 NW 10th Avenue Ste 314, Miami, FL 33133; Eva C. Ritvo, M.D., Fernando Salvato, M.D., Evan Zimmer, M.D., Gloria Goldberg, B.S., Bruce Welch, M.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to learn about a promising new pharmacological adjunct to traditional psychosocial treatments of alcoholism.

Summary:

Double-blind clinical trials of naltrexone found it was associated with decreased craving and drinking in alcohol-dependent samples (Volpicelli et al., 1992; O'Malley et al., 1992). Nalmefene is a newer opiate antagonist that has a number of potential advantages over naltrexone in the treatment of alcoholism. Consequently, a double-blind pilot study of 20 mg. vs. 5 mg. oral nalmefene vs. placebo was conducted to gather preliminary data on the safety and efficacy of nalmefene in the treatment of alcohol dependence. Additionally, repeated measures of body weight and Hamilton Depression Scale scores (HAM-D) were obtained to rule out dysphoria and weight loss as risks of long-term treatment with opiate antagonists.

Results: Nalmefene was well tolerated, with no serious adverse drug reactions. Returned pill counts and plasma level data revealed satisfactory compliance with medication. The 20 mg. group had a significantly lower rate of relapse ($p<.05$) than the other two groups, and reported a significant reduction in their number of drinking days per week ($t=3.49$, $p<.02$). Repeated measures of HAM-D and mean body weight suggest that dysphoria and anorexia are not common effects of nalmefene in alcoholics.

Conclusion: These pilot data suggest that nalmefene can be safely given to alcoholics, that this treatment is acceptable to alcoholics, and that nalmefene may have a role in reducing alcohol consumption and preventing relapse, particularly at the 20 mg. b.i.d. level. A full-scale study is underway to confirm and extend these preliminary findings.

References:

1. Volpicelli JR, Alterman AI, Hayashida M, O'Brien CP: Naltrexone in the treatment of alcohol dependence. *Arch Gen Psychiatry*, 49:876-880, 1992.

2. O'Malley SS, Jaffe AJ, Chang G, et al: Naltrexone and coping skills therapy for alcohol dependence, *Arch Gen Psychiatry*, 49:881-887, 1992.

NR443 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

Polypharmacy and Hypoalbuminemia in Delirium

Lesley R. Dickson, M.D., Psychiatry, University Kentucky, Annex II UKMC, Lexington, KY 40536; William Fisher, M.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to recognize that low serum albumin may be a risk factor in delirium, that polypharmacy is common in delirium and that the two may be related by a decrease in serum binding of drugs.

Summary:

Objective: To look at the extent of polypharmacy and the most commonly prescribed medications in 100 delirious patients.

Method: The charts of 100 patients seen by the consult service and diagnosed with delirium were reviewed. Demographics, medical diagnoses, laboratory values, and medications were collected on each patient. Data were collated and statistical analyses performed.

Results: Seventy-one patients were hypoalbuminemic, with a significantly longer hospital stay (mean 28.8 days) than the normal buminemic patients (mean 11.0 days). Hypoalbuminemic patients were sicker with nine deaths (vs. two), their delirium more likely to be caused by medical problems (86% vs. 38%) rather than medication toxicity, and were taking more medications with an average of 5.38 vs. 3.66 in the normal albumin ($p<.001$ by t-test). The most frequent medications were cimetidine/ranitidine in 28, benzodiazepines in 22, lasix in 22, and narcotics in 17.

Conclusion: Hypoalbuminemia is common in delirium and, therefore, attention should be paid to nutrition and other factors that influence albumin levels and synthesis. Since albumin is the main transport protein of drugs and other substances, care should also be paid to prescribing practices in hypoalbuminemic patients.

References:

1. Dickson LR: Hypoalbuminemia in delirium. *Psychosomatics* 32:317-323, 1992.

2. Trzepacz PT, Francis J: Low serum albumin and risk of delirium [letter]. *Am J Psychiatry* 147:675, 1990.

NR444 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

Subjective Memory Loss and Frontal Metabolism

Gary W. Small, M.D., Psychiatry, UCLA, 760 Westwood Plaza, Los Angeles, CA 90024; Anna Okonek, Ph.D., Mark A. Mandelkern, M.D., Asenath La Rue, Ph.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to recognize different forms of subjective complaints of memory loss; identify brain regions showing functional correlations with subjective complaints; list several possible explanations for such subjective/metabolic correlations.

Summary:

Objective: Many people complain about memory loss as they age and worry that mild memory changes herald progressive brain deterioration. However, no previous study has systematically assessed subjective complaints of memory loss and cerebral function. We thus explored associations between cerebral glucose metabolism and subjective memory complaints in people with memory changes consistent with normal aging. *Methods:* Forty-three people (mean age 60.1 ± 10.0 years) meeting Research Diagnostic Criteria for age-associated memory impairment (AAMI) received resting positron emission tomographic scans and standardized self-rating assessments of memory function. Pearson correlations were determined between four factor scores of the Memory Functioning Questionnaire (frequency of forgetting, seriousness of forgetting, retrospective functioning, mnemonics usage) and those regions of interest found to be affected in previous glucose metabolic studies of Alzheimer's disease and age-related memory deficits (parietal, temporal, and frontal regions). *Results:* Cerebral metabolic ratios were in the normal range compared with values from previous studies in the literature. Only the mnemonics usage factor score showed highly significant correlations with brain function. People reporting more frequent mnemonics usage had lower metabolic activity in left frontal ($r=0.50$, $p<0.001$) and right frontal ($r=0.52$, $p<0.0005$) regions. Mnemonics usage did not correlate with mood state ratings or with objective memory measures. *Conclusion:* These results suggest that self-reports of mnemonics usage may be a sensitive indicator of decreased frontal lobe activity.

References:

1. Gilewski MJ, Zelinski EM, Schaie KW: The Memory Functioning Questionnaire for assessment of memory complaints in adulthood and old age. *Psychology and Aging* 5:482-490, 1990.

2. Milner B, Petrides M, Smith ML: Frontal lobes and the temporal organization of memory. *Human Neurobiology* 4:137-142, 1985.

NR445 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

Age, Gastric Function and Ethanol Metabolism

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Educational Objectives:

At the conclusion of this presentation, the participant should understand the ways in which alcohol metabolism and intoxication are linked to age, gender, and fasting.

Summary:

Alcohol use is reported to decline with age, due to possible age/gender differences in ethanol metabolism. We studied the combined effect of age and gender on blood ethanol and acetate curves after ethanol administration orally and intravenously (IV) to healthy, non-alcoholic volunteers. *Methods:* 57 subjects (28 male, 29 female) were studied, 28 in the young (21 to 40 years) and 29 in the old (>60 years) cohort. All subjects received ethanol (0.3 grams/kg) on three occasions: 1) orally after an overnight fast, 2) orally after a standard breakfast, and 3) IV after a standard breakfast. The blood ethanol response (mEq/l) was represented by area under the curve (AUC) in 240 minutes. *Results:* in all cohorts, there was a hierarchy of blood ethanol AUC responses: oral fasted > IV fed > oral fed. Viewed by age, blood ethanol AUC's were significantly greater in older subjects than younger subjects in the oral fasted ($p<0.001$) and IV fed ($p<0.006$) states but not in the oral fed state. There were no ethanol AUC gender differences among the cohorts. There was a significant acetate AUC difference with elderly women > elderly men in all three states ($p<.03$); this difference did not obtain for the younger age groups. There were no age or gender differences in gastric emptying rates. *Conclusions:* these data confirm an influence of age on ethanol metabolism for both genders and suggest a differential rate of acetate metabolism according to gender in the elderly. The mechanism underlying the age effect on ethanol metabolism is unlikely to be related to gastric metabolism or motility since the phenomenon was present when ethanol was administered either by an IV or PO route and since liquid phase gastric emptying was similar in young and old subjects.

References:

1. DiPadova C, Worner TM, Julkunen RJK, et al. Effects of fasting and chronic alcohol consumption on the first-pass metabolism of ethanol. *Gastroenterology*, 1169-73, 1987.

2. Vogel-Sprott M, Barrett P. Age, drinking habits and the effects of alcohol. *J Studies Alcohol*, 45:517-521, 1984.

NR 446 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

Brief and Ultrabrief Pulses in Unilateral ECT

Jiri Pisvejc, M.D., Psychiatry, Kuffner Sanatorium, 411 85 Horni Berkovice, Okres Litomerice, Czechslovakia Rep; Vaclav Hyrman, M.D., Jan Sikora, M.D., Alena Berankova, Ph.D.

Educational Objectives:

At the conclusion of this presentation the participants shall be informed about the recent developments towards less invasive yet effective techniques of electroconvulsive therapy.

Summary:

In a double-blind, randomized study we compared low power, ultrabrief pulse with standard brief pulse stimuli. The lower power ECT stimuli could be expected to be less effective (1), but with less undesirable effects, such as memory impairment (2). Fifty-eight hospitalized patients aged 17-61, with the diagnosis of either schizophrenia or major depression, were enrolled, and 48 subjects completed the study. All patients received eight unilateral treatments each. They were evaluated with a battery of tests and rating scales before ECT, after the last ECT, and one month later. There was no significant difference in the extent of improvement between the groups treated with brief and ultrabrief pulse stimuli. Both the schizophrenic and depressed patients showed improvement after the course of ECT, and the improvement was maintained one month later. No deleterious effects on cognitive functions and memory were found. In fact, there was notable improvement in memory and other cognitive functions after ECT in both groups, with no significant difference between them. The two stimulus waveforms in unilateral ECT appear to be equally effective and free of deleterious effects on memory and cognition.

References:

1. Cronholm B, Ottoson JO: Ultrabrief stimulus technique in electroconvulsive therapy I and II. *J Nervous & Mental Dis*. 137:117-123 and 268-276, 1963.

2. Hyrman V, Patrick L. *Ultra brief pulse ECT clinical trial (abstract)*. New Research, 142nd APA annual meeting, San Francisco, CA, May 1989:137.

NR447 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

ECT in Depressed Patients with Cardiac Disease

Davangere P. Devanand, M.D., Biological Psychiatry, NYS Psych Inst., Unit 72 722 West 168th Street, New York, NY 10032; Steven P. Roose, M.D., Robert J. Zielinski, M.D., Sally Woodring

Educational Objectives:

The participant should be able to evaluate the risks of conducting ECT in patients with cardiac disease, recognize and treat complications, and assess the risk-benefit ratio of ECT versus tricyclic antidepressants in depressed patients with cardiac disease.

Summary:

The complication rate of 40 patients with major depressive disorder and left ventricular impairment, ventricular arrhythmias, and/or conduction delay who received ECT was compared to a matched comparison sample of 40 depressed patients without cardiac disease who also received ECT. In addition, one half of the patients with cardiac illness had received one or more impatient medication trials prior to receiving ECT, thereby permitting a comparison of cardiovascular complications of medication versus ECT in the same patients.

The patients with cardiac disease had a significantly higher rate of cardiac complications during ECT compared to the comparison group without cardiac disease. The type of pre-existing cardiac abnormality strongly predicted the type of cardiac and complication that occurred during ECT. However, most of the complications were transitory and did not prevent the completion of ECT. Twenty-one of the 40 patients with cardiac disease received a tricyclic trial prior to ECT. Eleven of 21 were forced to discontinue drug because of significant cardiovascular effects. In comparison, 38 of the 40 cardiac patients completed the course of ECT. With close monitoring for the development of arrhythmia and ischemic episodes, ECT can be given with relative safety in patients with severe cardiovascular disease.

References:

1. CA Welch, LJ Drop. Cardiovascular effects of ECT. *Convulsive Therapy* 5:35-43, 1989.

2. Roose SP, Glassman AH, Giardina EGV, Walsh BT, Woodring S, Bigger JT: Tricyclic antidepressants in depressed patients with cardiac conduction disease. *Arch Gen Psychiatry* 44: 273-275, 1987.

NR448 Wednesday, May 26, 9:00 a.m.-10:30 a.m.

A Placebo-Controlled Trial of Fluoxetine in Geriatric Major Depression

Gary D. Tollefson, M.D., Psychopharmacology, Eli Lilly and Company, Lilly Corp. Ctr Drop Code 2128, Indianapolis, IN 46285; Janet C. Bosomworth, B.S., John H. Heiligenstein, M.D., Ellen J. Schatz, B.S., Raymond Albritton, M.S.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to recognize the epidemiology, presenting features, and unique pharmacotherapeutic challenges that characterize depression in the older patient. A better understanding of the response profile and adverse event experience of fluoxetine 20 mg versus placebo should be gained.

Summary:

Objective: Depression in the geriatric population is a frequent, serious, and potentially reversible disorder. A number of age-related issues complicate safe and effective pharmacotherapy. This trial assessed the efficacy and safety of fluoxetine 20 mg versus placebo in geriatric depression.

Method: Two double-blind, placebo-controlled trials were conducted. Patients screened were ≥ 60 years of age, met DSM-III-R criteria for unipolar major depression, and had a $HAMD_{17}$ score ≥ 16. Following a one-week placebo lead-in, 671 subjects were randomized to either fluoxetine 20 mg daily or placebo for six weeks.

Results: There were no significant baseline differences between fluoxetine (n=335) and placebo (n=336) assignees. After four weeks of drug treatment, response, defined as ≥ 50% HAMD reduction, favored fluoxetine (p=.002); remission, a more stringent criterion (endpoint HAMD ≤ 8), also was achieved significantly more often with fluoxetine than placebo (p<.001). Fluoxetine-treated patients experienced a significantly greater decrease in HAMD Item 3 during the clinical trials (p=.023). The significant efficacy of fluoxetine was also evident on the Geriatric Depression Scale, CGI, and PGI. In this trial, of 582 patients reporting one or more adverse events, 306 (52.6%) received fluoxetine and 276 (47.4%) received placebo. However, only 68 randomized patients discontinued early because of an adverse event(s); 39 on fluoxetine (11.6% of 335 randomized) and 29 placebo (8.6% of 336 randomized). This difference was non-significant. Reduced dosing frequency to every other day was utilized in only 6.6% of fluoxetine and 2.4% placebo subjects (p=.009).

Conclusion: Depressive disorders occur across the life span. These trial results corroborate that geriatric major depression is responsive to pharmacotherapy. Fluoxetine, at a conventional 20 mg dose, was both safe and effective for this population.

References:

1. Hendrie H, et al: An overview of depression in the elderly. *Psychiatric Annals* 20:64-70, 1990.

2. Small GW: Recognition and treatment of depression in the elderly. *J Clin Psychiatry* 52 (6 suppl):11-22, 1991.

NR449 Wednesday, May 26, 12:00 noon-2:00 p.m.

Antidepressant Efficacy and Severity of Depression

Mary E. Sayler, M.S., Statistics, Eli Lilly and Company, Lilly Corporate Ctr DC 2233, Indianapolis, TN 46285; Atul C. Pande, M.D., Charles M. Beasley, M.D., Gary D. Tollefson, M.D.

Summary:

Objective: Despite a paucity of data, there is a prevalent clinical viewpoint that severity of depressive symptoms may influence differential response to different classes of antidepressant medication. We have compared the relative efficacy and safety of fluoxetine, tricyclic antidepressants, and placebo in mild, moderate, and severe depression.

Method: Pooled data (N=3183) from 19 randomized, double-blind clinical trials comparing fluoxetine with placebo or a tricyclic antidepressant (TCAs) or both in patients with major depression were analyzed. Severity of depression was categorized using the 17-item Hamilton Rating Scale for depression ($HDRS_{17}$) as: mild ($\leq$17), moderate (18=24) or severe ($\geq$25). Change in $HDRS_{17}$ from baseline to last visit and $HDRS_{17}$ response (at least a 50% reduction from baseline for patients treated at least four weeks) were the primary efficacy measures. Analysis of variance and Mantel-Haenszel incidence difference methods were used.

Results: Statistically significantly more fluoxetine-treated patients were responders than placebo-treated patients within all three severity subgroups. There was statistically significant more improved in $HAMD_{17}$ from baseline to last visit with fluoxetine than with placebo in the moderate subgroup. There were no statistically significant differences in improvement or response rates between fluoxetine and TCAs within all three subgroups. Statistically significantly more TCA-treated patient discontinued due to adverse events within all three subgroups.

Conclusion: Fluoxetine and TCAs have comparable efficacy in mild, moderate and severe major depression. Therefore, differential selection based on severity of depression is not warranted.

NR450 Wednesday, May 26, 12:00 noon-2:00 p.m.

Abnormal B Lymphocyte Durinal Variation in Depression

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Summary:

Few reproducible immunological correlates of the syndrome of major depression have been described. Recently we demonstrated that the diurnal variation of NK cell levels and function are disrupted in major depression patients. Differences between depressed and control subjects were particularly pronounced in the morning. Preclinical data suggest that cell-type specific immunological rhythms may be mediated by the CNS. Thus, characterization of such temporal changes in lymphocyte subsets in depression may be important in the clinical study of neural-immune interactions. Like NK cells, B lymphocytes bearing surface-Ig also exhibit normal patterns of diurnal variation in healthy volunteers. To explore further the hypothesis that the diurnal variation of other parameters of cellular immune physiology may be dysregulated in major depression, we compared the diurnal variation of surface-Ig positive B lymphocytes at 8 a.m. and 4 p.m. in medication-free, major depressed inpatients (n=20) with normal control subjects (n=25). Repeated measures analysis of variance confirmed that the diurnal variation of circulating B lymphocytes differed significantly between the subject groups ($p = .005$). As expected, the normal control group evidenced a 30% increase in surface-Ig positive B cell between 8 a.m. and 4 p.m. Conversely, major depressed patients did not exhibit diurnal variation (< 1%) in B lymphocyte levels at these times. Moreover, as with our previous findings with NK cell parameters, the group differences in peripheral B-cell levels were more pronounced in the morning (20% higher in MD, $p=.07$) than the afternoon (8% higher in NC, $p>.5$). Systematic investigation of cellular immune bioperiodicity may be important to identify further neurobiological mechanisms that link behavioral and immunological processes in depression and other major psychiatric syndromes.

NR451 Wednesday, May 26, 12:00 noon-2:00 p.m.

Morbidity With Biopolar Disorder

Kirk D. Denicoff, M.D., BPB, NIMH Bldg 10/3N212, 9000 Rockville Pike, Bethesda, MD 20892; Kimberly Blake, B.A., Earlian Smith-Jackson, R.N., Paula Jacob, R.N., Robert M. Post, M.D.

Summary:

Objective: In this paper we demonstrate the substantial morbidity experienced even by well-treated bipolar patients. *Method:* Subjects were 35 patients recruited through the National Institute of Mental Health outpatient clinic for a treatment study comparing the prophylactic therapeutic effects of lithium, carbamazepine, and the combination in a double-blind, randomized, crossover design. Adjuncts such as antidepressants and neuroleptics were allowed when clinically appropriate. Patients were evaluated at least every four weeks and daily ratings obtained. All patients had a retrospective and prospective life chart completed based on affective episodes defined by the degree of functional incapacity (mild, moderate, severe). *Results:* In the first year of treatment 12 patients (34.3%) had to have their treatment phase discontinued. Four were hospitalized, five had severe dysfunction without hospitalization, and three had treatment-limiting side effects. The mean number of days ill for each level of severity for all patients was as follows (in days): 65.2 mild depression, 29.3 moderate depression, 2.2 severe depression, 29.7 mild mania, 6.6 moderate mania, 1.0 severe mania, and 230.9 euthymic. *Conclusions:* The findings in this study suggest that in this population of closely-monitored, bipolar patients treated with a mood stabilizer and adjunctive antidepressants or neuroleptics as needed, a substantial degree of morbidity remained.

NR452 Wednesday, May 26, 12:00 noon-2:00 p.m.

Catecholamine Depletion in Treated Depressives

Pedro L. Delgado, M.D., Psychiatry, Univ of Arizona, 1501 N. Campbell Avenue, Tucson, AZ 85724; Helen M. Miller, M.D., Ronald M. Salomon, M.D., George R. Heninger, M.D., Alan J. Gelenberg, M.D., Dennis S. Charney, M.D.

Summary:

Depletion of plasma tryptophan (TRP) causes a transient depressive relapse in depressed patients treated with selective serotonin (5-HT) reuptake inhibitors (SSRI's) but rarely in patients treated with desipramine (DMI), suggesting that the antidepressant response to DMI is less acutely dependent on brain 5-HT content

than that to SSRI's (Delgado et al., 1991). Brain norepinephrine and dopamine are reduced by inhibiting their synthesis with alpha-methyl-para-tyrosine (AMPT). Given our findings with TRP depletion, we wanted to assess the effects of catecholamine depletion in antidepressant-treated depressed patients. *Method:* AMPT challenges were administered in a double-blind, placebo-controlled, crossover fashion to 14 depressed patients having maintained a therapeutic antidepressant response (predetermined criteria) for $\geq$ 2 weeks (3 DMI, 2 mazindol, 5 fluoxetine, 4 sertraline). Each patient participates in two challenges one week apart. Each challenge includes a baseline day, two days of either AMPT 1 gm TID or diphenhydramine (active placebo) 50 mg TID, and a follow-up day. Antidepressant drugs are continued throughout testing. Ratings (HAM-D) and plasma for MHPG and HVA levels are obtained prior to, during and after testing. *Results:* The three DMI- and two mazindol-responders had a rapid increase in HAM-D score during AMPT but not placebo (diphenhydramine) challenge while only 1/9 SSRI-treated patients did. *Implications:* The antidepressant response to DMI may be more acutely dependent on brain catecholamine content the response to SSRI's. In the context of our work with TRP depletion, these results suggest that the neurobiological mechanisms underlying the antidepressant responses to different drugs involve alterations in the functioning of different neurotransmitter systems and reinforce the importance of changes in both the 5-HT and catecholamine systems in successful antidepressant responses.

NR453 Wednesday, May 26, 12:00 noon-2:00 p.m.

High-Dose Thyroxine Does Not Decrease Bone Density

Laszlo Gyulai, M.D., Psychiatry, University of Penn, 3600 Market St. 8th Floor, Philadelphia, PA 19104; Tae-Yul Lew, M.D., Lisa Rubin, M.S.N., Sharon Younkin, B.A., Jurg Jaggi, Ph.D., Peter C. Whybrow, M.D.

Summary:

High dose 1-thyroxine with lithium proved to be useful in treating rapid-cycling bipolar disorder (1,2). However, high doses of thyroxine might lead to a decrease in bone density and increase the risk for osteoporosis. The goal of this cross-sectional study was to assess the risk and compare the bone density in ten adult, female patients with rapid cycling bipolar disorder to ten adult female controls. The patients had been treated with dosages of thyroxine sufficient to cause TSH suppression for at least three months. Bone density of the femoral neck, Ward's triangle, trochanter, lumber spine, and total body were measured by dual-energy x-ray absorptiometry (DEXA). Surprisingly, the patients had higher bone density in all measured sites as compared to controls, and *statistically significant* higher bone density in the femoral neck, ward's triangle, trochanter, and arms and head. Therefore, high dose thyroxine with lithium did not increase the risk of osteoporosis in this patient sample. Thus, thyroxine can be safely used in the treatment of rapid-cycling bipolar disorder in terms of risk for osteoporosis. The reason for increased bone density in patients versus controls can not be explained by known risk factors but patients had a higher number of lithium-induced hypothyroidism which might decrease the bone turnover rate and increase bone density.

NR454 Wednesday, May 26, 12:00 noon-2:00 p.m.

Recurrent Brief Depression is Disabling

Yves Lecrubier, M.D., UBOQ, Inserm, La Sal Petriere 47 Brd Hosp, Paris 7501B, France; P. Boyer, M.D., E. Wellier, M.D., J.P. Lepine, M.D., C.H. Payan, M.D.

Summary:

We assessed the prevalence in primary care and the comorbidity of recurrent brief depression (RBD) as defined by Angst. This was organized in parallel to a WHO study aimed to describe defined psychological disorders in primary care. RBD diagnosis was made according to a CIDI format structured interview added to the CIPI Primary Care version.

We found a high prevalence but such a disorder cannot be taken in consideration if no disability is observed.

The results of our study confirm that the lifetime rate of suicide is elevated (23%) even when there is no comorbid disorder (11%).

Furthermore, the results of the Brief Disability Questionnaire show a substantial disability in these patients. The decrease in performances is as important for RBD (45%) as for patients with major depression (41%), while the result is 34% for generalized anxiety and 2% for patients with no psychiatric diagnosis. Similarly, a decrease of motivation for work is observed in RBD (42%) as well as a major depression (41%), while it is the case for only 29% of GAD patients and 4% of the no diagnosis group.

NR455 Wednesday, May 26, 12:00 noon-2:00 p.m.

Clozapine in the Treatment of Refractory Acute Bipolar Mania

Jonathan O. Cole, M.D., Affective Disorder, McLean Hospital, 115 Mill Street, Belmont, MA 02178; Michael D. Banov, M.D., Alan Green, M.D., Mauricio Tohen, M.D., Jay Patel, M.D.

Summary:

Objective: This study was performed to measure rapidity and degree of treatment response in refractory bipolar mania with psychotic features to clozapine therapy alone.

Method: We have enrolled 22 patients to date in a three-month open study. Baseline Structured Clinical Interviews for *DSM-III-R* were used to confirm diagnosis. Patients were treated with clozapine alone. Outcome was assessed by the Brief Psychiatric Rating Scale (BPRS), Young Rating Scale for Mania (YRSM), and Clinical Global Impressions (CGI) performed every two weeks.

Results: Of the patients who completed the study, 6/15 (40%) were very much improved, 7/15 (47%) were much improved, and 2/15 (13%) were minimally improved. Marked improvements were seen in final BPRS scores (mean = 50.1, SD = 0.9), YRSM (mean = 23.5, SD = 7.6), and CGI (mean = 2.67, SD = 0.9). Seven of 22 (32%) patients were prematurely withdrawn from the study for a variety of reasons.

Conclusions: Clozapine appears to be an effective treatment in refractory bipolar mania resulting in a rapid and marked improvement in symptomatology.

NR456 Wednesday, May 26, 12:00 noon-2:00 p.m.

Antidepressants and Sexual Function in Depressed Men

Eric A. Nofzinger, M.D., Psychiatry, University of Pittsburgh, 3811 O'Hara Street, Pittsburgh, PA 15213; Michael E. Thase, M.D., Charles F. Reynolds, M.D., Ellen Frank, Ph.D., J. Richard Jennings, Ph.D., David J. Kupfer, M.D.

Summary:

Objective: There are few controlled studies of sexual dysfunction associated with antidepressants. We report our preliminary findings from an ongoing study that explores the effects of depression and its treatment on male sexual function. *Method:* We conducted an open-label but controlled sequential prospective treatment study exploring the effects of imipramine (n = 7), fluoxetine (n = 10), and bupropion (n = 9) on depression, daytime sexual function, nocturnal penile tumescence (NPT), and EEG sleep both before and after

treatment in depressed men. We compared these results with similar measures using cognitive behavior therapy (CBT). (n=45). *Results:* Depressed men have loss of sexual satisfaction that improves with CBT, but no loss of sexual activity. EEG sleep and NPT measures are relatively stable following CBT. In contrast, imipramine and fluoxetine were associated with reductions of sexual activity, yet no alteration in NRT despite suppression of REM sleep. Bupropion was unique among antidepressants in that it was associated with increased REM sleep and reduced REM latency, while increasing daytime sexual interest and activity. No significant change in NPT was noted.

Conclusions: Antidepressant treatments, including cognitive behavior therapy, imipramine, fluoxetine, and bupropion have uniquely distinct and differing effects on sexual function, NPT, and EEG sleep despite having comparable clinical efficacy in the treatment of depression.

Supported by MH40023, MH00295, MH16804, MH30915.

NR457 Wednesday, May 26, 12:00 noon-2:00 p.m.

Depression and Death Post-Myocardial Infarction

Francois Lesperance, M.D., Psychosomatics, Montreal Heart Inst., 5000 Belanger East, Montreal Quebec H1T 1C8, Canada; Nancy Frasure-Smith, Ph.D., Mario Talajic, M.D.

Summary:

Objectives: We sought to assess the prognostic impact of a *DSM-III-R* diagnosis of major depression following myocardial infarction (MI). *Method:* A modified version of the Diagnostic Interview Schedule (DIS) was completed with 199 pts (48 women) aged 24 to 88, one week after MI. *Results:* Thirty-one (16%) met *DSM-III-R* symptom criteria for major depression. By six months post-discharge 15, (8%) had died. Depression significantly increased the risk of death (rel risk = 3.6; Taylor series 95% confidence interval = 1.4 to 9.4; p = .007). While a history of depression did not predict mortality alone or in combination with depression in hospital, pts who were irritable in hospital or who had a history of irritability were at marginally increased risk (rel risk = 2.3; confidence interval = .9 to 6.0; p = .09). Logistic regression showed that after control for ventricular function and age, both major depression in hospital (p = .015) and irritability (p = .125) were independently related to mortality. Depressed pts who also reported irritability were more than five times as likely to die as non-depressed, non-irritable pts (rel risk = 5.6; confidence interval = 1.9 to 16.8; p = .0013). *Conclusions:* Major depression in hospital is a risk factor for mortality in the first six months following MI. Depressed pts who report a history of irritability or who are irritable in hospital are at particularly high risk.

NR458 Wednesday, May 26, 12:00 noon-2:00 p.m.

Risk for Depression After Myocardial Infarction

Francois Lesperance, M.D., Psychosomatics, Montreal Heart Inst., 5000 Belanger East, Montreal Quebec H1T 1C8, Canada; Nancy Frasure-Smith, Ph.D., Mario Talajic, M.D.

Summary:

Objectives: We sought to identify clinical correlates of major depression following myocardial infarction (MI). *Methods:* Structured interviews, including a modified version of the Diagnostic Interview Schedule (DIS) were completed with 199 (48 women) pts, aged 24 to 88 (mean = 60.4), one-week post-myocardial infarction. *Results:* Thirty-one (16%) met *DSM-III-R* symptom criteria for major depression. Age, creatinine phosphokinase level, left ventricular ejection fraction, education, marital status, and smoking were not related to depression. Depressed pts were more likely to be women (rel risk = 1.8; Taylor series 95% confidence interval = 1.1 to 3.1; p = .038); to have a history of depression (rel risk = 1.6; confidence interval = 1.1 to 2.4; p = .027); to have a previous cardiac hospitalization (rel risk = 1.3; confidence interval 1.1 to 1.7; p = .051); and to have had both parents die of cardiac disease (rel risk = 3.0; confidence interval = 1.2 to 7.4; p = .019). Backwards stepwise logistic regression analysis indicated that only previous depression (p = .035) and parental loss to cardiac disease (p = .019) had independent effects. Further, pts with a previous depression whose parents died of cardiac disease had more than six times the risk of depression as those with neither risk factor (rel risk = 6.9; confidence interval 3.4 to 13.7; p ≤ .0001). *Conclusions:* In addition to being a risk for MI, parental history of cardiac death can influence the psychiatric impact of MI.

NR459 Wednesday, May 26, 12:00 noon-2:00 p.m.

Anticipation in Bipolar Affective Disorder

Melvin G. McInnis, M.D., Psychiatry, Johns Hopkins University, Meyer 4-163 600 N. Wolfe St., Baltimore, MD 21287-7463; Francis J. McMahon, M.D., Gary A. Chase, Ph.D., Sylvia G. Simpson, M.D., Chris A. Ross, M.D., J. Raymond DePaulo, M.D.

Summary:

Anticipation refers to the increase in disease severity or decrease in age of onset in succeeding generations. If present in bipolar affective disorder, anticipation could provide clues to its genetic etiology and correlates with expansion of trinucleotide repeat sequences (TNRs) in some neuropsychiatric disorders.

We compared age of onset and disease severity (measured by episode frequency) between two generations of 34 unilineal families ascertained for a genetic linkage study of bipolar disorder. Life table analyses showed a significant decrease in survival to first mania or depression from the first to the second generation (p < .001). Intergenerational pairwise comparisons showed a significantly earlier age of onset (p < .001) and increased disease severity (p < .001) in the second generation. The second generation experienced a 8.9 to 13.5 year earlier onset and a 1.8 to 3.4 times more severe illness. In addition analyses, drug abuse, deaths of affected individuals prior to study, decreased fertility, and censoring of age of onset did not affect our results. Cox proportional hazards analysis indicated a significant effect of generational membership as well as an effect of birth year cohort.

We conclude that anticipation occurs in this sample of unilineal BPAD families. These findings may implicate genes with expanding TNRs in the genetic etiology of BPAD.

NR460 Wednesday, May 26, 12:00 noon-2:00 p.m.

A Double-Blind Comparison of Paroxetine and Amitriptyline in Community Patients With Depression and Associated Anxiety

P.C. Stott, M.B., c/o Aitken SB Pharm. Med., Mundells, Nelwyn Garden City AL71, Herts England; M.D. Blagden, M.B., C.A. Altken, B.Sc.

Summary:

A total of 505 patients with a diagnosis of depression with anxiety were evaluated in this eight-week comparison of paroxetine and amitriptyline.

Assessments on days 0, 7, 21, 35, and 56 included the Montgomery and Asberg Depression Rating Scale (MADRS), the Clinical Anxiety Scale (CAS), and Severity of Illness (CGI).

The two treatment groups were demographically well matched and showed similar reductions in mean total MADRS, CAS, and CGI scores during the study.

The number of patients reporting adverse events in this study were 161 (65%) in the paroxetine group and 185 (72%) in the amitriptyline group; however, this difference was not statistically significant. The most frequently reported events in the paroxetine

group were nausea (44/17.6%), somnolence (35/14.1%), and dry mouth (32/12.9%); with dry mouth (65/25.4%), somnolence (31/12.1%), and headache (27/10.5%) being most frequent in the amitriptyline group. In addition there were significantly more reports of tremor in the amitriptyline group, 18 (7%), with only six reports (2.4%) in the paroxetine group.

Significantly more anticholinergic events were reported in the amitriptyline group (76/30%) versus (43/17%).

These results confirm the effectiveness of paroxetine in the treatment of depression with associated symptoms of anxiety, as well as confirming the well-known side effect profile of these antidepressants.

NR461 Wednesday, May 26, 12:00 noon-2:00 p.m.

Effects of Lithium on Lymphocyte cAMP Production

Emile D. Risby, M.D., Psychiatry, Emory University, P.O. Box AF, Atlanta, GA 30322; Mark Stipetic, B.S., Neal Morgan, B.S., Timothy Ely, B.S.

Summary:

Recent investigations suggest that lithium may impair activation of signal-transducing G proteins. It is unclear as to the significance of these effects and the pathophysiology of bipolar disorders, or to lithium's mechanism of action. We assessed the activity of, and the effects of chronic lithium on, the G_s-linked β-adrenergic receptor-adenylate cyclase system in cultured lymphocytes from controls and bipolar subjects. *Methods:* After two weeks of culturing, lymphocytes were divided and lithium chloride (1 mmol) added to half of the cells. After an additional seven days, basal and isoproterenol-stimulated cAMP formation was determined. *Results:* There were no significant differences in basal or isoproterenol-stimulated cAMP formation between controls and bipolar patients, nor were there any consistent effects of lithium on these measures. *Discussion:* The data show that the β-adrenergic receptor complex remains functional in three-week-old cultured lymphocytes. Culturing lymphocytes may be a reasonable strategy to obtain drug-free cells to assess receptor functioning, without patient's having to discontinue medication. These preliminary findings indicate no abnormalities in the G_s-linked β-adrenergic receptor complex in the cultured lymphocytes of bipolar patients, nor any differential effects of lithium on this system in bipolar subjects compared to controls. These negative findings do not rule out other G protein-regulated abnormalities in bipolar patients.

NR462 Wednesday, May 26, 12:00 noon-2:00 p.m.

Antidepressant Response to Paroxetine by Gender

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Summary:

Objective: Epidemiology studies have demonstrated a higher prevalence of major depression among women. More recent evidence has suggested that a differential response to antidepressant therapy may be observed between genders (Yongers et al. *Am J Psychiatry,* 1992). The pooled results of six six-week, multicenter, placebo- and imipramine-controlled trials to assess the efficacy of paroxetine in the treatment of outpatients with major depression were analyzed retrospectively to explore the potential for gender-based variability in treatment response.

Method: Demographic variables were comparable for the 717 patients (347 males, 370 females). Baseline HAMD Total Scores were 26.5 for females and 26.3 for males. Two measures of antidepressant efficacy were analyzed: mean HAMD change from baseline to endpoint and a 50% reduction in HAMD score. *Results:* In females, paroxetine and imipramine were significantly superior to placebo for both measures. In males, neither antidepressant produced a statistically significant improvement in mean HAMD change, due in part to a high placebo response which was almost twice that observed in females. In contrast to imipramine, paroxetine was significantly superior to placebo in the number of male patients who achieved a 50% reduction in HAMD scores.

The adverse event profile for paroxetine was similar between males and females, with the exception of a higher incidence of nausea, somnolence, and insomnia in females. For imipramine, there was a higher incidence of asthenia, headache, and tremor among females.

Conclusion: These results provide further evidence for gender-specific differences in antidepressant effectiveness and tolerability.

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The Impact of Negative Emotions After Heart Attack

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Summary:

Objectives: We sought to examine the prognostic importance of self-reports of depression, anxiety, and anger following myocardial infarction (MI). *Methods:* We interviewed 199 pts one week post-MI. The following self-report instruments were completed by 192 pts: the Beck Depression Inventory (BDI), the Spielberger Anger Expression Scale (STAXI), and the state portion of the State-Trait Anxiety Inventory (STAI). There were 46 women (24%) and 69 pts with a previous MI (36%). *Results:* By six months after discharge, 12 (6.3%) of those who completed the scales had died. Logistic regression revealed that after the clinical variables of age, left ventricular ejection fraction, and creatinine phosphokinase (CPK) level were entered into a model to predict death, each psychological variable significantly improved the model (BDI, $p = .023$; STAXI, $p = .0026$; STAI, $p = .0397$). Further, each made a greater contribution than ejection fraction or CPK level. Stepwise analysis of the three scales together revealed that after the STAXI was added to the clinical model, neither the BDI nor the STAI significantly improved prediction. *Conclusions:* While the negative emotions of depression, anxiety, and anger probably each have prognostic implications following MI, their impact is not independent of each other. Anger may be particularly important. Additional research is needed to assess the pathophysiological mechanisms involved.

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Social Factors and Depression After Heart Attack

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Summary:

Objectives: Recent studies link low income, social isolation, and depression with mortality after myocardial infarction (MI), but mechanisms are unclear. We hypothesized that the increased risk of low income and socially isolated pts is mediated by depression. *Methods:* We interviewed 358 pts (22% women) aged 24 to 88 (mean 58.2) one week post-MI. A total of 24.3% had a previous MI. Pts responded to the Beck Depression Inventory (BDI) and questions about income and social network. *Results:* Pts were classified into four income groups: < $12,000 ($n = 57$); $12,000 to $23,999 ($n = 101$); $24,000 to $35,999 ($n = 110$), and $36,000 or more ($n = 90$). Overall 21.5% said they had no close friends. The lower the income, the higher the mean BDI score (from low to high income: 11.0 ± 1.2, 8.3 ± 0.8, 7.7 ± 0.7, 6.0 ± 0.6; $p = .02$). Further, 49.1% of the pts in the lowest income group had BDI scores of 10 or more indicating some degree of depression. Only

21.1% of those with incomes > $36,000 had elevated BDI scores. Pts without friends had higher mean BDI scores (9.6 ± 1.2) than those with friends (7.5 ± 0.4; p = .02). Interactions were not significant, and control for age, sex, and previous MI did not alter results. *Conclusions:* Low income and social isolation are associated with depressive symptomatology after MI, supporting the view that depression mediates between social factors and mortality. Long-term follow-up will provide a complete test of this hypothesis.

NR465 Wednesday, May 26, 12:00 noon-2:00 p.m.

Double-Blind Study of Fluoxetine Adjuncts in Major Depressive Disorder

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Summary:

The aim of our study was to evaluate whether the use of adjunctive medications with a standard dose of fluoxetine was more effective than fluoxetine alone or higher doses among patients who had failed an open trial of fluoxetine of adequate duration. We have studied 41 outpatients (mean age: 39.6 ± 9.9; 25 women and 16 men) who had met criteria for MDD and had shown inadequate response to treatment for eight weeks with fluoxetine 20 mg/day. These patients, prospectively stratified for non- or partial response, were then enrolled in a four-week study where they were randomized to receive one of three treatments: fluoxetine 40-60 mg/day, fluoxetine 20 mg plus desipramine 25-50 mg/day, or fluoxetine 20 mg plus lithium 300-600 mg/day. While there were no differences in HAM-D-17 scores between the three groups either at baseline or before the four-week study, at endpoint patients treated with high-dose fluoxetine (n = 15) had significantly (p = 0.05) lower HAM-D-17 scores than patients on fluoxetine plus despramine (n = 12) and fluoxetine plus lithium (n = 14). Because the sample sizes are small, conclusions are preliminary and require replication. These results, however, are consistent with previous findings which suggest the clinical usefulness of increasing the dose to 40 or 60 mg/day when patients fail to respond to fluoxetine 20 mg/day for eight weeks.

NR466 Wednesday, May 26, 12:00 noon-2:00 p.m.

Low CSF CRH Concentrations in Depressed Patients

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Summary:

Abnormalities in both corticotropin-releasing hormone (CRH) secretion and noradrenergic transmission in the central nervous system have been hypothesized to occur in patients with mood disorders. Cerebrospinal fluid (CSF) sampling studies have heretofore been restricted almost wholly to measuring neuroactive substances in CSF at a single time after lumbar puncture. We sampled spinal canal CSF continuously from 1100 h to 1700 h in ten patients with major depressive disorder and ten normal comparison subjects. We measured CRH and norepinephrine (NE) at 10 min intervals to obtain 37 serial concentrations per subjects. A standardized mixed liquid mean was consumed at 1300 h, breaking a 17 h fast.

Significant intra-individual variation was observed in both CSF CRH and NE concentrations during the sampling interval, with CRH showing rapid transients consistent with pulsatile release into and rapid removal from CSF. The half-life of CRH in human CSF was estimated to be no more than 10 min. Mean CSF CRH concentrations were reduced in depressed patients compared with normal subjects (27 ± 5 vs. 54 ± pg/ml, p < 0.02, values expressed as Mean ± SEM), while CSF NE concentrations were similar in the two groups (1.2 ± 0.27 vs. 1.1 ± 0.26 pmol/ml in depressed patients and normal volunteers, respectively, p = 0.97, ns). Both CSF NE and CRH rose during the sampling interval in both groups, suggesting either diurnal rhythms or responses to feeding.

These data indicate that severe depression can exist in the context of low CSF CRH concentrations. The normal CSF NE concentrations in our depressed cohort are compatible with prior reports of normal single a.m. CSF NE levels in depressed patients. The intra- and inter-individual relationships between CSF CRH and CSF NE and between these centrally elaborated neurochemicals and ACTH and cortisol in the plasma will be presented.

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The Clinician Administered Rating Scale for Mania (CARS-M)

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Summary:

Objective: The authors describe the development, reliability, and validity of the Clinician-Administered Rating Scale for Mania (CARS-M). The CARS-M represents an improvement over other scales in that it facilitates *DSM-III-R* diagnoses, has more clearly defined anchor points and operational definitions, and uses a standardized semi-structured interview format. *Method:* Reliability was established by having eight raters independently view and rate then videotaped patient interviews. All 15 items had acceptable reliability, with a mean intraclass correlation coefficient of .75 (range .54 to .98). Agreement among raters for each patient across items was also very good, with a mean intraclass of .78 (range .60 to .98). To establish validity, the CARS-M and the YMS were administered to 96 acute and chronic adult inpatients (24 schizophrenics, 26 major depressives, 32 bipolar manics, and 14 schizoaffectives) during baseline and post treatment. *Results and Conclusions:* Concurrent validity of CARS-M total scores with YMS total scores was excellent (r = .939). 14 of 15 items correlated significantly with the CARS-M total score, showing good internal validity. Also, principal components analysis revealed two prominent factors, one for mania, and one for psychosis. Finally, discriminant function analysis showed excellent sensitivity (88%) and specificity (98%), demonstrating the usefulness of the CARS-M to discriminate bipolar manic patients from other diagnostic groups.

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A Double-Blind, Parallel Group, Comparative Study of the Efficacy of Paroxetine and Placebo in Preventing Recurrence of Depression

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Summary:

A double-blind, parallel group, comparative study of the efficacy of Paroxetine (2-30 mg) and placebo in preventing recurrence of depression was carried out. Eligible patients fulfilled *DSM-III-R* criteria for recurrent unipolar major depression. All patients who entered the study (n = 172) received eight weeks open treatment with Paroxetine. Responders (n = 135) were then randomized to receive Paroxetine (n = 68) or placebo (n = 67) for the one year

double-blind phase. Demographic data from these two patient groups were well matched. Reappearance of depression during weeks 17-52 for patients euthymic up to week 16 was treated as recurrence. Recurrence occurred in 9/66 Paroxetine patients and in 16/54 placebo patients. The difference in the overall rate of recurrence was significant ($p < 0.05$), as was the delay in the onset of new depressive episodes in the Paroxetine group, ($p < 0.5$). Paroxetine had no clinically significant effect on vital signs or laboratory data throughout this study, and its side effect profile was identical to placebo. These results clearly demonstrate the efficacy of Paroxetine in preventing the occurrence of new episodes of depression over a one-year period. In addition to its efficacy, Paroxetine's low side effect profile confirms its suitability for longterm treatment.

NR469 Wednesday, May 26, 12:00 noon-2:00 p.m.

Social Adaptation in Chronic Depression

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Summary:

Dysthymia is a debilitating psychiatric disorder with considerable social morbidity. Although previous research has given sizeable attention to the symptoms of chronic depression, research has left largely unexplored what dysthymic people are like in their daily lives. Relatively little attention has been paid to the disruptive effects of a chronic depressive illness on social and interpersonal adjustment. Moreover, longitudinal studies of the adjustment of dysthymic patients in their various social roles and interpersonal dynamics are scant. Therefore, the present study seeks to investigate longitudinally how chronic depression affects social adaptation and interpersonal adjustment. How long do maladjustments remain during treatment and recovery? Which aspects of social and interpersonal functioning are responsive to pharmacologic treatment and which endure?

Methods: Medically healthy outpatients meeting *DSM-III-R* criteria for primary, early onset dysthymia, received an open trial of DMI up to 250 mg/d. A 54-item self-report instrument, the Social Adjustment Scale-Self Report (SAS-SR), was used to assess change in social adaptation and interpersonal functioning at weeks 0, 10, and week 26. Also, subjects were rated biweekly on the 24-item Hamilton Depression Rating Scale (HAM-D) and the Global Assessment Scale (GAS).

Results: 22 patients have completed the study to date. Preliminary results demonstrate marked changes in social adaptation. Repeated measures analyses revealed statistically significant effects for time in overall social adjustment (baseline mean 2.4 ± .40, ten weeks posttreatment mean 2.1 ± .42 and 26 weeks posttreatment mean 1.9 ± .41; MANOVA $F = 11.07$ $p < .001$), improved social adaptation in leisure time activities (MANOVA $F = 14.84$ $p < .001$,), and a trend in adjustment of financial responsibilities (MANOVA $F = 2.62$ $p < .086$).

Significance: A review of the literature suggests that remarkably little has been firmly established as to the nature and course of social adaptation for patients who suffer from chronic depression. A longitudinal study of social and interpersonal adjustment of patients with dysthymia can be of great interest and clinical utility. Better knowledge of the specific areas of social adjustment that are most compromised by chronic depression can be useful for diagnosis, therapy, and rehabilitation.

NR470 Wednesday, May 26, 12:00 noon-2:00 p.m.

Family Studies: Correlates of Diagnosis Reliability

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Summary:

Genetic linkage studies are extremely sensitive to phenotypic misclassification. Phenotypic uncertainties are probably one major reason underlying the recent failures to replicate linkage for schizophrenia (SZ) or bipolar disorder (BP) (Baron et al, 1990). We have designed appropriate psychiatric genetic methods (Maziade et al, 1992) to identify methodological and clinical factors that diminish the reliability or the certainty level of diagnosis assignments. To our knowledge, very few studies have investigated these factors. In the present study, we now assess the different correlates of reliability of consensus best estimate diagnoses in a sample of subjects from large pedigrees densely affected either by SZ or BP ($N = 63$). Our results confirm that blindness to probands and relatives' status remains the single major factor influencing reliability of the best estimate diagnosis (Maziade et al, 1992). We further observed that a critical cut-off on certain operational measures of quantity or quality of lifetime clinical information extracted from medical records, personal interviews, and family history interviews as well as parameters such as the number of hospitalizations, type of prodrome, duration of illness, inter-episode, and residual GAS, are related to a significant decrease in interdiagnostician reliability. Contrary to the claims of some, knowledge of the response to treatment is not associated with a loss of interdiagnostician reliability of the best estimate diagnosis in our sample. Implications for the methods and analysis of new pedigree studies of SZ and BP will be discussed; especially the possibility of targeting in advance specific cases that are more likely to lead to interdiagnostician disagreement.

NR471 Wednesday, May 26, 12:00 noon-2:00 p.m.

Cerebral SPECT Findings in Depression

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Summary:

Studies using positron emission tomography have shown hypometabolism in the left anterolateral prefrontal cortex in depressed patients (1). In an attempt to confirm and extend these findings in an ongoing study, utilizing high resolution single photon emission computed tomography (SPECT) to assess regional radionuclide uptake, we have thus far examined 14 acutely depressed patients (9 women, 5 men; mean ± SD age = 70.0 ± 13.2 years and Hamilton Depression Rating Scale scores = 24.4 ± 9.8) and 29 normal controls (19 women, 10 men; mean age = 66.4 ± 12.4 years). Scans using Technetium labeled HMPAO (Ceretec) were performed on a dedicated brain SPECT system. Scans of the depressed patients and control subjects were randomized and blindly read by three senior radiologists. Foci of decreased uptake were assessed by number and location. The Kolmogorov-Smirnov test was employed to compare regional data. The lateral frontal region was the only brain region exhibiting significantly ($p < .01$) more perfusion defects in the depressed patients (1.36 ± 1.5) than in controls (0.30 ± 0.75). None of the other brain regions (basal ganglia, thalamus, medial frontal, medial and lateral temporal, and occipital lobes) revealed differences between depressed patients and controls. Data on semi-quantitative assessments of bihemispheric regional cerebral blood flow as well as correlations between perfusion defects and corresponding magnetic resonance imaging findings in the depressed patients are being analyzed and will be presented.

NR472 Wednesday, May 26, 12:00 noon-2:00 p.m.

Depression Versus Borderline Symptom Levels With Age

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Summary:

Objective: To compare adolescent vs. adult self- and rater-judged symptom levels among severely disturbed inpatient's at the Yale Psychiatric Institute with major depressive disorder (MDD, total N = 57), borderline personality disorder (BPD, N = 36) and comorbid MDD and BPD (MDD/BPD, N = 60). *Methods:* Reliable diagnoses were made using structured interviews for Axis I (SADS & K-SADS) and Axis II (PDE). Symptoms were also ascertained with the BPRS by a separate rater and by self-report SCL-90's. Symptom levels were compared between adolescent (age < 18) and adult (age ≥ 18) groups within cohorts. *Results:* Overall, levels of symptoms were highest for MDD/BPD and lowest for MDD. On both BPRS and SCL-90, symptom level changed the least between adolescence and adulthood for MDD/BPD and most for BPD. The direction of change with age was almost always a worsening in level of symptoms for BPD and MDD, but not always for MDD/BPD. *Significance:* Between adolescence and adulthood, BPD appears to become much worse. Symptomatically, MDD is somewhat worse and MDD/BPD changes the least, perhaps because it is so severe to begin with. Results highlight that the adult forms of BPD and MDD are more symptomatic than their adolescent counterparts, especially in BPD.

NR473 Wednesday, May 26, 12:00 noon-2:00 p.m.

Effects of Sertraline Antidepressant Therapy on Quality of Life: A Double-Blind Trial

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Summary:

Most research on the effectiveness of antidepressants has emphasized the specific effects of these agents on target symptoms of depression (mood, sleep, and appetite, etc.). Antidepressant agents with similar antidepressant efficacy may have significantly different effects on other important aspects of everyday living (concentration, sexual functioning, weight gain, sedation, etc.). Such symptoms can remain significant problems for patients and for some are a cause of noncompliance. Quality of life assessment tools provide a way of assessing the *effectiveness* of agents used in the treatment of depression as well as the efficacy. A total of 398 adult outpatients with *DSM-III-R* major depression were treated with either sertraline, amitriptyline, or placebo in an eight-week, randomized, double-blind multicenter study. Ratings for depression (Hamilton, Montgomery-Asberg, Beck) and assessment of quality of life utilizing two recently developed and validated scales were completed. Other assessments included measures of cognitive functioning. Both sertraline and amitriptyline were superior to placebo ($p < 0.05$) in antidepressant efficacy. Sertraline also produced a significant improvement in Quality of Life measures. In addition to presenting these comparative data, a discussion of the two new quality of life scales will be presented.

NR474 Wednesday, May 26, 12:00 noon-2:00 p.m.

Effect of Phototherapy on the QEEG in SAD Patients

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Summary:

Objective: Seasonal affective disorder (SAD) represents an ideal condition in which to study the effects of treatment on brain function, as light therapy provides a powerful means of attenuating core vegetative symptoms without the confounding effects of medication. We sought to ascertain whether there were changes in EEG parameters following light therapy that correlate with clinical response. *Method:* Patients were diagnosed with SAD using NIMH criteria. Symptoms were rated prior to, and following light therapy, using a structured Hamilton Depression Scale (21 items), and an eight item addendum for atypical symptoms (hypersomnia, weight gain, carbohydrate craving). EEGs were obtained using a QSI-9000 (19 electrodes, 10-20 system, linked ears). Artifact free EEGs (two minutes, eyes closed) were analyzed via FFT to calculate alpha wave power (8-13.6 Hz). *Results:* To date, nine patients (mean age 38 yr) have been studied. Following phototherapy, there was a prominent decrease in alpha wave power in the left temperoprietal region (T5, P3), that inversely correlated with reduction in depression score (T5: $r = 0.737$, $p < 0.024$). Phototherapy altered alpha activity in frontal and central leads, though the effect depended on the severity of pretreatment atypical symptoms. Alpha activity was increased in patients with prominent atypical symptoms, and decreased in patients with fewer atypical symptoms. *Conclusions:* Phototherapy alters alpha wave activity in patients with SAD, however, the magnitude of the effect may depend on the nature of their depressive symptoms.

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Epiletoid Features, Mood Disorders and Psychopathology

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Summary:

We evaluated 39 psychiatric patients (26 bipolar, 5 unipolar, and 8 schizoaffective) for the presence of epileptoid features and psychopatholoy. One investigator assessed psychopathology using a semi-structured interview which included items for the SANS, the SAPS, and additional items to make *DSM-III-R* diagnosis. Epileptoid features were assessed by another investigator using an instrument—Profile of Psychomotor Symptoms (POPS). We further divided epileptoid features in sensory, emotional, interictal behavioral, and neurological categories. By a thorough chart review, we obtained additional information regarding patient's psychiatric and drug history, family history, past and present medications, drug abuse, and EEG findings. We also rated each patient on an impairment rating scale (IRS). We used the total IRS score as a measure of chronicity. About 34.4% of the sample reported presence of four or more recent epileptoid features, while 55.8% of the sample reported experiencing epileptoid features in the past. Sensory, emotional, and neurologic features, correlated with each other and with positive, nonaffective psychotic features (e.g., hallucinations and delusions). There was no correlation between sensory, emotional, and neurologic epileptoid features and negative symptoms. Past interictal behavioral epileptoid features correlated with positive and negative psychotic symptoms and manic symptoms but did not correlate with either sensory or neurological epoleptoid features. There was no correlation between epileptoid features and IRS scores.

Conclusion: Epileptoid features are frequently reported in mood disorders and their presence does not suggest chronicity. Epileptoid features in bipolar patients can be categorized into two groups. Our data suggest sensory, emotional, and neurologic features have a strong relationship with each other and nonaffective positive psy-

chotic features. The relationship between interictal behavioral features and psychopathology is non-specific in nature.

NR476 Wednesday, May 26, 12:00 noon-2:00 p.m.

Alpha-Methyl-Para-Tyrosine in Drug-Free Depressed Patients

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Summary:

A variety of biological studies demonstrate abnormal regulation of the norepinephrine (NE) system in patients with major depression, suggesting a role for NE in the etiology of depression. Brain NE and dopamine can be rapidly reduced by inhibiting their synthesis with the tyrosine hydroxylase inhibitor alpha-methyl-para-tyrosine (AMPT). We gave AMPT to drug-free depressed patients in order to evaluate the effects on mood of lowering catecholamine levels. *Methods:* In an ongoing study, drug-free patients meeting *DSM-III-R* criteria for major depression were tested with AMPT and placebo tests. Testing was accomplished in a double-blind, placebo-controlled, crossover fashion, with random assignment to test conditions. Each test included baseline testing, two days with administration of either AMPT 1 gm TID or diphenhydramine 50 mg TID, and a follow-up day. Diphenhydramine was used as an "active placebo" because of the significant sedation associated with AMPT. Behavioral ratings of mood, including the Hamilton Depression Rating Scale (HDRS), and plasma for MHPG and HVA levels were obtained. *Results:* Two out of 11 drug-free depressed patients experienced an exacerbation of depressive symptoms (increase in HDRS score $\geq$ 10) during AMPT testing but not during control testing. A trend of decreasing HDRS scores during diphenhydramine testing was noted, but differences between the two groups were not significant. These findings contrast with earlier reports of exacerbation of depression during AMPT administration, and with our own findings that depressed patients in remission after desipramine treatment experience a relapse when challenged with AMPT. A larger sample size and more complete data analysis will be presented.

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Cortisol, Depression and Smoking Cessation

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Summary:

Although a history of major depressive disorder has been found to result in increased risk for nicotine dependence and an increased likelihood of relapse following smoking cessation, the neurochemical mechanisms that might underlie such an association remain undefined. Nicotine is known to alter ACTH and cortisol, and alterations in circulating adrenal steroid level have been found to directly affect nicotine sensitivity. The present study examined whether individual variations in depressive history and cortisol regulation might contribute to outcome in smoking cessation interventions. Sixty-five subjects stratified on lifetime history of depression were assigned to quit smoking after two or six weeks of behavioral intervention involving cognitive and aversive therapy approaches. Assessments, including a behavioral battery, dexamethasone suppression, and compliance monitoring utilizing urinary cotinine were administered at baseline, at two and four weeks following quitting, and at weeks 26 and 52. Baseline pre-dexamethasone cortisol was able to significantly predict continuous abstainers after one year. Successful abstainers at week 52 differed from eventual non-abstainers in cortisol level even after four weeks of successful abstention. Cortisol values at two weeks post-quit were significantly correlated with subjective mood ratings and indices of withdrawal severity, particularly in individuals who had a history of major depressive disorder. The data indicate that nicotine sensitivity may be modulated by endogenous variations in corticosteroid secretion which in turn may serve as a determinant of success in smoking cessation.

NR478 Wednesday, May 26, 12:00 noon-2:00 p.m.

Sleep Deprivation and Nortriptyline in Depression

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Summary:

One night's total sleep deprivation (SD) has been shown to produce a beneficial effect in about 60% of persons with major depression (MDD). Most relapse after one night of recovery sleep. Our preliminary study indicated that combining nortriptyline (NOR) with SD significantly extended the effect. The current study is the report of the data collection from the first two years of a five-year project evaluating the effects of combining SD with nortriptyline (NOR). *Methods:* Subjects were randomized into three groups: SD + NOR (titrated to 75 mg/HS) (group 1). NOR alone (group 2), and SD + placebo (group 3). SD subjects were kept awake for 36 hours. All subjects were rated blindly at baseline and days +1 − 14, 21, and 28 post-SD using a modified version of the Hamilton Rating Scale for Depression (HRSD) (the Sleep Deprivation Depression Rating Scale [SDDRS]). *Results:* Subjects were randomized as follows: group 1-17, group 2-15, group 3-14. The mean age of the total sample was 37.24 ± 8.39 and 26/46 (56%) were women. Baseline ratings (by groups) were for HRSD: 1 − 30.2 ± 6.8, 2 − 32.1 ± 7.0, 3 − 33.3 ± 7.5; for SDDRS: 1 − 23.8 ± 6.4, 2 − 24.1 ± 4.9, 3 − 25.2 ± 6.9. Of the subjects who completed at least two days post SD, the following showed $\geq$ 30% reduction of SDDRS ratings on the day following SD (by groups): 1 − 8/15 (53%), 2 − 7/14 (50%), 3 − 3/11 (27%) (Chi^2 = NS). By contrast, SDDRS on the day following recovery sleep showed: 1 − 10/13 (77%), 2 − 1/12 (8%), 3 − 0/11 (Chi^2 = 7.25, $p < 0.03$). These data indicates a favorable initial response for the combined treatment. A total sample of 78 subjects will be presented with follow-up data.

NR479 Wednesday, May 26, 12:00 noon-2:00 p.m.

Fluoxetine versus Bupropion in Geriatric Depression

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Summary:

Bupropion and fluoxetine are both commonly used in the treatment of geriatric depression. The comparative efficacy of these two antidepressants in medically ill, elderly depressed patient has not previously been studied. *Method:* 24 subjects, aged 51 to 92 (mean 70), with medical illness who met *DSM-III-R* criteria for major depression were randomly assigned to fluoxetine (maximum dose 40 mg/day) or bupropion (maximum dose 450 mg/day) in an eight-week, double-blind study. Severity of depression was assessed using the 25-item Hamilton Depression Rating Scale (HDRS). Treatment response was defined as a decrease in HDRS score of at least 50% and a total score $\leq$ 10. Partial treatment response was defined as a decrease in HDRS score of at least 50% and a total score $>$ 10 and $\leq$ 15. *Results:* three out of 11 patients randomized to fluoxetine had a treatment response, using the criteria above. An additional three fluoxetine-treated patients had a partial

treatment response. None of the 13 patients receiving bupropion responded to treatment. Three patients (two in the bupropion group and one in the fluoxetine group) discontinued treatment because of medication side-effects. An additional four patients, all in the bupropion group, discontinued treatment because of worsening medical problems. *Discussion:* Preliminary data from this ongoing study suggest that fluoxetine is more efficacious and is better tolerated than bupropion in a medically ill, geriatric population. More complete data will be presented.

NR480 Wednesday, May 26, 12:00 noon-2:00 p.m.

A Survey of Clinical Depression Rates Among Vietnamese-American Men in Three Communities

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Summary:

Objective: To determine the prevalence of clinical depression among Vietnamese men in the US. *Methods:* In a computer-assisted telephone interview survey of smoking behaviors, the depression subscale of the Indochinese Hopkins Symptom Checklist-25 was administered to 3,669 Vietnamese men residing in three locales during November and December of 1992. In previous validation studies, this instrument (at a cut-point of > 1.75) accurately identified Vietnamese refugees with current *DSM-III-R* major depression. Our sampling frame was area telephone book listings with common Vietnamese surnames. Telephone numbers were randomly selected and dialed. In contacted households, all males 18 years of age or older able to understand Vietnamese were enumerated and one male randomly selected. *Results:* The compliance rate was 88% at all sites:

Site	N	Checklist Positive	Major Depression
Alameda/San Francisco Cnty	1201	13.8%	10.8%
Santa Clara County	1262	12.2%	8.9%
Houston	1206	12.1%	8.8%

*estimated prevalence assuming a sensitivity of 86% and a specificity of 95% for major depression. *Conclusions:* These data highlight the public health importance of depression among this rapidly growing population.

NR481 Wednesday, May 26, 12:00 noon-2:00 p.m.

Depression Associated With Lorazepam and Ipsapirone Treatment in Generalized Anxiety Disorder

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Summary:

Depression is frequently reported as a side effect associated with benzodiazepine treatment (Gilman et al, 1985; Gelenberg et al, 1991). As part of a multicenter, double-blind, randomized, placebo-controlled trial investigating the comparative anxiolytic efficacy of the azapirone, ipsapirone, and the benzodiazepine, lorazepam, versus placebo in generalized anxiety disorder (GAD), we examined the incidence and severity of depressive symptoms in the two treatment groups versus placebo. Patients who met entry criteria were randomized to lorazepam (2-6mg/day), ipsapirone (10-30mg), or placebo tid for a four-week acute treatment period, with an option for a four-week extension. Worsening or emergence of depression was assessed with HAM-D ratings performed at baseline, weeks 2 and 4 of the acute phase, and at the end of the extension period. Two-hundred and sixty-three patients (96 males and 167 females, age range 18 to 78 years) were valid for analysis of efficacy after the four-week acute treatment period, and 254 completed the acute phase. HAM-D scores were reduced significantly from baseline in all groups; HAM-D core items significantly decreased in all but the lorazepam group. Individual incidents of depression were more frequent in the lorazepam group (9/104; 8.7%) compared to ipsapirone (4/106; 3.8%) and placebo (5/105; 4.8%). There was also an earlier onset and greater severity of depressive symptoms in lorazepam patients, with four severe episodes in lorazepam patients compared to none in the other two groups. These findings are consistent with early reports that depression may occasionally be associated with benzodiazepine treatment.

NR482 Wednesday, May 26, 12:00 noon-2:00 p.m.

Down Regulation of the Platelet Alpha2-Adrenoceptor-Mediated Function

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Summary:

Following the aminergic hypothesis of depression[1], a particular interest has been focused on the platelet model, whose biochemical and pharmacological similarities to the neural cell have made attractive. In our research, we compared biochemical and functional measures of platelet alpha2-adrenergic receptors (AR) of 25 drug-free depressed patients and 25 control subjects and investigated the correlation between those measures. Platelet alpah2-AR-mediated primary aggregation was initiated by increasing concentrations of epinephrine (0.1-100μM) and monitored in an aggregometer, while alpha2-AR-mediated inhibition of adenylate cyclase (AC) activity was initiated by epinephrine (10^{-4}M) on platelet membranes of the same samples. Results showed a desensitization of the receptor both with biochemical and functional analyses: 1)-by a decrease in the forskolin-stimulated AC inhibition of patients; 2)-by a decrease in the initial velocity and maximum amplitude of the platelet response to increasing concentrations of epinephrine. Furthermore, a positive and significant correlation between platelet aggregation and AC inhibition was observed. This suggests an impairment of platelet alpha2-AR which could be due to a lessening of the effector coupling. Together with the previous result[2] this report supports the concept of platelet alpha2-AR down regulation in depression and raises the question of the relationship between the AC inhibition and the platelet aggregation.

This work was supported by the Swiss National Fund for Scientific Research. Grant No. 32-28644.90.

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Pupillary Response to Pilocarpine in Depression

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Summary:

A number of previous studies have suggested that patients with major depression may have a cholinergic supersensitivity. The present study utilizes a novel measure to examine this relationship. Cholinergic sensitivity was quantified by changes in pupil diameter following graded topical doses of pilocarpine eye drops. Responses were expressed as ED_{50} values referenced to pupils fully dilated with tropicamide. Miotic responses to cholinergic agonists are known to be mediated through M-3 muscarinic receptors. The results confirmed that depressed patients had significantly lower ED_{50} values than controls. At present, this difference does not appear to be state dependent and could reflect a trait difference

between these groups. The results confirm the presence of cholinergic supersensitivity in depressed patients and further indicate that this condition is expressed by M-3 muscarinic receptors.

NR484 Wednesday, May 26, 12:00 noon-2:00 p.m.

Depressed Mood and OCRH Test in Cushing's Disease

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Summary:

Objective: The oCRH test is a useful tool for comparing similarities and differences in the pathophysiology of Cushing's Disease (CD) and major depressive disorder (MDD). Studies reported in the literature indicate a substantial overlap (20-30%) in the ACTH response to oCRH in the two disorders. In order to explore this overlap further, we examined the response to oCRH in eight consecutive CD patients by taking into account their mood status, which has not been done previously.

Methods: Two subgroups were defined: Depressed mood (DM) present or absent. An indwelling catheter was placed two days prior to testing. At 4 pm oCRH (1 μg/kg) was administered Blood samples for ACTH and cortisol levels were obtained at −15, −5, 0, 15, 30, 45, 60, 90, and 120 minutes.

Results: Four patients fell in each subgroup: DM present or absent. Mean modified 17-item Hamilton Depression Scores of the two groups were 16.0 and 5.3, respectively ($t = 4.3$, $p = .01$). The peak ACTH percent change from time 0 was 113% in patients with DM vs 359% in those without DM ($t = 3.5$, $p = .03$). The mean ACTH percent change over the entire secretory period (15-120 minutes) was 43% in those with DM vs 243% ($t = 3.9$, $p = .03$). RM ANOVA for ACTH percent change during this secretory period showed a trend for difference between groups over time ($F = 12.6$, $p = .08$), and was significant for the main effect of depressed mood group status ($F = 14.9$, $p = .008$). Examination of the secretory patterns revealed that patients with DM turned off secretion of ACTH earlier. Differences were also observed in the pattern of cortisol secretion between the groups over time ($F = 34.5$, $p = .03$).

Conclusions: Comparing the two subgroups of CD patients, patients with DM demonstrated a significantly reduced ACTH response to oCRH. This is consistent with studies showing attenuated ACTH responses to oCRH in MDD patients compared to nondepressed control subjects. Several pathophysiologic mechanisms are suggested by these results.

NR485 Wednesday, May 26, 12:00 noon-2:00 p.m.

Major Depression and the Five-Factor Model of Personality

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Summary:

While the five personality dimensions that compose the five-factor model of personality—neuroticism (N), extraversion (E), openness (O), aggreeableness (A) and conscientiousness (C) constitute a comprehensive description of personality characteristics in "normals," there is less understanding as to their applicability to clinical populations. The aim of this study was to identify which of the five-factor model dimensions, as measured by the NEO Personality Inventory (NEO-PI) are associated with and/or influenced by depression in a sample of depressed outpatients receiving pharmacotherapy. NEO-PI scores at treatment entry (Time 1) were compared to scores obtained after three months whether recovered or non-recovered (Time 2). Fifty-seven patients (41 recovered, 16 non-recovered) completed the assessment at Time 1 and Time 2. Repeated measures analysis of variance revealed that the N and E dimensions were altered by the depressive episode, with patients scoring higher on the N dimension and lower on the E dimension (i.e., introverted). A hierarchial multiple regression analysis indicated that severity of depression at Time 1 was predictive of treatment improvement at Time 2. N failed to contribute significantly to the model, independent of depressed mood, while E was a significant predictor of improvement independent of depressed mood.

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Comborbid Patterns in Treatment Resistant Depression

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Summary:

Objective: The clinical features and patterns of comorbidity were examined in patients with treatment resistant depression. *Method:* Structured clinical interviews were conducted on 31 consecutive referrals to a specialized mood disorder unit. Additional information was obtained from chart reviews and interviews with at least one family member. Twenty (65%) had unipolar depression and 11 (35%) had bipolar depression using *DSM-III-R (SCID)* criteria. Twenty-two (71%) of the patients were females and nine (29%) were males (mean age = 38.4). *Results:* The mean age of onset for the entire sample was 22.4 (range 5 − 48), and the mean number of previous episodes was 6.7. Using *SCID* criteria, 81% percent of these patients were found to have at least one other Axis I diagnosis, 51% had at least two additional Axis I diagnoses, and 25.9% had three or more. The average number of comorbid diagnoses was 2.4 (range 0 − 5). The unipolar group had significantly more comorbid diagnoses than the bipolar group (means of 2.9 and 1.4, respectively; $F = 6.2$, $p < .02$, ANOVA). The most frequent comorbid diagnoses were from the category of anxiety disorders. *Conclusion:* Patients with treatment resistant depression of unipolar type have significantly more comorbid diagnoses than those with bipolar type. These findings suggest differential sources of treatment resistant between the two types of depression.

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Postpartum Depression and Perceptual Defense

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Summary:

Objective: To assess the relationship between vulnerability to postpartum depression and perceptual defense evoked by tachistoscopic stimuli alluding to perinatal themes in pregnant women. Tachistoscopic stimuli have been shown to produce different thresholds of conscious identification according to their emotional content; a phenomenon termed perceptual defense.

Method: 413 women in their third or fourth month of pregnancy were asked to identify 14 pictures and 18 verbal stimuli shown for initially very brief but increasing durations. Presentation times required for a correct identification were measured. Depression was assessed, at two and six months postdelivery, by the Hamilton Rating Scale : 53 women were defined as depressed by a Ham-D ≥ 15.

Results: Discriminant analysis showed that the women who would become depressed seven to 11 months later were slower than the non depressed ($p < .0001$) to identify five stimuli alluding to pregnancy, sexuality or a father-image.

Conclusions: Perceptual defense contributes to the detection and study of conscious or unconscious attitudes of pregnant women. The results indicate that particular attitudes towards the themes of being pregnant, of sexuality and of the father could be components of a psychological predisposition to the development of a depressed mood in the postpartum.

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Lithium Discontinuation in Seasonal Mood Disorder

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Summary:

Objective: The regular succession of the course of seasonal mood disorder (SMD) represents a useful psychobiological model to assess the outcome of lithium treatment. *Method:* We compared two groups of 25 seasonal patients and 95 non-seasonal ones on prophylactic Lithium for at least one year. All subjects, from a population of 225 patients were followed by one of the authors (LT) at "Centro Bini," an outpatient lithium clinic in Cagliari, Italy. Variables considered were: age, sex, diagnoses, age and type of first episode, number of episodes, effectiveness and discontinuation of the treatment.

Results: Lithium treatment was effective in 72% of seasonal patients and 75% of nonseasonal ones. After lithium discontinuation, six depressive recurrences, out of seven, in the seasonal group occurred in the same 60 day-period of the year as the pre-lithium course. Patients who did not relapse were followed-up for at least 53 months. The effectiveness of a second treatment with Lithium was the same in six of seven seasonal patients, and the same or better in 13 of 18 non-seasonal ones.

Conclusions: Prophylactic Li treatment is equally effective in seasonal and non-seasonal patients. The recurrences after Lithium discontinuation in the same period of the year might be against the hypotheses of both withdrawal syndrome and rebound effect after therapy discontinuation.

NR489 Wednesday, May 26, 12:00 noon-2:00 p.m.

Age and Personality Disorder Development

Thomas H. McGlashan, M.D., Yale Institute, P.O. Box 12 A, New Haven, CT 06520; Donald Quinlan, Ph.D., William S. Edell, Ph.D., David Greenfeld, M.D.

Summary:

Objective: To compare the rates of comprehensively assessed *DSM-III-R* personality disorders (PD) in samples of adolescent (age < 18; $N = 165$) and adult inpatients (age ≥ 18; $N = 141$) at the Yale Psychiatric Institute. *Methods:* Structured diagnostic interviews with the Personality Disorder Examination were given to consecutive hospital admissions to ascertain Axis II disorders. Inter-rater reliabilities were tested and proved adequate. *Results:* The following PD's had *stable* prevalences between adolescence and adulthood: paranoid (5%), schizoid (1-2%), schizotypal (6-8%), histrionic (7-8%), narcissistic (4-5%), NOS (10-11%), and possibly compulsive (2-4%). *Decreasing* prevalence between adolescent and adult samples were seen for passive aggressive PD (17% to 8%, $P = .012$) and a weak trend for borderline PD (46% to 39%, $P = .15$). Increasing prevalences between adolescence and adulthood were seen for avoidant PD (6% to 13%, $P = .08$), and dependent PD (5% to 14%, $P = .008$). *Significance:* Cluster C PD's proved to be the most sensitive to development age in a sample of severely ill inpatients, but in different directions. Passive aggressive PD was seen most often during a developmentally dependent period and both avoidant PD and dependent PD increased substantially during a period when independent behavior is more normal and expected.

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Symptom Profiles: Depression and BPD

Thomas H. McGlashan, M.D., Yale Institute, P.O. Box 12 A, New Haven, CT 06520; Donald Quinlan, Ph.D., William S. Edell, Ph.D., David Greenfeld, M.D.

Summary:

Objective: To compare self- and rater-judged symptom levels among severely ill adolescent and adult inpatients at the Yale Psychiatric Institute with major depressive disorder (MDD, $N = 57$), borderline personality disorder (BPD, $N = 36$) and comorbid MDD and BPD (MDD/BPD, $N = 60$). *Methods:* Reliable diagnoses were made using structured interviews for Axis I (SADS & K-SADS) and Axis II (PDE). Symptoms were ascertained independently with the BPRS and by self-report SCL-90's.

Results: On SCL-90, total symptoms, MDD/BPD is nonsignificantly (ns) worse than BPD and significantly ($p < .05$) worse than MDD. BPD is also worse than MDD, especially on psychotic symptoms ($p < .01$) but even on depression (ns). On BPRS overall symptom, MDD/BPD and BPD are comparable and worse than MDD (ns for MDD/BPD, $p < .01$ for BPD). Between MDD/BPD and BPD, the former is slightly worse on guilt (ns) but lower on suspiciousness, ($p < .05$) unusual thought content ($p < .05$), and hallucinations (ns). *Significance:* In severely ill adolsecent and adult inpatients, Axis II BPD cohorts are more symptomatic than Axis I MDD cohorts, including depressive and psychotic symptoms as rated both objectively and subjectively. With MDD/BPD, cormorbidity adds affective psychopathology to BPD, but may protect against psychotic psychopathology to some degree. Results highlight that Axis II can be associated with significant morbidity, either alone or comorbidly with Axis I conditions.

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Mixed Manic States and the Course of Manic Depressive Illness

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Summary:

Objective: Superimposed manic and depressive episodes, or "mixed states" are virulent, with poor response to treatment and substantial risk of suicide and violence. We have investigated relationships between mixed (depressive manic) presentation and illness course, to determine whether there is an evolution to mixed states over the course of the illness, and whether patients who have experienced mixed states are more likely to continue to do so. *Methods:* We studied 42 consecutive patients admitted to the clinical research unit of the Harris County Psychiatric Center with acute manic episodes (SADS-RDC and *DSM-III-R* criteria). Data were obtained by structured interviews of patients and relatives and by inspection of records from earlier admissions.

Results: Of the 42 patients, 22 were mixed (*DSM-III-R* criteria). Mixed and nonmixed patients did not differ in age, age at first episode, years since the first episode, or total number of episodes. Mixed patients had significantly more depressive episodes in the past. Of six first manic episodes, three were mixed. Review of past records was possible in 24 patients. Of the 14 who were nonmixed, seven had mixed episodes in the past. Six of the ten mixed patients had experienced both mixed and nonmixed episodes.

Conclusions: Our data do not support evolution toward mixed states over the course of illness or stability of mixed depressive-manic episodes, but suggest that mixed states can occur at any time during the course of manic depressive illness.

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Gender Differences in Bipolar Disorder

Dale A. D'Mello, M.D., Psuch St. Lawrence Hosp., Michigan State University, 1210 West Saginaw, Lansing, MI 48915; John A. McNeil, M.D., Bhekumusa Msibi, B.Sc.

Summary:

A review of 377 consecutively admitted bipolar patients treated on an inpatient unit in mid-Michigan over a six-year period examined gender differences in clinical phenomena and treatment outcome. The majority of the men were younger (<40 years). The majority of the women were older (>40 years). Men demonstrated an admission peak in the springtime. Women demonstrated a bimodal seasonal distribution with peak rates in the spring and fall. Men demonstrated a more robust seasonal variation of lithium dosage, with higher dose requirements during the summer months. Young men (20s) received substantially higher lithium doses to achieve stability than young women (1789 mg/day, SD = 479 vs 1200 mg/day, SD = 226; $z = 2.61$; $p < 0.01$). Conversely, older women (60s) required substantially higher lithium doses than older men. The women appeared to sleep less (4.3 hrs/night, SD = 1.8 vs 5.7 hrs/night, SD = 1.7; $z = 4.30$; $p < 0.0001$). These findings support existing data regarding gender differences in the longitudinal course and outcome of bipolar disorder. The differences observed in sleep duration require further confirmation.

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Seasons and Bipolar Disorder

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Summary:

The influence of seasons on mood has been described since antiquity. A retrospective review of 377 bipolar disorder patients who were consecutively admitted to a general inpatient psychiatric unit in mid-Michigan over a six-year period examined the influence of seasons upon hospitalization rate, total sleep time, thyroid stimulating hormone, creatinine, lithium dosage and serum levels, aggressive behavior, and treatment outcome. Among men, admissions for bipolar disorder peaked in the springtime, whereas women demonstrated a bimodal season distribution with peak admission rates in spring and fall. Aggressive behavior peaked in the spring ($z = 2.5$, $p < 0.05$). Men maintained on lithium achieved higher serum levels during the summer months. These findings parallel previous reports regarding the influence of seasons upon bipolar disorder. Possible therapeutic implications will be presented.

NR494 Wednesday, May 26, 12:00 noon-2:00 p.m.

D-Fenfluramine Induced Prolactin and Cortisol Release in Major Depression: Response to Treatment

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Summary:

The central serotonergic (5-HT) dysfunction hypothesis of depression has been tested widely in recent years with a general consensus of diminished activity in this system in state depression. In support of this, O'Keane and Dinan (1991) have found diminished hormonal responses to the selective 5-HT releasing agent d-fenfluramine in major depression. Likewise the effect of antidepressant therapy on serotonin receptor function is considered by many to be a key factor in their therapeutic action (Johnson, 1991). In order to test the effects of various biological treatments on serotonergic function in depression, 21 patients with a diagnosis of major depression underwent neuroendocrine challenge tests before and after treatment with either ECT, fluoxetine, or amitriptyline. d-Fenfluramine was used as a challenge drug and cortisol (CORT) and prolactin (PRL) plasma levels were monitored over a 5-h period. Overall PRL responses were significantly enhanced following pharmacotherapy irrespective of therapeutic outcome. Effective treatment in each case lowered baseline CORT levels but CORT response to d-fenfluramine remained blunted. Hypercortisolaemia may be involved in the impaired pretreatment PRL response as a strong inverse relationship was established, for the combined studies, between basal CORT plasma concentrations and PRL responses.

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Barbiturate Anticonvulsants in Refractory Affective Disorders

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Summary:

Despite an increasing literature demonstrating both acute and long-term positive psychopharmacological effects of both valproate and carbamazepine, phenytoin has remained a controversial intervention, and barbiturate anticonvulsants have generally received a poor press with regard to psychotropic effects.

In the present investigation, 27 seizure-free, affectively ill patients who received therapeutic trials of primidone and/or mephobarbital after failing on antidepressants, lithium, carbamazepine, valproate, and phenytoin were analyzed with regard to effects on illness severity and affective cycle rate over a period of as long as four years.

Nine (33%) of the patients had a sustained positive therapeutic effect on effective state and/or psychotic symptoms to primidone and three (11%) had positive effects on mephobarbital after primidone failure. Four (15%) had brief positive effects which were not sustained, and the remaining 11 (41%) had no effects or negative effects to these agents.

The theoretical and practical implications of this new and unexpected finding are discussed.

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The Relationship Between DSM-III Personality and Drug Use Disorders in the Community

Jack F. Samuels, Ph.D., Psychiatry, Johns Hopkins Hospital, 600 North Wolfe St. Meyer 228, Baltimore, MD 21287; Gerald Nestadt, M.D., Alan J. Romanoski, M.D., Marshall F. Folstein, M.D., Paul R. McHugh, M.D.

Summary:

Objective: The aim of this study was to investigate the relationships between *DSM-III* personality and substance use disorders in the community. *Method:* A total of 810 adults were examined in the second stage of the Eastern Baltimore Mental Health Survey in 1981. Subjects were directly examined by psychiatrists using a semi-structured method which allowed diagnosis of all 11 *DSM-III* personality disorders, as well as *DSM-III* substance use disorders. Logistic regression analysis was used to measure the association between personality disorder scales and the probability of *DSM-III* substance use. *Results:* There was a significant association be-

tween substance use disorders and antisocial, borderline, and histrionic personality dimensions. Furthermore, a Cluster B personality score, derived by adding the scores of each of these personality dimensions, was significantly associated with substance use disorders. The relationship between the cluster B personality dimension and substance use remained significant, even after controlling for sociodemographic factors, alcohol use disorders, and tobacco dependence. *Conclusions:* These findings suggest that there is a specific relationship between cluster B personality dimensions and substance use disorders in the community. These findings have implications for the detection, prevention, and treatment of substance use disorders in the community.

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Autosomal Dominant Transmission in Tourette's Syndrome and Evidence for a Genetic Relationship With Obsessive Compulsive Behaviors

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Summary:

The hereditary nature of Tourette Syndrome (TS) has been recognized from the time of its original description in 1885. Results from previous family history studies suggested a single dominant gene that confers susceptibility for TS. However, findings were inconsistent as to the precise mode of inheritance. There is debate as to whether the disparate findings are due to the use of family history data, differences in sampling strategies, phenotype groupings, etc. In the present study, complex segregation analyses were performed on families (168 first-degree relatives) ascertained through 40 unselected consecutive TS patients to examine the hypothesis that the transmission of TS is consistent with genetic inheritance. All subjects included in the study were personally interviewed. Analyses were done using several alternative diagnostic classifications. The findings suggested the existence of an autosomal dominant gene with high penetrance. Furthermore, the results from goodness of fit test were consistent with the hypothesis that obsessive-compulsive behaviors form an integral part of the spectrum of expression of the syndrome. The penetrances ranged from 1.00 to 0.99 in males and 0.88 to 0.56 in females depending on the diagnostic classification incorporated into the analyses.

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Effect of Acute Tryptophan Depletion on Aggression

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Summary:

Considerable preclinical and clinical evidence links impulsive, aggressive behaviors to reduced brain serotonin (5-HT) function. 5-HT is derived from tryptophan (TRP), and acute TRP depletion (ATD) decrease 5-HT function. In this study, behaviors were rated during ATD in impulsive patients. *Method:* 14 patients with intermittent explosive disorder (*DSM-III-R*) features, an Axis II diagnosis, and evidence of active illness entered a random order, double-blind, placebo-controlled, paired test series. A 24-hour, 160 mg/day TRP restriction diet is given with placebo capsules on day 1, followed at 8 am on day 2 with a TRP-free, 15 amino acid drink. The control diet is the same but each mean includes capsules of 500 mg TRP. The control drink of 16 amino acids includes 2.3 gm TRP. At the end of day 2 of either test a normal meal is given and followed by a freely chosen diet. Behavioral ratings and plasma samplings occur four times during each test: prior to the diet on day 1, prior to the amino acid meal on day 2, seven hours later on day 2, and at 12 noon on day 3. A modified Buss-Durkee Hostility Inventory (mBDHI) and Overt Aggression Scale (OAS) are given repeatedly as primary measures of outcome. *Results:* ATD caused mean plasma free and total TRP levels to decrease to 18% and 13% of baseline, respectively ($p < 0.0001$). ANOVA on mBDHI subscales and OAS scores revealed no significant changes during ATD. OAS events were recorded in 4/14 patients during depletion, but only 1/14 during control tests. There was no significant correlation between free or total TRP levels and mBDHI subcale scores. Implications: There were only weak behavioral effects of ATD in impulsive patients in the absence of a provocative stimulus. Studies of impulsive aggression using a provocative stimulus during ATD are needed.

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Impairment in Adolescent Personality Disorders

Kenneth N. Levy, B.A., Yale Psych Institute, P.O. Box 12A Yale Station, New Haven, CT 06520; Thomas H. McGlashan, M.D., William S. Edell, Ph.D., Kathy Garnet, M.A., Donald Quinlan, Ph.D., David Greenfeld, M.D.

Summary:

Objective: To investigate the frequency and level of associated impairment in adolescent personality disorder (PD) diagnoses. *Method:* 104 adolescent inpatients at the Yale Psychiatric Institute were reliably diagnosed using a structured interview for *DSM-III-R* Axis II personality disorders and assessed on the Global Assessment of Functioning scale (GAF). *Results:* 36 patients had no PDs, 25 had one PD, 20 had two PDs and 23 had three more PDs. Patients with a PD diagnosis were more impaired than those without ($t = 2.28$, $p < .03$). Patients with ≥ 2 PDs were more impaired than patients with one or 0 PDs ($F = 4.61$, $p < .01$). Patients with a diagnosis of borderline PD were the most impaired ($t = 3.02$, $p < .003$). Number of PDs correlated significantly with GAF scores ($r = -.28$, $p < .002$) as did total number of PD criteria met ($r = -.38$, $p < .001$). Additionally, the criteria scores of borderline, avoidant, and antisocial PD were associated with the greatest impairment, while histrionic, paranoid, and narcissistic criteria scores were associated with the least impairment. *Conclusions:* Patients with PDs were more impaired than those without, especially those with borderline PD. The greater the total number of Axis II PDs and number of criteria met, the more severe the functional impairment.

NR500 Wednesday, May 26, 12:00 noon-2:00 p.m.

DSM-III Personality Disorders in the Population

Gerald Nestadt, M.D., Psychiatry, Johns Hopkins Hospital, 600 North Wolfe St. Meyer 228, Baltimore, MD 21287; Jack F. Samuels, Ph.D., Alan J. Romanoski, M.D., Marshal F. Folstein, M.D., Paul R. McHugh, M.D.

Summary:

Objective: The aim of this study was to estimate the prevalence and investigate the comorbidity of *DSM-III* personality disorders in the community. *Method:* A total of 810 adults were examined in the second stage of the Eastern Baltimore Mental Health Survey in 1981, part of the Epidemiologic Catchment Area Program. The subjects were directly examined by psychiatrists using a semi-structured method which allowed diagnosis of all 11 *DSM-III* personality disorders, as well as other *DSM-III* psychiatric disorders. *Results:* The prevalence of personality disorders in this population was 5.9% (8.6% in men; 3.6% in women). The prevalence of personality disorders was inversely related to age. There was little comorbidity between specific personality disorders. Subjects with personality disorders had significantly higher prevalences of obsessive-compulsive disorder, sexual disorders, and alcohol and drug use dis-

orders. Subjects with personality disorders were significantly more likely to be judged by the psychiatrists to need treatment; however, only 26% were receiving treatment. *Conclusions:* These findings indicate that personality disorders are relatively common in the community and are associated with other psychiatric disorders. Few of the cases of personality disorder in the community are receiving adequate treatment.

NR501 Wednesday, May 26, 12:00 noon-2:00 p.m.

Continuous Performance Test in Schizotypal Personality Disorder

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Summary:

Neurocognitive deficits evaluated by the Continuous Performance Test (CPT) for errors of omission and commission, were examined in 27 *DSM-III* schizotypal personality disorder patients (SPD), 38 other personality disorder patients (OPD), and 36 normal controls (NC). While significant group differences were not observed between SPD and OPD patients in errors of omission or commission, either in the entire personality disorder (PD) cohort or the SPD patient group, the errors of commission correlated negatively with the psychotic-like symptoms of SPD (all PD: $r = -.22$, $p < .05$; SPD only: $r = .42$, $p < .02$). Errors of commission also correlated positively with the non-psychotic deficit-related symptoms of SPD (All PD: $r = .19$, $p < .06$; SPD only: $r = .63$, $p < .001$) and the physical anhedonia scale of the Chapman Psychosis Proneness scales (all PD: $r = .31$, $p < .02$; SPD only: $r = .64$, $p < .001$). Errors of commission correlated positively with lateral ventricular (LV) and frontal horn (FH) ventricular-brain-ratio (LV: all PD: $r = .31$, $p < .04$; SPD only: $r = .53$, $p < .02$; FH: all PD: $r = .33$, $p < .03$, SPD only: $r = .57$, $p < .01$). Thus, CPT errors, reflecting cognitive dysfunction, were associated with deficit-like symptoms, anhedonia, and large ventricles. In order to evaluate the relationship between dopaminergic function and cognitive performance, the cognitive behavioral responses to d-amphetamine are also being evaluated in these patients with very preliminary results suggesting improvement of impaired cognitive function with amphetamine.

NR502 Wednesday, May 26, 12:00 noon-2:00 p.m.

Frontal Lobe Dysfunction and Schizotypal Personality Disorder

Marie-Louise Devegvar, M.D., Psychiatry, Mt. Sinai Sch of Medicine, One Gustave Levy Pl, Box 1230, New York, NY 10029; Richard S.E. Keefe, Ph.D., Jackie Mosokwitz, M.A., Sonia Lees, B.A., Peter Knott, Ph.D., Robert L. Trestman, M.D., Larry J. Siever, M.D.

Summary:

There is evidence that some schizophrenics have deficits on tests sensitive to frontal lobe dysfunction and that these neuropsychologic deficits may be particularly associated with negative or deficit symptoms. The neurocognitive/clinical deficits have been hypothesized to be related to frontal hypodopaminergia. To determine if these findings extend across the schizophrenic spectrum, we compared 13 schizotypal personality disorder (SPD) patients, six other personality disorder (PD) patients, and 13 normal controls (NC) on a neuropsychological assessment battery that included the Wisconsin Card Sorting test (WCST) and Trails B, which are sensitive to frontal lobe dysfunction, as well as the WAIS-R Vocabulary, a measure of verbal intelligence, and the WAIS-R Block Design, a measure of nonverbal intelligence. SPD patients had more impairment than OPD patients on the WCST, committing more non-perseverative errors ($p < .05$), and perseverative errors ($p < .05$). SPD patients performed worse than NCs on Trails B ($p < .05$), in contrast to OPD patients who performed as well as normal controls. SPD and OPD patients did not differ significantly on the WAIS-R vocabulary and block design tests. Increased perseverative errors and non-perseverative errors correlated positively with Chapman physical anhedonia ($r = .68$, $p < .01$; $r = .69$, $p < .01$) but not with Chapman perceptual aberration, or the *DSM-III* SPD "psychotic like" symptoms (magical thinking, ideas of reference, illusions, suspiciousness). "Deficit like" symptoms (social isolation, odd speech, poor rapport, social anxiety) correlated positively with perseverative errors ($r = .38$, $p < .07$) and non-perseverative errors ($r = .44$, $p < .05$). Plasma HVA correlated negatively with perseverative errors ($r = .57$, $p < .05$). The preliminary findings raise the possibility that "deficit-like" symptoms in SPD patients may be associated with hypodopaminergic function and frontal lobe dysfunction.

NR503 Wednesday, May 26, 12:00 noon-2:00 p.m.

BPD in Adolescents: Ubiquitous or Specific?

Kathy Garnet, M.A., Yale Psych Institute, P.O. Box 12A Yale Station, New Haven, CT 06520; Kenneth N. Levy, B.A., Jonathan J. Fleischacker, B.A., William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

Summary:

Objective: Adolescence is fluid, as are its disorders. We seek to identify diagnostic criteria that: 1) are relatively specific to borderline personality disorder (BPD) in severely ill adolescent inpatients at the Yale Psychiatric Institute with behavioral and affective problems, and 2) predict a stable BPD during this turbulent time. *Method:* 24 adolescent inpatients with *DSM-III-R* BPD at baseline by diagnostic interview were contracted approximately two years later and assessed independently with the same instruments. Measures were reliable. Ten subjects met BPD criteria at follow-up (FU). The diagnostic efficiencies of BPD criteria at baseline predicting BPD diagnosis at FU were calculated. *Result:* Sensitivities (% of FU BPD patients meeting the criterion at baseline) were high (average 0.69) and ranged from 0.44 (unstable relations) to 1.0 (intense anger) but specificities (% of baseline criterion *uniquely* associated with BPD diagnosis at FU) were low (average 0.21) and ranged from 0.07 (impulsiveness, intense anger, suicidal threats) to 0.50 (identify disturbance, unstable relations). *Conclusion:* BPD criteria are sensitive for the stable disorder in adolescence but not very specific, especially in a sample with high conduct and depressive disorder comorbidities. With such overlapping phenomonology, identity disturbance and unstable relationships are the most specific criteria, and more than other BPD criteria may alert clinicians to the presence of stable BPD in severely disturbed adolescents. Overall, however, without FU data the diagnostic significance of symptoms of BPD in adolescents is uncertain. In this age group signs and symptoms may transiently mimic a borderline syndrome.

NR504 Wednesday, May 26, 12:00 noon-2:00 p.m.

Schizotypy: P3 Correlates of Psychopathology

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Summary:

Objective: Schizophrenics show reduced mid-line P3 amplitude and left-lateralized P3 topographic abnormalities. It is of interest whether these deficits are present in schizotypal personality dis-

order (SPD). To that end, P3 was examined in schizotypes for midline and topographic deficits.

Method: Twenty-three male community volunteers answered an ad recruiting believers in the paranormal. Nine were schizotypal (SCID II), six were sub-threshold (4 criteria) and eight were not SPD (≤ 3 criteria). No subject reported schizophrenic relatives. Subjects underwent a battery of neuropsychological tests and the Chapman scales. Event-related potentials (ERPs) were recorded while subjects counted low-probability target tones randomly presented in trains of standard tones. P3 was measured from subtraction waveforms (target ERP-standard ERP) by averaging voltage over the 50 ms preceding peak.

Results: Groups did not differ in overall P3 amplitude, nor from previous normal control groups tested in this laboratory. However, schizotypes, but not the other two groups, showed correlations between P3 amplitudes and various measures. Smaller amplitudes at T3 (left), but not T4 (right), were related to greater anhedonia ($r = -.64$, $p = .031$, one-tailed), and perceptual aberration ($r = -.57$, $p = .05$). Larger amplitudes at T5 (left), but not T6 (right), were associated with better California Verbal Learning Test performance ($r = .59$, $p = .047$) and WCST abstraction ($r = .65$, $p = .03$).

Conclusion: These results suggest schizotypes may show subtle P3 topographic distortions which vary with severity of psychopathology. To our knowledge, this represents the first demonstration of correlations between psychopathology and ERP abnormalities in schizotypes, particularly those without schizophrenic relatives.

NR505 Wednesday, May 26, 12:00 noon-2:00 p.m.

Reliability of Family History Method for Axis II

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Summary:

Objective: The present study seeks to test the reliability of a recently developed instrument for the family history assessment of personality disorders. This instrument was developed to address the need created by the inaccessibility of many relatives for direct interview in family and genetic studies. The importance placed on the family history method necessitates that it demonstrate both high reliability and validity. To date, only one family history interview for personality disorders has been developed. This instrument is limited in that its primary focus is on the examination and diagnosis of the three personality disorder clusters and that no information has been offered regarding its reliability using real subjects.

Method: The present study examines one month test-retest reliability for the Axis II family history assessment instrument described above. Subjects were 35 outpatients reporting on 102 of their first-degree relatives.

Results: Kappas for the individual diagnoses ranged from .32-.88, with a median of .59. Kappas for the three personality disorder clusters were .51 for Cluster A, .76 for Cluster B, and .71 for Cluster C. Kappa for the presence of any Axis II diagnosis was .58. Overall, the interrater reliability for this instrument appears to be comparable to that found with direct interview assessments of Axis II disorders.

Conclusions: The present study contributes to the assessment of Axis II disorders, and should facilitate research on the familial transmission of personality disorders. Future work must now focus on an examination of the validity of the instrument.

NR506 Wednesday, May 26, 12:00 noon-2:00 p.m.

Replicated Dimensions of Personality Pathology

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Summary:

Both clinical experience and research data have converged on the conclusion that patients with pure *DSM* personality disorder diagnoses are rare. The high prevalence of such patients both frustrates the attempts of researchers to develop a taxonomy of personality disorder categories with clear diagnostic boundaries and also challenges the clinical utility of the current *DSM* taxonomy. This research reports on one promising approach to solving this important problem: the use of large patient samples to perform multivariate analyses of criterion level data. Using a sample of nearly 1,200 North American and Italian patients, we examined the factor structure of the *DSM-III-R* Axis II criteria, assessed using the Structured Interview for *DSM-III-R* personality disorders (SIDP-R). Six dimensions—ego weakness, egocentricity, antisocial behavior, detachment, suspiciousness, and low self-assurance—were replicated both across gender and cross-culturally, suggesting that a robust dimensional structure underlies personality pathology. Based on the replicated items, scales that assess these six dimensions of maladaptive personality were developed. Both internal consistency reliability and validity data (correlations with established self-report scale scores) are presented.

NR507 Wednesday, May 26, 12:00 noon-2:00 p.m.

Hierarchy of DSM-III-R Personality Disorders

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Summary:

The central hypothesis is that there are certain personality disorders (borderline, narcissistic, and antisocial) which are hierarchically dominant. Clinicians, when presented with patients with mixed symptom pictures, tend to diagnose these personality disorders first.

To study this hypothesis, 320 psychiatrists and clinical psychologists were asked to describe a patient in their private practice who had a personality disorder. The clinicians assigned Axis II diagnoses to these patients (*clinical diagnoses*). Then the clinicians were asked to check which criteria these patients met from a scrambled list of *DSM-III-R* criteria. From the criteria that were noted as present per patient, *criterion diagnoses* were formed.

All patients who met two or more "criterion diagnoses" were analyzed for their "clinical diagnoses." In all instances in which borderline was one of the criterion diagnoses, clinicians used borderline as a clinical diagnosis with much greater frequency. For instance, when cases were examined which met the criteria for both borderline and paranoid personality disorders, Borderline was used in 69% of the clinical diagnoses while paranoid was mentioned in only 21% of the clinical diagnoses. This pattern of dominance was also found for narcissistic, but was absent for all other personality disorders.

NR508 Wednesday, May 26, 12:00 noon-2:00 p.m.

Borderline Psychopathology in Early Adolescent Male Sexual Offenders

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Summary:

The presence of borderline psychopathology was assessed in a population of early male adolescent sex offenders compared to a group of seriously emotionally disturbed boys in a public school matched for age, sex, SES, ethnicity, and IO. Both groups were

tested using the NIMH (DISC-2), structured interview, parent and child versions, (Shaffer et. al., 1992), the Diagnostic Interview for Borderlines-R (Gunderson & Zannarani, 1982), and *DSM-III-R* criteria for borderline personality disorder. Findings indicate that the index group had a significantly high frequency of conduct disorder (Shaw et al., 1992) and when compared to the control group significantly higher prevalence of borderline personality disorder. Eighty-three percent had a diagnosis of BPD using the DIB and 100% met criteria for BPD using *DSM-III-R* (persistent and pervasive for at least six months). The significance of these findings will be discussed.

NR509 Wednesday, May 26, 12:00 noon-2:00 p.m.

PTSD in Borderline Personality

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Summary:

The interface of post-traumatic stress disorder (PTSD) and borderline personality disorder (BPD) have been described by Gunderson and others as separate but related disorders. BPD has been said to be shaped in part by trauma and therefore individuals with BPD are likely to be vulnerable for the development of PTSD. Borderline patients report high rates of trauma, specifically physical and sexual abuse; however, the relationship between trauma and the development of PTSD is unclear in BPD. In this study we report the rates of sexual and phsyical abuse in 73 white female patients with BPD. The reported incidence of sexual abuse was 68%. The incidence of physical abuse was 52%, and family history of alcoholism was 58%. The overall incidence of PTSD was 30% for the entire sample. These data are consistent with other reports of sexual abuse, physical abuse, and PTSD in borderline populations. We report rates of comorbidity, personality profiles for physical and sexual abuse when the population is stratified for PTSD as rated by the Tridimensional Personality Questionnaire.

NR510 Wednesday, May 26, 12:00 noon-2:00 p.m.

A Major Problem in Diagnosing Personality Disorder

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Summary:

Personality disorders can be diagnosed reliably when raters at the same research site are trained to use semistructured diagnostic interviews. In different research programs, though, there may be systematic differences in how diagnostic criteria are interpreted and applied. Two family studies at the University of Iowa found markedly different risks for personality disorders in the families of healthy controls (14.6% vs 35.0%). In both studies, the Structured Interview for *DSM-III* Personality Disorders (SIDP) was used, and in both the interviewers were trained in its use. There are two possible explanations for this phenomenon—there was a true difference in the amount of pathology between the samples, or the difference was an artifact of systematic differences between the interviewers. We were able to test for which of these explanations was more tenable because the patients also completed the Personality Disorders Questionnaire (PDQ), a self-administered questionnaire that makes *DSM-III* personality disorder diagnoses. No PDQ-based diagnosis was more frequent in the family study with the higher SIDP-based rate of disorder. In fact, the rate of any PD on the PDQ was actually lower in this group (0.8% vs 7.1%). The implications of these findings will be discussed.

NR511 Wednesday, May 26, 12:00 noon-2:00 p.m.

Increase in Reported Alcohol Use in Premenstrual Syndrome Patients

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Summary:

Patients with prospectively confirmed premenstrual syndrome (PMS) were compared with controls to determine the following: a) dose alcohol intake differ in patients and controls; b) is alcohol consumption increased during the premenstrum and correlated with mood disturbance, somatic symptoms, or food cravings. Patients and controls were screened for a two-to-three month period to confirm the presence or absence of PMS. Twenty-one patients and 16 controls completed daily ratings of mood, somatic symptoms, food cravings, and alcohol intake over a two-to-three month period. Results: PMS patients reported significantly greater alcohol intake than controls ($F = 6.81$, DF 1,32, $p = 0.014$); however, the increase in alcohol use was not confined to the premenstrum and did not correlate with the premenstrual disturbance in mood, somatic symptoms, or food cravings. Further, the overall degree of alcohol intake in both groups was low. PMS patients showed a trend toward greater family history of alcohol dependence of affective disorder. *Conclusions:* Although PMS patients in this study report greater alcohol intake than controls, this occurs in a non menstrual cycle, phase-specific manner, and luteal phase increase in alcohol intake does not appear to be a common feature of PMS.

NR512 Wednesday, May 26, 12:00 noon-2:00 p.m.

Long-Term Fluoxetine Treatment of LLPDD

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Summary:

Introduction: Previous studies have shown fluoxetine to be an effective treatment for LLPDD with fluoxetine for a mean of 18.6 months (range: 1-47, SD = 13.34).

Methods: Subjects were women whose diagnosis of LLPDD was based on prospective daily symptom ratings, applying 30% change criteria, and a clinical interview to rule out concurrent Axis I diagnosis. Women were initially treated with 20 mg of fluoxetine daily throughout the cycle; 60 women completed at least one cycle. Treatment response was rated with CGI and dose was titrated based on response and side effects.

Results: Complete relief (CGI = 1) was experienced by 52% of 60 women and 48% achieved a CGI of 2. Relief was achieved by 40 mg daily in 42% of women in each group. After at least one year of successful treatment, fluoxetine was discontinued; premenstrual irritability and anxiety returned in 95% of 21 women. These 20 women again achieved symptom relief with restarting fluoxetine.

Discussion: These results suggest that fluoxetine is an effective and well-tolerated treatment for LLPDD when used over time, and remains effective if restarted for recurrence of LLPDD.

NR513 Wednesday, May 26, 12:00 noon-2:00 p.m.

Estrogen Alters G Protein Ribosylation in Platelets of Women With LLPDD

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Summary:

Guanine nucleotide proteins (G proteins) couple various neurotransmitter and hormone receptors to effector systems in a variety of cell types, including the brain and the platelet. Recent data from animal studies have pointed to a role for G proteins as a target for the action of estrogen in the brain. As part of an ongoing investigation examining a potential relationship between monoamine receptor response and dysphoric premenstrual changes, we have initiated studies to directly examine G protein changes in platelets of women during different phases of the menstrual cycle after treatment with estrogen. Platelets from patients with dysphoric premenstrual syndrome (PMS) and women with physical PMS were collected during follicular (days 7-10 of the cycle) and luteal phases of the menstrual cycle and following 60 days of estrogen treatment. Quantification of the predominant inhibitory G_i protein found in platelets ($G\alpha_{i2}$) was carried out using a sensitive competitive ELISA based on a specific antibody directed against the carboxy termini of the $G\alpha_i$ subunit. Pertussis toxin catalyzed ribosylation (ADPR) of G_i was performed in the same platelet membrane preparation and quantitated by autoradiographic densitometric analysis. We present data showing a marked increase in the ADPR of G_i proteins in the platelet following long-term estrogen treatment, with no evidence for a significance change in the amount of G_i protein. These findings in humans suggest an action of the hormone in stabilizing the heterotrimeric G_i protein complex which may be relevant to its activity in the brain.

NR514 Wednesday, May 26, 12:00 noon-2:00 p.m.

Effects of m-CPP in PMS

Tung-Ping Su, M.D., ETB NIH 10/4N214, NIMH, 9000 Rockville Pike, Bethesda, MD 20892; Merry A. Danaceau, B.S.N., Peter J. Schmidt, M.D., David R. Rubinow, M.D.

Summary:

Objective: To test the serotonergic responsivity in premenstrual syndrome (PMS).

Method: An oral m-Chlorophenylpiperazine (m-CPP, a serotonin agonist) (0.5 mg/kg) test was administered to ten PMS patients (while drug free) and ten control women during both follicular and luteal phases of the menstrual cycle. Behavioral ratings and blood samples were obtained at baseline and at 30 minute intervals for 3.5 hours thereafter. *Results:* Anova-R revealed significant menstrual phase by time by group effects for mood symptoms ($p < 0.05$), reflecting improvement of PMS symptoms (depression, irritability, anxiety, and fatigue) following m-CPP in PMS patients during the luteal phase. Significant time by group effects for cognitive impairment and hot and cold sensations were observed, reflecting symptom increases in the PMS patients during both menstrual phase studies ($p < 0.01$). Significant time, phase, and time by phase effects for temperature were found ($p < 0.01$), consequent to greater m-CPP induced increases in core temperature during the follicular phase.

Conclusions: The reduction of mood symptoms by m-CPP in women with PMS stands in contrast to the exacerbation of symptoms by m-CPP seen in other psychiatric disorders and further suggests a linkage between central serotonergic system function and PMS.

NR515 Wednesday, May 26, 12:00 noon-2:00 p.m.

Adolescent Panic Symptoms and Suicidal Behavior

John B. Jolly, Psy.D., Psychiatry, Univ of Ark. Med Sciences, CSC ACH 800 Marshall, Little Rock, AR 72202; Richard L. Livingston, M.D., Zarina Shah, M.D., David S. McCray, M.D., Janet M. Jolly

Summary:

Objective: This study examined the contribution of panic symptoms to the prediction of suicidal ideation and behavior in adolescents. *Methods:* Subjects were 72 consecutively admitted psychiatric inpatient adolescents who were clinically assessed for suicidal ideation, suicidal behavior, and *DSM-III-R* diagnoses, and independently completed self-report measures of anxiety (Beck Anxiety Inventory; Beck et al., 1988) and depression. *Results:* Logistic regression demonstrated that after controlling for demographic variables and depressive, externalizing, and substance abuse diagnoses, total self-report anxiety symptoms significantly contributed to the prediction of those adolescents with and without clinically-rated suicidal ideation and behavior, X^2 (1,72) = 6.12, $p < .01$. Beck et al. (1988)'s 2 BAI factors (panic and somatic factors, respectively) were placed in the model to determine whether particular types of anxiety symptoms contributed to our findings. With diagnoses and demographic variables controlled, the BAI panic factor, but not the somatic factor, significantly predicted those with and without clinically-rated suicidal ideation and behavior, X^2 (1,73) = 5.91, $p < .05$. *Conclusions:* Panic symptoms were significantly predictive of clinically-rated suicidal ideation and behavior in severely disturbed adolescents. Treatment of panic-like anxiety symptoms may help reduce suicidal ideation and behavior in severely disturbed, suicidal adolescents.

NR516 Wednesday, May 26, 12:00 noon-2:00 p.m.

Hispanic Youth Suicide in Dade County: 1987-91

Jorge J. Dorta-Duque, M.D., Psychiatry, 9200 S.W. 103rd Avenue, Miami Beach, FL 33176-1609; Maria Llorente, M.D., Daniel Castellanos, M.D., Benjamin Leahy, Ph.D.

Summary:

Hispanics represent the single largest and fastest growing ethnic group in the United States. Overall, suicide is the third leading cause of mortality in youths aged 15 to 24. The few studies that have investigated suicide among Hispanic youths have suggested that this group may be at particular risk. This study sought to further delineate characteristics of Hispanic Youths who successfully commit suicide.

A total of 143 deaths certified suicides by the Dade County Medical Examiners Office aged 24 or younger from 1987-1991 were reviewed. Death certificates identified deaths as Hispanic (N = 61) and non-Hispanic (N = 82).

The highest suicide rates were for Hispanic males ages 20 to 24 (11.8 per 100,000). Overall, being Hispanic was associated with increased risk of suicide (X_2 = 25.33, p 0.0001) and decreased likelihood of a recent physician visit (X^2 = 4.98, p 0.03). Hispanics were less likely to obtain psychiatric care (X^2 = 8.36, p 0.004) and had fewer pre-existing psychiatric diagnoses (X^2 = 4.06, p 0.04). A tend was found for Hispanics to be under the influence of cocaine at time of suicide (X^2 = 3.25, p 0.08).

This study confirms that Hispanic youth, especially males aged 20 to 24 are at particular risk for committing suicide. Hispanics in this study underutilized health services in general and psychiatric services specifically. Cocaine intoxication may be a contributing factor.

NR517 Wednesday, May 26, 12:00 noon-2:00 p.m.

Suicide Assessment: Clinical Interview Versus Self-Report

Margaret L. Kaplan, Ph.D., Dept. of Psychiatry, Montefiore Med. Ctr., 111 East 210th St., Bronx, NY 10467-2490; Gregory M. Asnis, M.D., William C. Sanderson, Ph.D.

Summary:

Objective: Suicide assessment is difficult, in part, because patients are not always willing to talk openly about their suicidal ideas. Research suggests that some patients feel more comfortable disclosing their suicidal thoughts to an anonymous listener (e.g. a self-rating questionnaire delivered by a computer) than discussing such information in a face-to-face interview (1,2,3). The present study examined whether patients disclosed the same suicide related information on a self-rated questionnaire as they subsequently reported to a clinician during an intake interview.

Method: 125 patients seeking outpatient psychiatric treatment completed an initial evaluation packet which included the self-rated suicide questionnaire. Each patient was subsequently interviewed by a clinician who during the course of their intake interview, asked the patient identical suicide related questions as appeared on the self-rated questionnaire completed earlier.

Results: Results indicated a generally high level of agreement between patient's responses on the self-report questionnaire and to the same questions when posed by a clinician. However, there was a tendency for patients to admit to "current suicidal ideation" on the self-report form that they then denied during the clinician's interview.

Conclusions: The clinical assessment of suicidal behaviors could be enhanced by the use of a self-rating instrument.

NR518 Wednesday, May 26, 12:00 noon-2:00 p.m.

Family Functioning and Suicidality

Gabor I. Keitner, M.D., Butler Hospital, 345 Blackstone Blvd, Providence, RI 02906; Christine E. Ryan, Ph.D., Ivan W. Miller, Ph.D.

Summary:

In an attempt to explore links between family functioning and suicidality, we assessed family functioning (measured by the Family Assessment Device-FAD) and suicidality in 311 inpatients with the following diagnoses: adjustment disorder (n = 41), alcohol abuse/dependency (n = 35), bipolar disorder (n = 64), major depression (n = 83), schizophrenia (n = 40), other psychoses (n = 18), and other diagnoses (n = 30). Data collected from retrospective chart reviews included detailed information on suicidiality at time of admission to hospital and on suicide ideation or attempts prior to the index episode. Family functioning of suicidal vs. non-suicidal patients was compared within each diagnostic category. Overall, correlations between suicidality and family functioning was highest for patients with major depression or bipolar disorder. When family scores were examined by patient only and family without patient, the group with psychoses also showed an association between family functioning and suicidality. Our findings suggest that the relationship between family functioning and suicidality may be less diagnosis specific and more symptom specific. That is, severe, persistent, affective, or psychotic symptoms may be the key to the relationship between family functioning and suicidality.

NR519 Wednesday, May 26, 12:00 noon-2:00 p.m.

Attachment Patterns in Suicidal Teenagers

Kenneth S. Adam, M.D., Psychiatry, McMaster University, 1200 Main Street West, Hamilton Ontario L8NB 3Z5, Canada; Malcolm West, Ph.D., Adrienne Keller, Ph.D., Mary Owens, M.D.

Summary:

This study investigates the hypothesis that pathological patterns of attachment, resulting from disturbed family relationships, are major risk factors for suicidal behavior in teenagers. One hundred and eighty three subjects between 12 and 19 years old were allocated to case and control groups on the basis of lifetime history of suicidal ideation or behavior. This yielded 99 suicidal subjects and 85 matched never suicidal controls. All subjects were assessed with standard psychological and psychiatric measures and the attachment status of all subjects over the age of 14 were assessed with two new attachment instruments, the West Attachment Questionnaire (AQ) and the Main and Goldman Adult Attachment Interview (AAI).

Attachment and family support measures strongly differentiate between suicidal and non-suicidal subjects as predicted. Unresolved loss due to death or unwilling separation from parents and unresolved trauma related to physical or sexual abuse were significantly correlated with suicidal status while *autonomous* (secure), and *dismissing* patterns of attachment were predictive of control status.

The findings provide a basis for a re-formulation of traditional theories of loss and risk in suicidal behavior and provide important information about specific attachment which appear to increase vulnerability and those which appear to be protective.

NR520 Wednesday, May 26, 12:00 noon-2:00 p.m.

Access to Lethal Methods of Injury on Suicide Rates in Hospitalized Schizophrenics: A 25-Year Retrospective Analysis

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Summary:

A recent article confirmed general clinical judgment that suicide rates are to a certain extent dependent on the accessibility to lethal methods (Marzuk et al., *Arch Gen Psychiatry,* 49: 451-458 1992). In a large Canadian psychiatric hospital the policy of withdrawing protective barriers from balconies and windows in several chronic-care inpatient wards began in the 1970's. The author conducted a retrospective analysis of all suicides having occurred in hospitalized patients from 1967-1992. Review of hospital case records during that period indicate a total of 54 suicides: (34 males, mean age: 41 years, age range: 18-74; 20 females, mean age: 42 years, age range: 20-68). A total of 27 patients (22 males, 5 females) suffered from schizophrenia according to either CIM-8, CIM-9, or *DSM-III-R* diagnostic criteria. Psychotic disorders other than schizophrenia accounted for 16 suicides (9 males, 7 females). A total of 80% of all suicides occurred in individuals with a psychotic condition. A frequent method of suicide used by psychotic patients involved jumping off a high place from inside the hospital [(jumping off from an inpatient ward balcony (n = 6) or window (n = 4)]. The clinical and ethical considerations relating to this data will be presented and support the findings of Marzuk et al.

NR521 Wednesday, May 26, 12:00 noon-2:00 p.m.

Screening Women: Depression, Cigarettes and Stress

Marijo B. Tamburrino, M.D., Psychiatry, Medical College OH, P.O. Box 10008, Toledo, OH 43699-8000; Denis J. Lynch, Ph.D., Rollin W. Nagel, M.A., Nancy J. Stadler, Teresa Paulding

Summary:

Current literature suggests that female depression often goes undetected in family practice settings. This study screened women for depression, and explored possible associations between depression, smoking, and stress. Women waiting to see their physicians in a family practice center were asked to complete the (MOS) eight-item self-report screener for depression, and answer questions on demographics and lifestyle habits. A total of 92.6% of those approached agreed to participate. Subjects were 299 women aged 18-64 years (mean age 38 years). Most subjects were either married (43.6%) or single (28.9%). One-third of the sample smoked cigarettes. Thirty-nine percent (n = 116) of the women

scored positively for depression. Cigarette smokers had higher depressed scores ($t(297) = 2.90$, $p < .004$). There was also a significant association between depression and degree of stress experienced in the past month ($r = 39$, $p < .0001$). This study supports the use of the MOS depression screener to help diagnose depression in family medicine patients. It also suggests that women be routinely asked about recent "stress," as stress is a word acceptable to patients, that may indicate co-existing depression. Women who smoke may be a population at higher risk for depression. Studies are needed to determine if aggressive diagnosis/treatment of depression among smokers facilitates their being able to quit smoking.

NR522 Wednesday, May 26, 12:00 noon-2:00 p.m.

Grief and Terminating Pregnancy for Fetal Anomaly

Charles H. Zeanah, M.D., Psychiatry, LSU Medical School, 1542 Tulane Avenue, New Orleans, LA 70112; Jacquelyn Dailey, M.S., Mary-Jo Rosenblatt, M.S., Devereux N. Saller, M.D.

Summary:

Objective: To assess the comparability of the intensity of grief responses of women who terminate their pregnancies for fetal anomalies and women who experience spontaneous perinatal losses.

Study Design: Twenty-three women who terminated their pregnancy after diagnosis of fetal anomaly were assessed psychiatrically two months after the termination. The grief responses of these women on the Perinatal Grief Scale and the Beck Depression Inventory were compared to a demographically similar group of women who were assessed two months after they experienced a spontaneous perinatal loss. Differences between the groups were assessed through one-way analysis of covariance.

Results: Women who terminated for fetal anomalies were significantly older than women in the perinatal loss group, and age was significantly correlated with the dependent grief variables. Therefore age was covaried in comparing grief responses of women in two groups. No statistically nor clinically significant differences were found in their intensity of grief. Younger women in the termination group had more intense reactions than older women. At the time of assessment, four of 23 (17%) women who terminated were diagnosed with a major depression and five of 23 (22%) sought psychiatric treatment.

Conclusion: Women who terminate pregnancies for fetal anomalies experience grief as intense as women who experience spontaneous perinatal loss, and they may require similar clinical management.

NR523 Wednesday, May 26, 12:00 noon-2:00 p.m.

Sexual Harassment of Medical Students by Patients

Heather M. Schulte, M.D., Psychiatry, Wright State University, P.O. Box 927, Dayton, OH 45401; Jerald Kay, M.D.

Summary:

Sexual harassment in the workplace is receiving increasing attention. As a result of medical student inquiries, the authors embarked upon a pilot survey study to determine how frequently students encounter sexually inappropriate behaviors from patients. Two hundred forty-eight questionnaires were mailed to third year, fourth year, and recently graduated medical students. Results indicated that 71% of female medical students and 29% of male students had been treated in a sexually provocative way by one or more patients. Frequency varied according to clinical experience and most students who endorsed this problem had experienced it more than once. Types of behaviors encountered, students behavioral and emotional responses, patient characteristics, and clinical settings are described.

These findings suggest that sexually inappropriate patient behavior toward medical students is quite common. If providers are not prepared for this problem the adverse results could include poor patient care or dual relationships with patients. This subject should be addressed systematically in medical school preclinical as well as clinical curricula since it has profound implications for the delivery of ethical, high quality patient care. Future studies are necessary to validate these findings and to further describe these issues and approaches to them in medical education.

NR524 Wednesday, May 26, 12:00 noon-2:00 p.m.

Pilot Study: Gender Bias Among New Jersey Women Physicians

Jane B. Sofair, M.D., Psychiatry, Morristown Memorial, 52 Maple Avenue, Morristown, NJ 07960

Summary:

This pilot study is designed to examine the prevalence and nature of gender discrimination encountered by women post-graduate physicians. Two-hundred attending level women physicians in New Jersey were randomly and anonymously surveyed using a 12-item questionnaire. Incidents were subtyped into either a harassment or discrimination category as per Grant(1). The responses were analyzed with contingency tables using pearson Chi-Square. A total of 68 returned questionnaires, two disabled non-practicers being disqualified, leaving a 34% response rate. Seventy percent ($n = 46$) affirmed one or more episodes of gender abuse. Differential treatment by nurses ($n = 8$) was particularly demoralizing, but male physician peers were the most readily identified culprit. In contrast to specialty, age was a significant factor in the subtype of gender bias reported, younger physicians reporting more harassment than discrimination, while the older group reporting the converse ($p = .01$). Dickstein (2) has also noted age-related differences in self-report. Younger doctors showed a trend to be more avoidant than older doctors who employed a more confrontational style. Despite design limitations, the study suggests that 1) gender bias continues to be a problem after training, 2) younger doctors encounter more direct sexual harassment than older doctors who speak out more.

NR525 Wednesday, May 26, 12:00 noon-2:00 p.m.

University Educators: Attitudes Toward Pregnancy

Kathleen N. Franco, M.D., Psychiatry, Cleveland Clinic, 9500 Euclid Avenue Desk P68, Cleveland, OH 44195; Marijo B. Tamburrino, M.D., Nancy B. Campbell, M.D., Cynthia L. Evans, M.D., Stephen S. Jurs, Ph.D.

Summary:

Three hundred fifty-nine full-time educators between the ages of 30 and 59 from three Ohio colleges participated in a survey of attitudes toward pregnant colleagues and trainees (Bowling Green State University, University of Toledo, Medical College of Ohio). Return rates from the mailed 16-item questionnaire ranged from 67% to 20%. Items were scored on a five-point Likert scale by the participants and grouped into agree, disagree, or neutral to reduce the number of cells for chi square analysis.

Pregnant women were thought to perform their jobs as effectively as previously and to maintain interest in work and their profession. Respondents favored flexible scheduling as well as maternity and paternity leaves. Male physicians recommended postponing pregnancy until career goals were met more than did nonphysicians ($p < .001$) or women ($p < .001$). Non-physician males were even more likely to disagree with postponing pregnancy than women ($p < .01$). Physician and nonphysician women did not significantly differ on this item or others. More women than men reported that pregnancy engendered resentment or hostility among colleagues ($p < .01$), although physician males reported noting this more often

than nonphysician males ($p < .001$). The majority believed women of child-bearing age were not a hiring risk, but those disagreeing were more likely to be male physicians ($p < .001$).

In summary, although the majority of male and female educators are supportive of women who become pregnant, it seems more stressful in the medical arena than in other areas of higher education.

NR526 Wednesday, May 26, 12:00 noon-2:00 p.m.

Assessing Competence in Behavioral Family Therapy

Marc Laporta, M.D., Psychiatry, Royal Victoria Hospital, 1025 West Pine Avenue, Montreal Quebec H3A 1A1 Canada; Ian R.H. Falloon, M.D., Shirley Glynn, Ph.D., Jim Mintz, Ph.D.

Summary:

This paper describes some psychometric properties of a therapist competency measure developed to assess skills in applying Behavioral Family Therapy (BFT).

Eight skills were derived and formed the component therapist skills assessed by the measure. Each skill, as well as global rating of skills, is rated separately on a five-point Likert scale. Audiotapes were obtained from the NIMH Treatment Strategies in Schizophrenia (TSS) multicenter study. Sessions of 25 Therapists seeing 40 families were available. Inter-rater reliability (intraclass correlations-ICC) for two raters well trained in the use of the BFTSM was 65-.94 (mean :.83). ICC between one well-trained and one minimally trained rater was .43-.93 (mean:.77). ICC for Test-Retest Reliability done at 8-12 weeks was .71-1.0 (mean:.85). Concurrent validity with a standard rater was .82-.90, using a Pearson's Correlation. ANOVAs using 112 BFT session ratings showed that therapists generally did not demonstrate a consistent level of skill across families, but were more consistent across sessions with a given family. The BFTSM was shown to be highly homogeneous and demonstrated a high overall level of internal consistency (Chronbach's alpha = .95). The BFTSM is a good scale to measure therapist competence and consistency, and is useful as a teaching tool as well.

NR527 Wednesday, May 26, 12:00 noon-2:00 p.m.

Memory Deficits in War Veterans With Chronic PTSD

Rachel Yehuda, Ph.D., Psychiatry, Mt. Sinai Sch of Medicine, Bronx VA 130 W. Kingsbridge Rd, Bronx, NY 10468; Richard S.E. Keefe, Ph.D., Robert Levengood, M.D., Philip D. Harvey, Ph.D., Jennifer Geni, Ilana Schlein, B.A., Larry J. Siever, M.D.

Summary:

Individuals with post-traumatic stress disorder (PTSD) show a wide range of memory impairments ranging from intrusive memories of the trauma to psychogenic amnesia. This apparent difficulty in regulating memory has led us to hypothesize that PTSD-type memory problems may reflect cognitive deficits in the ability to contexualize or categorize previously acquired information, and these deficits may explain the fundamental inability of PTSD patients to literally-keep past memories from interfering with current functioning. In the present study combat veterans with chronic PTSD and normal males were evaluated with a test of verbal fluency, Trailmaking, the California Verbal Learning Test (CVLT), and the Wisconsin Card Sorting Test (WCST). Eighteen consecutively admitted patients with no comorbid Axis I disorder or major medical condition, no substance abuse within the past three months, and no history of head injury were chosen for this study. Twenty normal males were matched to the patients for age, years of education, and IQ. On the CVLT PTSD patients were significantly more likely than normals to confuse recently learned information with prior memories, although *no* significant differences in memory acquisition or retention were present. PTSD patients also showed a significantly higher number of perseverative, but no other types of errors, on the WCST. The data suggest that individuals with PTSD may have difficulties in organizing memories temporally. Additional deficits in classification and perseveration, in the context of otherwise normal memory performance, also appear to be present. Together the deficits observed suggest a possible cognitive explanation for the origin of contextually inappropriate memory such as intrusive thoughts and specific amnesia.

NR528 Wednesday, May 26, 12:00 noon-2:00 p.m.

Characteristics of the Unanxious State

Peter Roxburgh, M.D., Psychiatry, Foothills Hospital, 1403 29th Street N.W., Calgary AB T2N 2T9, Canada; Deborah Dobson, Ph.D.

Summary:

Objectives: a) describe enteroceptive experience in unanxious normals when fully at rest, and the relationship to physiological variables.

b) identify endpoint criteria for relaxation training.

Method: Twenty-four normal volunteer subjects selected for self-perceived test confirmed, low anxiety, were asked to fully rest and report awareness of gravity and temperature in the hands. Two sessions were held with different protocol sequences, randomly ordered to offset order and practice effects.

The Speilberger State Trait Anxiety Inventory was used for subject selection and for pre and post measures. Ambient temperature, finger temperature, pulse, and respiratory rate were monitored. Levels of relaxation were assessed on a seven-point self-rating scale and the Poppen Relaxation Rating Scale.

Results: a) introspecting for resting sensation generally covaried with increasing relaxation.

b) experiences of coolness versus warmth and heaviness versus lightness were unequivocally reported and often were readily changed under guided suggestion.

c) the effect of alternating sensation had a negative impact on relaxation only in the case of moving from lightness to heaviness.

d) finger tip temperature fell into a bimodal pattern and was uniformly accurately identified.

Conclusions: A complex but coherent pattern of discrete awareness of resting sensation emerged which was understandable in terms of sensory habituation, limits on attentional capacity, and more accurate than usually appreciated enterception.

Although physiological measures, including the widely accepted hand warming, and any single resting experience, fail to indicate the relaxed state, the pattern of the resting experience does.

NR529 Wednesday, May 26, 12:00 noon-2:00 p.m.

Predicting Psychotherapy Dropout by Borderlines

Thomas E. Smith, M.D., Psychiatry, Cornell Medical College, 21 Bloomingdale Road, White Plains, NY 10605; Harold W. Koenigsberg, M.D.

Summary:

Objective: This study describes an effort to identify predictors of drop out from psychodynamic psychotherapy for patients with borderline personality disorder. *Method:* Thirty-six patients with a *DSM-III* diagnosis of borderline personality disorder following administration of a structured diagnostic interview began an open-ended course of twice per week psychodynamic psychotherapy. The study was prospective, therapists were trained in a therapy defined in a manual and systematically monitored, and demographic, pre-treatment symptom level, prior treatment, and therapeutic alliance factors were identified as potential predictors of dropout status. Survival analysis techniques were used to determine the relationship between the identified variables and time to

drop out. *Results:* The overall dropout rate was 50% at the time of the analysis. An interaction between an aspect of therapeutic alliance (the Therapist Understanding and Involvement subscale of the California Psychotherapy Alliance Scale) and the patient's level of hostility gave the strongest predictive value for early dropout, whereas the same therapeutic alliance dimension in combination with age predicted later drop out. *Conclusions:* The results shed further light on the problem of dropout in this patient population, suggesting that the therapist's capacity to manage expressions of hostility and negative transferences is critical in the early stages of psychodynamic psychotherapy.

NR530 Wednesday, May 26, 12:00 noon-2:00 p.m.

Psychotherapy Dosage Effects Cocaine Dependence

Lino Covi, M.D., Research Center, NIH NIDA Addiction, P.O. Box 5180, Baltimore, MD 21224; Judith Hess, M.A., Nancy Kreiter, M.S.

Summary:

Psychotherapeutic approaches are widely used in drug abuse treatment. Factors contributing to their effects include frequency of sessions and types of techniques employed. This study examined the impact of counseling session frequency when using an advanced model of psychotherapy without pharmacotherapy.

The design included random assignment to one of three counseling intensities over a 12-week treatment course: a) twice a week, b) once a week, c) once every two weeks. The counseling was done by masters level counselors who have been trained in the use of a manual entitled "An integrated interpersonal/cognitive/behavioral counseling approach to cocaine abuse treatment," which was designed for this study. Monitoring of progress was done by urine testing, interviews, and psychological testing in twice-a-week visits. Three unjustified absences were grounds for administrative termination of treatment.

Preliminary analyses of the results of the first 40 subjects show retention in treatment favoring the twice and once a week assignments, cocaine usage measures showing no improvement for every two weeks assignment, and approximately 50% improvement in the other two assignments. Thus, a once a week frequency of counseling sessions appears to be the minimum requirement for cocaine abuse treatment.

NR531 Wednesday, May 26, 12:00 noon-2:00 p.m.

Partial Sleep Deprivation and Reduced Immunity

Heidi E. Cover, B.S., Psychiatry, UCSD and VAMC, 3350 La Jolla Village Drive, San Diego, CA 92161; Michael Irwin, M.D., Barbara Parry, M.D.

Summary:

To evaluate the role of sleep disturbance in the modulation of natural killer cell (NK) activity, this study tested the effects of early or late partial sleep deprivation on NK activity in nine normal control women. Using a randomized crossover trial of either early- (sleep time 3am-7am) or late- (sleep time 9pm-1am) night partial sleep deprivation during the late luteal phase of two different menstrual cycles, NK activity was assessed on three consecutive days: before sleep deprivation, after sleep deprivation, and again after a recovery night of sleep. Additionally, NK activity was assayed during the early follicular phase (menstrual cycle day 8-10) for an evaluation of cycle phase differences of NK activity.

Either a night of early- (30% decrease) or late- (25% decrease) partial sleep deprivation produced a significant ($p < .05$) reduction of NK activity with a rebound of NK activity to baseline levels following the recovery night. Early follicular vs. late luteal values of NK activity were also different ($p < .05$).

Disturbance of sleep imposed by night of partial sleep deprivation produces a reduction of NK activity suggesting that both sleep pattern and menstrual cycle phase should be taken into consideration when evaluating cellular immune function in women.

NR532 Wednesday, May 26, 12:00 noon-2:00 p.m.

Medical Student Attitudes Toward Behavioral Sciences

Amy C. Brodkey, M.D., Psychiatry, Medical College of PA, 3200 Henry Avenue, Philadelphia, PA 19129; Linda Nieman, Ph.D., Edward Gracely, Ph.D., Mark Fabi, M.D., Anthony Rostain, M.D.

Summary:

Objective: To develop an instrument to assess the quality, plasticity, and distribution of medical students' attitudes toward the value of learning behavioral sciences.

*Method:*Data from a newly constructed 22-item questionnaire was obtained on 120 of 138 Medical College of Pennsylvania freshmen at the beginning and conclusion of a course in behavioral sciences. Factor analysis indicated a general factor of overall positiveness of attitude; a revised scale, with alpha internal reliability of 0.85, was derived to represent this factor.

Results: Mean attitudes were normally distributed and mildly positive at both times, with a correlation of 0.512 between them. A total of 58% of students change $\geq$ 0.5 SDs between testings. Scores were not associated with age, race, student type, previous employment, or illness history. Positiveness of attitude was significantly associated with female gender, non-science college study, and projected specialty choices of psychiatry, pediatrics, and obgyn (independent of gender); and negatively associated with projected choices of internal medicine, pathology, radiology, and surgery.

Conclusion: These results suggest that students' attitudes toward the behavioral sciences may be flexible and potentially modifiable and argue against a bimodal distribution of attitudes. Attitudes correlate with educational, gender, and projected specialty choice variables. This scale is being tested and used to evaluate varying curricula at three Philadelphia medical schools. It may have predictive value for specialty choice and/or clinical performance.

NR533 Wednesday, May 26, 12:00 noon-2:00 p.m.

Knowledge Mapping as a Tool for Psychiatric Education

Thomas A.M. Kramer, M.D., Psychiatry, University of Arkansas, 4301 W. Markham Slot 568, Little Rock, AR 72205; Jennifer L. Peel, Ph.D.

Summary:

Objectives: Recent research in educational psychology has demonstrated efficacy for an information processing tool known as knowledge mapping. Presentations on depressions and its treatment were developed using knowledge maps to evaluate their utility in teaching this material. *Method:* Knowledge maps are two dimensional node-link-node displays which can illustrate a structure for decision making. These presentations were given to three audiences: psychiatrists, family practitioners, and lay persons. At the end of these presentations, participants were asked to complete an evaluation with four questions on an eight point Linkert scale. This consumer satisfaction evaluation assessed the following: 1) influence on the audience's personal future decision making, 2) the ability of knowledge maps to clarify and organize, 3) the ability of knowledge maps to identify gaps or inconsistencies in their knowledge base, and 4) interest in attending another knowledge map based program. *Results:* There were no significant differences in results between the three audiences ($n = 66$). Scores were favorable on all four questions (means of 5.5, 6.0, 5.7, and 6.6, respec-

tively). *Conclusions:* This indicates that knowledge maps are an effective tool in educating both professionals and the public in decision making about depression. Using this as a template, the authors are currently attempting to expand this to other psychiatric disorders.

NR534 Wednesday, May 26, 12:00 noon-2:00 p.m.

The Psychiatrist in Film: The Evolution of an Archetype

Anne I. Koplin, M.D., Psychiatry Corp Bldg 420, Sinai Samaritan, 2000 W. Kilbourn Ave, Milwaukee, WI 53233; Charles Grade, M.D.

Summary:

Objective: The past three years have brought a plethora of films with a psychiatrist as central character. The paths of psychiatry and film have intersected since their inception. An attempt is made to understand this relationship in terms of "archetypes." Films awaken archetypal images deep in the unconscious of filmmaker and moviegoer and influence how we feel and think.

Method: Fourteen brief film clips portraying psychiatrist and patient were shown mental health professionals (N = 38), patients (N = 23), and "normals" (N = 20). Subjects were asked to rate clips in terms of psychiatrists' competence, ethics, identification with the therapist, and the degree that these film psychiatrists portray a favorable image of our profession.

Results: Results showed opinions were remarkably similar between groups. Psychodynamically oriented therapists rated higher than others and males rated higher than females. Patients rated psychiatrists significantly lower than "normals."

Conclusions: Consistency of responses across groups reinforces our idea of a powerful archetype emerging in film. Male psychodynamically oriented therapists had the most favorable impression, which we would expect, given that the portrayed psychiatrists shared their therapeutic bias. The lower rating given by patients may reflect negative transference. An awareness of this could be of clinical importance.

NR535 Wednesday, May 26, 12:00 noon-2:00 p.m.

Career Aspirations of Tomorrow's Psychiatrists

Stevan M. Weine, M.D., Yale Psych. Inst., Yale University, P.O. Box 12A, New Haven, CT 06520; Adam Darnell, M.D., Ira R. Levine, M.D., Thomas H. McGlashan, M.D.

Summary:

Objective: To describe the psychiatric career aspirations for P.G.Y.-II psychiatry residents at Yale University. *Method:* A Resident Profile (RP) self-report questionnaire gathered qualitative and quantitative information on the residents' demography, the areas of likely professional commitment, and treatment ideology. The RP was given to 19 P.G.Y.-II's at Yale and 15 responded. *Results:* All plan to be clinicians (100%), with significant proportions also choosing to be teachers (67%), researchers (53%), and administrators (27%). Residents expressed strong interest in a variety of work settings: inpatient (67%), outpatient clinic (67%), outpatient private practice (60%), partial hospital (20%). All plan to treat individuals (100%), with significant proportions also choosing families (47%), groups (40%), and couples (13%). Most plan to provide pharmacotherapy (87%) and short-term psychodynamic psychotherapy (67%), with significant proportions also choosing long-term psychodynamic psychotherapy (53%), marital/family therapy (40%), cognitive therapy (40%), and behavior therapy (40%). There were no associations of career aspirations and psychiatric treatment ideology. *Conclusions:* The Resident Profile proved to be useful for gathering descriptive information about the career interests and professional development of psychiatry residents. The career aspirations of P.G.Y.-II's at Yale are heterogeneous and flexible with respect to role, setting, therapeutic situation, and therapeutic modality. Findings suggest current residents are preparing for the uncertain future of the profession by choosing to acquire a broad and diverse range of knowledge and skills.

NR536 Wednesday, May 26, 12:00 noon-2:00 p.m.

Benzodiazepine Use in a University Hospital

Marc H. Zisselman, M.D., Psychiatry, Thomas Jefferson, 301 College 1020 Walnut Street, Philadelphia, PA 19107; Barry W. Rovner, M.D., Karen G. Kelly, M.D., Celia Woods, M.D.

Summary:

Objective: To assess benzodiazepine utilization and documentation in hospitalized medical and surgical patients in relation to demographic characteristics. *Design:* Retrospective review of computerized university hospital database and medical records. *Subjects:* 6,020 consecutive medical and surgical admissions from January through June 1992. *Measurements:* Utilization of four commonly prescribed benzodiazepines (Halcion, Ativan, Valium, Xanax) in relation to age, race, sex, length of stay, hospital services, and documentation of indications for use. *Results:* 2,491 patients (41.4%) were prescribed a benzodiazepine during their hospital stay. Patients over 65 were as likely to receive a benzodiazepine as young patients. Benzodiazepine utilization was associated with admission to a surgical compared to a medical service (49.0% vs. 37.3%, p. < 001), race (white 45.7% vs. non-white 29.9%, $p < .001$) and length of stay (11.8 days vs. 6.8 days, $p < .001$). Review of 30 medical and 30 surgical medical records revealed no documentation of purpose for benzodiazepine use other than as a preanasthetic agent in 23 (38.3%) cases. *Conclusions:* Benzodiazepines are widely prescribed in the hospital setting in the absence of appropriate documentation. Older patients are as likely to receive benzodiazepines as younger patients despite the known morbidity associated with their use in this population. Difference in prescribing practices by race, the increased length of stay among patients receiving benzodiazepines, and the appropriate use of benzodiazepines in the elderly require further study.

NR537 Wednesday, May 26, 12:00 noon-2:00 p.m.

Expressed Emotion: Trait or State?

Judith Schreiber, M.S.W., ETB, NIMH NIH Bldg 10 4N214, 9000 Rockville Pike, Bethesda, MD 20892; Alan F. Breier, M.D., David Pickar, M.D.

Summary:

Objective: Expressed Emotion (EE) research primarily focuses on EE as a predictor of relapse for patients who have schizophrenia. There continues to be unanswered questions about whether parental responses, as characterized by EE, represent a response to a particular illness or are an intrinsic response style that can be detected vis a vis other family members. The purpose of this pilot study is to examine this question: whether EE is a response characteristic *of* the parent (trait) or a parental response *to* the identified patient (state).

Method: Critical comments, emotional overinvolvement, and warmth were rated from recorded interview. Interrater reliability for these three variables was above 0.93. Seventeen parents were interviewed twice utilizing modified versions of the Camberwell Family Interview; once about their child with chronic schizophrenia (mean age 30.5 ± 8.2 yrs; 13 male, 4 female) and once about a well sibling (mean age 30.0 ± 8.7 yrs; 7 male, 10 female). The parental responses are compared.

Results: A paired t test confirmed significant differences on two measures of EE: Emotional Overinvolvement ($p = 0.01$) and warmth ($p = 0.02$). The parent showed significantly more overinvolvement toward the child with schizophrenia, and significantly more warmth toward the well child. There was a nonsignificant trend of more critical comments toward the ill child ($x = 4.1$) than toward the well child ($x = 3.2$). These provocative results raise interesting questions concerning future understanding and theoretical application of these measures of EE.

NR538 Wednesday, May 26, 12:00 noon-2:00 p.m.

Systematized Treatment of Schizophrenia

Anthony L. Pelonero, M.D., Psychiatry, MCV-VCU, Box 710, Richmond, Va 23298; Anand K. Pandurangi, M.D.

Summary:

This is a first status report of an ongoing prospective study of treatment-unresponsive patients sent to a public facility. The effectiveness of systematized pharmacologic strategy (algorithm) in schizophrenia is being tested. Treatment is instituted per an algorithm consisting of four phases of six weeks each; 24-item BPRS is rated at entry and exit; patients exit at 50% improvement on BPRS. Phase 1: 0.2mg/kg oral haloperidol with upward titration; phase 2: discontinue haloperidol, use another neuroleptic; phase 3: add $LiCO_3$; phase 4: discontinue lithium, add carbamazepine. Anticholinergics are used prn. A clozapine trial is considered if there is no improvement following phase 4.

To date, 33 subjects admitted for acute relapse of schizophrenia (*DSM-III-R*) have entered the study; subjects are otherwise physically healthy. Mean age of subjects = 30.03 (± 7.81) years, 23 males, ten females. Mean length of treatment: overall: 35 days; phase 1 exit: 30 days ($N = 31$); phase 2 exit: 113 days ($N = 1$); phase 3 exit: 136 days ($N = 1$). An analysis of variance showed significant changes between baseline and end-study BPRS measures: Total BPRS, $p < .0001$; Loss of functioning, $p < .0001$; Positive Symptoms, $p < .0001$; Negative Symptoms, $p < .0005$; General Symptoms, $p < .0001$.

This protocol is a systematized version of common clinical treatment for schizophrenia. As treatment-resistant patients are often sent to a public hospital, we were surprised to find the rate of improvement so high. We support systematized treatment as a sound clinical practice. This report is preliminary and the number of subjects is small; we expect to study larger numbers with this algorithm.

NR539 Wednesday, May 26, 12:00 noon-2:00 p.m.

Impact of Banning Smoking on a Locked Unit

Ellen Haller, M.D., Psychiatry, Univ of Calif San Fran., 401 Parnassus Avenue, San Francisco, CA 94143; Dale E. McNiel, Ph.D., Renee L. Binder, M.D.

Summary:

Objective: This study prospectively evaluated the impact of a complete smoking ban on a locked psychiatric unit. *Method:* The setting was a 16-bed inpatient unit with 92% involuntary patients, no access to a smoking area, and an average stay of two weeks. One month before and after implementation of a smoking ban, staff ($N = 67$) and patients ($N = 38$) completed surveys addressing their attitudes toward the ban. Ward milieu variables were also compared. *Results:* The Ward Atmosphere Scale did not change significantly (MANOVA). Although staff initially expressed concern about the ban's potential negative impact, after implementing the ban, t-tests revealed that staff were significantly ($p < .05$) less concerned about the patients needing more medication, becoming restless, being too fragile to cope with smoking withdrawal, leaving the unit AMA, or trying to elope. Staff were significantly more positive about the ban than patients. Aggressive behavior did not increase. No significant change was found in average census, rate of seclusion and restraint, or number of AMA discharges. Seventy-eight percent of the staff voted to continue the ban. *Conclusions:* This is the first study to assess a smoking ban's impact on this type of unit. Although staff anticipated that a smoking ban would have negative consequences, their attitudes changed after the ban was in effect, and there was minimal actual impact on the ward milieu.

NR540 Wednesday, May 26, 12:00 noon-2:00 p.m.

Patient Evaluation of Venlafaxine: A New Antidepressant

Ronald Pedersen, M.S., Biostatistics, Wyeth-Ayerst Research, P.O. Box 8299, Philadelphia, PA 19101; Richard Rudolph, M.D.

Summary:

Patients who find their medication easily tolerated and effective are logically the most likely to adhere to a long-term treatment regime. Depressed patients enrolled in three six-week, double-blind clinical trials rated two aspects of their therapy: improvement, and tolerance for the medication. Of the 450 patients enrolled, 224 received the new antidepressant venlafaxine, 149 received imipramine, and 77 received trazodone.

Patient ratings of tolerability and improvement were not independent: Overall, 86% of those who reported only minor or no side effects reported their condition as improved or much improved, while only 60% of patients who reported bothersome or significant side effects reported their condition as improved or much improved ($p < .001$).

The proportion of patients who claimed both much or very much improvement and only minor or no side effects from the medication was higher for the venlafaxine group (47%) than for the combined imipramine (37%) and trazodone (35%) groups (; $< .05$). Patients rated improved or much improved by the investigator qualified to enroll in a long-term extension trial. Qualified patients who claimed both much or very much improvement and only minor or no side effects were much more likely to continue into the extension trial than those who did not claim both (odds ratio 4.1, $p < .001$).

NR541 Wednesday, May 26, 12:00 noon-2:00 p.m.

Denial Among Paraphilic Patients in Medroxyprogesterone Acetate Treatment

Thomas W. Haywood, M.A., Psychiatry, Rush Pres. St. Luke's 1720 West Polk Street, Chicago, IL 60612; Carl Wahlstrom, M.D., Howard M. Kravitz, M.P.H., Jack R. Green, Psy.D., James L. Cavanaugh, M.D., Jonathan Kelly, M.D.

Summary:

Objective: In the current study we examine denial and distortion in self-reports of sexual activity in a sample of male paraphilic patients undergoing medroxyprogesterone acetate (MPA; Depo-provera[R]) treatment. *Method:* The sample is comprised of 29 adult paraphilic males treated with MPA. Minimization of psychopathology was assessed with the MMPI and was correlated with patient's self-reports of: 1) frequency of sexual behaviors before treatment and 2) number of weeks until suppression of sexual behaviors during treatment. *Results:* Patients reported a high level of deviant and nondeviant sexual thoughts and fantasies pre-treatment. A rapid decrease in deviant (0 to 2 weeks) and nondeviant (2 to 8 weeks) sexual behaviors during treatment with MPA was observed as well as lowering of testosterone levels to less than 1.0 ng/mg. Minimization of psychopathology at initial evaluation was not related to pretreatment self-reports of sexual behaviors, but was re-

lated to the number of weeks until suppression of self-reported sexual behaviors during treatment ($p < .05$).

Conclusion: Clinicians are encouraged to accept with caution self-reports of sexual behaviors from paraphilic patients and to rely on objective physiological data and other objective corroborative data for more reliable assessment of sexual functioning in paraphilic patients in treatment with MPA.

NR542 Wednesday, May 26, 12:00 noon-2:00 p.m.

A Pilot Study: The Impact of Psychoeducation Training on a Long-Term Treatment Ward

Murray D. Schane, M.D., Medical Education, Creedmoor Psych Center, 350 Central Park West #1H, New York, NY 10025; Robin Hamilton, M.D., Jocelyn Udasco, M.D., Jane S. Ferber, M.D., Irwin Lubell, C.S.W., Kathryn Alexander, R.N.

Summary:

Being a total domicile for the chronically mentally ill, the long-term treatment ward functions as a substitute for the family. One such ward in a state hospital was found to have an unusually high level of violence. Hoping to reverse that trend, the Family Training Center piloted the introduction of the psychoeducational model through staff training both in the creation of a low-stress environment and in utilizing the problem-solving method. The research component studied the effect of the training on the pattern of violent incidents over the first year of the project and on patient psychopathology during the same period as reflected in Positive and Negative Symptom Scale (PANSS) ratings. Results indicate that both the total number of reported incidents and the incidents of violence decreased by 50% between the year prior to and the first year of the project. PANSS ratings, as in previous studies of psychoeducation with families, failed to show any change by the end of the first project year. To date the success of this project can be measured by the effect on reported incidents, perhaps the inpatient ward equivalent of high expressed emotion, and the cost-effectiveness of the project, which required no change in staffing levels or ward configuration.

NR543 Wednesday, May 26, 12:00 noon-2:00 p.m.

Long-Term Clozapine and Benzodiazepines: Eight Case Reviews

Jeffrey J. Grace, M.D., Buffalo Psych Center, 400 Forest Avenue, Buffalo, NY 14213; Barbara Priest, R.N., Murli Yadav, M.D.

Summary:

A retrospective review of eight treatment-refractory patients treated with clozapine and benzodiazepines (as an adjunctive agent) was completed at the Buffalo Psychiatric Center. Benzodiazepines were utilized to treat coexisting agitation, anxiety, seizure disorder, or refractory psychotic symptoms during initiation of clozapine therapy, and continued due to demonstrable clinical improvements. The patients were gradually titrated following manufacturer's guidelines. The mean daily dose of clozapine was 862.50 mg., and 3.88 mg. for lorazepam (7 of 8 patients). One patient was on 1.5 mg./day of clonazepam. The mean duration for the drug combination was 15.44 months. Significant improvement was noted in BPRS scores (mean baseline score 59.50 and one year score 41.75). No significant respiratory depression or arrest occurred. Respiratory depression has been stated to occur in about one in 2000, to one in 6000 patients given clozapine. While this study retrospectively evaluates a small number of cases, the lack of significant untoward respiratory effects suggests that the combination, when carefully monitored, may be safe as well as clinically effective for some treatment-refractory patients.

NR544 Wednesday, May 26, 12:00 noon-2:00 p.m.

Fluoxetine Prevents Increase of Seizure Threshold and Shortening of Seizure Duration in Depressive Patients Treated by ECT

Avner Elizur, M.D., Psychiatry, Abarbanel Men Hlth Ctr, Bat Yam, Israel; Meir Stienbock, Yosef Levin

Summary:

Twenty-four patients suffering from major depression according to *DSM-III-R* criteria participated in a prospective study done in our ECT department.

Electrical dosage, seizure threshold and seizure duration were measured. Anasthesia was induced by sodium penthotol (3mg/kg) and the patients received succinylcholine (1.5 mg/kg) followed by 100% oxiginatgon.

ECT was given by means of MECTA SR-1 with bitemporal electrodes placement. A method of limits procedure was designed to determine seizure threshold. Seizure duration was determined using MECTA SR-1 single EEG channel monitor registration. The seizure threshold as measured in jouls was computerized by the ECT machine.

The patients were divided to three groups:

A) 15 patients receiving no concomitant medications.

B) Five patients receiving concomitant neuroleptic drugs.

C) Four patients receiving concomitant fluoxetine treatment (20 mg/d) which was started 2 weeks before ECT course was started.

The fluoxetine group showed a statistically significant no increase of electrical threshold (measured by jouls) as compared to the other two groups. We also found that the seizure duration for the first ECT given was significantly longer for the fluoxetine group as compared to the other two.

NR545 Wednesday, May 26, 12:00 noon-2:00 p.m.

Non-Behavioral Factors in Seclusion and Restraint

Chandresh Shah, M.D., Psychiatry, V.A.O.P.C., 425 South Hill Street, Los Angeles, CA 90013; David Band, M.D.

Summary:

Seclusion (SCL) and restraint (RST) are commonly used in psychiatric hospitals to control patients' behavioral disturbances. Data were collected for incidences of SCL and RST (going IN or coming OUT of occurring each shift (morning-M, evening-E, night-N) for six inpatient units over a month. Patient-staff ratio (PSR) was calculated for each shift when an incidence occurred. PSR for SCL-IN, SCL-OUT; RST-IN and RST-OUT yielded nonsignificant difference. Number of incidences of SCL-IN for all three shifts were not significantly different. Those of SCL-OUT occurred more frequently (0.194 ± 0.447) during shift-M ($p = 0.000$). Number of incidences of RST-IN (0.167 ± 0.464) and those of RST-OUT (0.263 ± 0.589) occurred more frequently during shift-M ($p = 0.004$, $p = 0.000$, respectively) as compared to shifts-E and N. Considering total bed capacity (25) as a critical census, number of incidences of SCL-IN or -OUT did not vary significantly with low or high census. But incidences of RST-IN (0.125 ± 0.024) occurred frequently ($p = 0.045$) with high census, while those of RST-OUT (0.132 ± 0.026) occurred frequently ($p = 0.032$) with low census. These data suggest that not only patients' behavioral profiles, but factors like PSR, nursing shift and a critical census determine use of SCL and RST.

NR546 Wednesday, May 26, 12:00 noon-2:00 p.m.

The Soteria Project: New Data Analyses

Loren R. Mosher, M.D., DAVMHS, Montgomery County Govt., 401 Hungerford Drive Ste 500, Rockville, MD 20850; Robert Vallone, Ph.D., Alma Menn, ACSW

Summary:

Objective: To compare six-week and two-year outcomes of young, unmarried, newly diagnosed, *DSM-III* schizophrenics deemed in need of hospitalization treated in specially designed experimental milieus (Soteria and Emanon) without neuroleptic drugs with those of control subjects receiving "usual" treatment (including neuroleptics) on general hospital psychiatric wards. *Method:* 45 experimental and 55 randomly assigned controls completed the initial treatment phase. Prior to admission demographic, psychopathologic, prognostic, and psychosocial variables were assessed. Psychopathologic, psychosocial, and treatment variables were assessed at six weeks and two years. *Results:* Six-week levels of psychopathology were significantly, and similarly, reduced in both groups. At two years there were no intergroup differences in symptoms, treatment received, or global good vs. poor outcomes. Experimental subjects had become more independent in their living arrangements. Independent of treatment group, good two-year outcomes were related to *preadmission* level of education, presence of precipitating events, living independently, and having worked successfully. *Conclusions:* (1) In the short-term (six weeks), a specially designed pure psychosocial approach was as effective in reducing symptoms as "usual" hospital treatment, including good neuroleptic drug regimes. (2) Two-year outcomes were predicted by preadmission levels of psychosocial competence, independent of treatment received.

NR547 Wednesday, May 26, 12:00 noon-2:00 p.m.

Hospitalized Insanity Acquittees' Functioning

Pritesh J. Shah, M.D., D-11 Psychiatry, Elmhurst Hospital, 79-01 Broadway, Elmhurst Queens, NY 11373; Antonio Convit, M.D., William M. Greenberg, M.D.

Summary:

Objective: A 1975 New Jersey state judicial ruling (State v. Krol) required that discharge criteria for those found not guilty by reason of insanity (NGRI) should be similar to those who are civilly committed. We perceived, nonetheless, that NGRI patients in a New Jersey regional state hospital were functioning significantly better than those of the general inpatient population, and sought to confirm this. *Method:* We obtained clinical global impression (CGI) scores and nursing-rated specific level of functioning (SLOF) scores on 62 NGRI patients and 62 controls matched on gender, diagnosis, and history of substance use disorder. *Results:* The NGRI patients had significantly better CGI scores (3.65 vs. 4.42, $p < .001$), and "personal care skills" ($p = .032$) and "social acceptability" ($p < .001$) SLOF section scores. Strikingly, the five social acceptability item scores specifically measuring dangerousness to self, others, or property were all highly significantly better for the NGRI group. *Conclusions:* In this setting, hospitalized NGRI patients appeared to be functioning clinically at a higher level than other inpatients. This may be related to a higher frequency of paranoid subtypes of psychotic disorders diagnosed in the NGRI population ($p = .002$), and to other unmeasured factors inhibiting discharge. Paranoid patients may be more dangerous when acutely ill, but more likely to respond well to treatment. The high frequency of history of substance use disorder (68%) found in the NGRI population is also noteworthy.

NR548 Wednesday, May 26, 12:00 noon-2:00 p.m.

Comparison of Consultation/Liaison Psychiatry Services Between a Suburban Community Hospital and a Metropolitan County Hospital

Kathleen P. Decker, M.D., Psychiatry, Univ of Washington, ZA-99 HMC 325 9th Avenue, Seattle, WA 98104; Darcy A. Phillips, Lawrence G. Wilson, M.D.

Summary:

Objective: To compare trends in diagnoses and utilization of psychiatric consultation-liaison service between a suburban community hospital its local metropolitan county hospital.

Method: A retrospective chart review of psychiatric consultations performed at two hospitals during a one-year period was undertaken (8/90-8/91). Total consultations from the community hospital numbered 122, and from the county hospital 723.

Results: Statistics showed comparable frequency of diagnosis of major depression, adjustment disorder, bipolar disorder, and delirium. Organic mood disorder was diagnosed more frequently at the county hospital. Significantly fewer diagnoses were made at the county hospital of dementia, mixed dementia, and depression, anxiety disorder, and somatoform disorders. In both hospitals, the majority of consults originated from medicine, but significantly more consultations were requested by surgery and neurology in the county hospital.

Conclusions: One might expect more patients with psychosis and substance abuse in county hospitals, and this trend was observed; however, a high frequency of dementia due to alcohol was diagnosed in the community hospital. Potential significances of the difference in requesting specialities are explored. The county hospital is operated by the medical school of a major university, and as such, may not represent all metropolitan county hospitals.

NR549 Wednesday, May 26, 12:00 noon-2:00 p.m.

Factors Not Closely Related to Injury and Outcome in Common Whiplash One Year After the Accident

Bogdan P. Radanov, M.D., Psychiatry, Murtenstrasse 21, Berne 3010, Switzerland; Ayesha Schnidrig, M.a., Giuseppe Di Stefano, M.A., Matthias Sturzenegger, M.D.

Summary:

Background: Symptoms persisting beyond six months after whiplash injury are considered to be mainly neurotic in origin or related to malingering. To properly malinger, symptoms require a patient's familiarity with their complexity. No research to data have focused on the relationship between variables not closely related to injury, and the outcome after whiplash injury.

Patients and Methods: 117 randomly selected patients who had recently suffered whiplash injury in automobile accidents, being fully covered by insurance plans, were investigated on an average of 7.2 ± 4.2 days. After 12 months patients were divided into an asymptomatic group ($n = 89$) and a still-symptomatic group ($n = 28$) and compared with regard to findings from the baseline investigation. At baseline, patients were assessed on the following factors: i) familiarity with the symptoms of whiplash injury; ii) patient's own assessment of accident, (i.e., trivial vs. serious); iii) patient's initial apprehension of delayed recovery (e.g., illness or disability worry); iv) neurological symptoms, particularly following experience of trauma, in close relatives; v) family history of somatic illness (e.g., possible social modeling); and vi) dissatisfaction with the current occupational situation.

Results: No significant differences were found between the two groups with regard to any of the factors.

Conclusion: These findings do not support the suggestion that illness behavior in patients who suffered whiplash injury is primary attributable to factors unrelated to injury.

NR550 Wednesday, May 26, 12:00 noon-2:00 p.m.

Prediction Outcome in Common Whiplash Using Psychosocial Stress as Assessed at Baseline

Bogdan P. Radanov, M.D., Psychiatry, Murtenstrasse 21, Berne 3010, Switzerland; Giuseppe Di Stefano, M.A., Ayesha Schnidrig, M.A., Matthias Sturzenegger, M.D.

Summary:

Background: Prediction of recovery during the first year after whiplash injury using psychosocial factors as assessed at baseline.

Patients and Methods: A random sample of 117 patients (mean age = 30.7 ± 9.6 years, 58% women selected according to a clear definition of the syndrome assessed early after experiencing whiplash (mean = 7.2 ± 4.2 days). Initial evaluation included: subjective complaints (including time of symptom onset), large number of psychosocial factors, (e.g., self-ratings of well-being, personality traits, cognitive ability), and testing of attentional functioning. At one year, patient groups (recovered vs symptomatic) were compared with respect to baseline findings. Stepwise regression was performed to evaluate predictive value of baseline variables, employing the two groups as factor variables.

Results: 12 months after trauma, 79% of the patients were completely recovered. Those remaining symptomatic were older, showed initially a greater variety of symptoms, scored higher with regard to intensity of initial neck pain and headache, displayed greater impairment of well-being and cognitive ability, and performed less well on tasks of attentional functioning. According to stepwise regression, poor outcome at one year was related to age, initial headache intensity, nervousness-scale (from the personality inventory), and reduced performance on tasks involving speed of information processing.

Conclusion: Recovery from whiplash does not primarily depend on psychosocial variables.

NR551 Wednesday, May 26, 12:00 noon-2:00 p.m.

Psychopathy, Personality Disorders and Behavioral Disturbances in Adolescent Inpatients

Wade C. Myers, M.D., Psychiatry, Univ of Florida, P.O. Box 100234 UFHSC, Gainsville, FL 32610; Roger C. Burket, M.D., H. Elaine Harris, Ph.D.

Summary:

Many youths admitted to psychiatric hospitals have a history of psychopathic behaviors. Moreover, numerous Axis II diagnoses may exist in this population. Adult studies have shown that psychopathy is positively correlated with antisocial, narcissistic, and histrionic personality disorders, and negatively correlated with avoidant and dependent personality disorders. We hypothesized that similar associations between psychopathy and such personality disorders would exist in adolescents. Furthermore, we hypothesized that greater PCL-R scores would be associated with high-risk sexual activity and delinquent behaviors. Thirty hospitalized adolescents were assessed for DSM-III-R disorders, psychopathy, sexuality, and delinquent behaviors using the Diagnostic Interview for Children and Adolescents, the Structured Interview for DSM-III-R Personality Disorders, The Revised Psychopathy Checklist, and a sexology interview. Significant PCL-R score elevations were found in subjects with conduct disorder and narcissistic personality disorder; nonsignificant trends toward lower scores was noted in those with avoidant and self-defeating personality disorder. High-risk sexual behaviors were common, but not associated with elevated PCL-R scores. Most delinquent behaviors measured (i.e., fighting, stealing, cruelty to animals) were significantly associated with greater PCL-R scores. Further studies in this area are needed to elucidate these complex relationships in adolescents with emotional and behavioral disturbances.

NR552 Wednesday, May 26, 12:00 noon-2:00 p.m.

Relationship Between Psychosocial Stress, Cognitive Performance, Severity of Trauma and Disability in Whiplash Patients

Ayesha Schnidrig, M.A., Psychiatry, University of Berne, Murtenstrasse 21, Berne CH 3010, Switzerland; Bogdan P. Radanov, M.D., Giuseppe Di Stefano, M.A., Matthias Sturzenegger, M.D.

Summary:

Background: This study investigated the relationship between psychosocial stress, cognitive performance, severity of injury, and disability in common whiplash patients. These factors potentially influencing recovery and disability are relevant from a socioeconomic and medicolegal point of view. *Patients and methods:* 117 randomly selected, common whiplash patients, referred by primary care physicians who were responsible for disability assessment. Patients were examined early after trauma (mean = 7.4 ± 4.2 days) and one year later. All patients were involved in car accidents and were fully covered by accident insurance. Investigation included different aspects of psychosocial stress, negative affectivity, personality traits, attentional functioning, neurological and radiological findings. *Results:* After one year only five patients (4%) were disabled; 112 patients worked at the same level as before the injury, although 23 of them were still symptomatic. The disabled and non-disabled groups didn't differ with respect to psychosocial stress and personality traits as assessed at baseline, but the disabled group showed higher incidence of osteochondrosis, more attentional deficits, and suffered from a greater variety of symptoms. Comparing the disabled group with the 23 somatic patients from the nondisabled group after one year, the former group showed higher headache intensity, more sleep disturbance, and impairment of well-being and cognitive ability. *Conclusions:* These results show that disability after whiplash injury is primarily related to pretraumatic signs of osteochondrosis, severity of trauma, and trauma-induced attentional deficits and impairment of well-being.

NR553 Wednesday, May 26, 12:00 noon-2:00 p.m.

Effects of Haloperidol on RCBF in Alzheimer's Disease

Davangere P. Devanand, M.D., Psychiatry, NYSPI Columbia University, Unit 72 722 West 168th Street, New York, NY 10032; Marianne Gorlyn, B.A., Isak Prohovnik, Ph.D.

Summary:

Eleven outpatients with probable Alzheimer's disease (age 73.2 ± 8 years) who manifested psychosis or behavioral disturbance were treated with oral haloperidol in doses of 0.5 to 5 mg daily for four to eight weeks. Oral dose of haloperidol correlated strongly with blood level ($r = .75$, $p = .03$). Extrapyramidal side effects increased with haloperidol treatment (mean .6 to 3.1, $t = 2.7$, $p < .03$), but showed no association with changes in global cerebral blood flow measured by the ^{133}Xenon inhalation technique (rCBF). Modified mini mental state (mMMS) scores decreased from a mean of 18.5 (out of 57) to 15.9 with haloperidol treatment, and this decrease tended to be associated with the decrease in mean global flow ($r = .5$, $p = .1$).

Before drug treatment, responders had higher BPRS scores (57 ± 7 vs 15, $t = 2.25$, $p < .05$). Mean predrug global flow strongly predicted clinical improvement as assessed by the decrease in BPRS scores ($r = .8$, $p = .003$). Oral dose of haloperidol correlated significantly with the decrease in global flow ($r = .63$, $p < .05$). This association was driven primarily by responders ($n = 7$; $r = .939$, $p < .002$), who differed significantly from nonresponders ($n = 4$) in global flow decrements ($t = 2.4$, $p < .05$). These findings indicate that further investigation of rCBF in AD patients receiving neuroleptics is warranted.

NR554 Wednesday, May 26, 12:00 noon-2:00 p.m.

Nicotine Dependence and Schizophrenia

Douglas M. Ziedonis, M.D., Psychiatry, Yale University, 904 Howard Avenue, New Haven, CT 06519; Thomas Kosten, M.D., William M. Glazer, M.D.

Summary:

Cigarette smoking is common among psychiatric patients. This study compared the clinical characteristics of 265 schizophrenic/schizoaffective patients (n = 182/70) according to cigarette smoking status. Current smokers (68%) were younger (39 years versus 44 years) and more often male (55% vs 37%), with a higher rate of drug abuse (25% vs 7%) and alcoholism (25% vs 13%). Current smokers had higher positive symptoms of schizophrenia (SAPS scores, 7.5 vs 4.3) than non-smokers, but these groups had similar negative symptoms of schizophrenia (SANS scores, 6.5 vs 7.2, n.s.). According to the Webster's scale, smokers and nonsmokers had similar rates of parkinsonism symptoms due to neuroleptics, except that smokers had lower rates of rigidity (21% vs 32%, $p < 0.05$). There were no significant differences between these groups for tardive dyskinesia (AIMS scale). Cigarette smokers were given higher levels of neuroleptic medication (375 mg vs 590 mg) than nonsmokers. Compared to light smokers (37%) and nonsmokers, heavy cigarette smokers (> 25 cigarettes per day, 31%) had the highest rates of SAPS scores and drug/alcohol abuse, and the lowest SANS scores. Supported by NIDA P50-DA04060 and R18-DA06190.

NR555 Wednesday, May 26, 12:00 noon-2:00 p.m.

Schizophrenic Substance ABuses: A Treatment Study

David J. Hellerstein, M.D., Dept. of Psychiatry, Beth Israel Med. Ctr., 1st Ave. & 16th St. OP/Serv, New York, NY 10003; Richard N. Rosenthal, M.D., Christian Miner, Ph.D.

Summary:

Objective: To design effective treatments for patients with both schizophrenia and psychoactive substance use disorders. *Method:* Forty-seven psychiatric inpatients with concurrent RDC-diagnosed schizophrenia and psychoactive substance use disorders (PSUD/S patients) were randomly assigned to one of two outpatient treatment programs, 1) integrated psychiatric and substance abuse treatment, or 2) non-integrated treatment. Patients primarily abused cocaine, alcohol, and marijuana, with over two-thirds using all three drugs. *Results:* At four months, 69.6% (16/23) of integrated treatment patients remained in treatment, compared to only 37.5% (9/24) in the non-integrated treatment [Fisher Exact test (two tail), p = .041] Rehospitalization for patients remaining in treatment did not differ between groups (M = 5.4 ± 2.25 days vs. M = 3.6 ± 2.6 days), but patients who failed to engage in treatment (N = 18) had significantly more days in hospital (M = 22.5 ± 17.0) than those who began treatment. Failure to engage was strongly related to return to a controlled environment [N = 40; ϕ = .44; Fisher Exact test; p = .014']. At eight months, addiction and psychiatric severity decreased significantly for patients remaining in treatment. *Conclusions:* Many PSUD/S patients are successfully engaged in integrated outpatient treatment, and such treatment may lead to less rehospitalization and lower psychiatric and substance abuse severity.

NR556 Wednesday, May 26, 12:00 noon-2:00 p.m.

Is Schizophreniform Disorder A Valid Diagnosis?

Stephen Strakowski, M.D., Dept. of Psychiatry, Univ. of Cincinnati, 231 Bethesda Ave, Cincinnati, OH 45267-0559

Summary:

Schizophreniform disorder, as defined in DSM-III and DSM-III-R, is characterized as having a symptomatic presentation like schizophrenia with less than six months of prodromal, active, and residual symptoms. The nosologic validity of this syndrome is uncertain. To evaluate this, the author critically reviewed the existing literature concerning schizophreniform disorder.

Methods: All publications in print prior to December 1, 1992 (> 40) that studied a minimum of six patients with schizophreniform disorder diagnosed using DSM-III or DSM-III-R criteria were identified using *Paperchase*. Antecedent, concurrent, and predictive validators were defined *a priori* based on previous work (Kendler 1980), and data relevant to the validity of schizophreniform disorder were divided into these defined categories.

Results: On all the defined validators, schizophreniform disorder exhibited characteristics suggesting it is heterogeneous diagnostic group consisting of patients with schizophrenia, major affective disorder, and "true" schizophreniform disorder. As a specific example, the result from studies of diagnostic stability suggest that over an average period of 16.2 months, approximately 55% of these patients develop schizophrenia, 20% develop major affective disorders, and 25% retain a schizophreniform diagnosis.

Conclusions: Schizophreniform disorder is an unstable diagnosis that seems to identify a heterogeneous patient population. The implications of these findings for clinicians, researchers, and DSM-IV will be discussed.

NR557 Wednesday, May 26, 12:00 noon-2:00 p.m.

The Prevalence of Akathisia in Patients Receiving Stable Doses of Clozapine

Kadiamada N.R. Chengappa, M.D., Psychiatry, Western Psychiatry, 3811 O'Hara Street, Pittsburgh, PA 15213; Melvin D. Shelton, M.D., Robert Baker, M.D., Nina R. Schooler, Ph.D., James Baird, Ph.D, Joyce Delaney, R.N.

Summary:

Akathisia is a common side-effect of traditional neuroleptic drugs and is associated with medication refusal, suicidal, and homicidal behavior. While our previous experience, and those of others indicate that clozapine is effective in treating persistent akathisia, two controlled studies indicate vastly different prevalence rates of akathisia (7% vs 40%), in patients receiving clozapine. Hence, we estimated the prevalence of akathisia in patients (n = 43) receiving stable doses (≥ 4 months) of clozapine at a state hospital, using the Barnes Rating Scale for Drug-Induced akathisia, in addition to measuring manifest psychopathology (BPRS) and tardive dyskinesia (AIMS). Statistical comparisons were made between patients receiving clozapine alone (n = 29) versus those receiving clozapine and a traditional neuroleptic drug (n = 14). Comparisons were also made between akathisic (n = 7) and non-akathisic subjects (n = 36). Five patients (36%) receiving clozapine and another neuroleptic were rated as having akathisia versus two patients (7%) receiving clozapine alone ($p < 0.03$). Other clinical variables: age, race, sex, psychopathology scores, duration of illness, clozapine dosage and duration of treatment, treatment with anticholinergic drugs, and current prevalence of tardive dyskinesia did not differ significantly between the two groups. Concurrent benzodiazepine use was significantly more prevalent in the group receiving clozapine and another neuroleptic drug (64%) as compared to those receiving clozapine alone (17%). In the group receiving clozapine alone, only four (29%) of the 14 subjects with a history of tardive dyskinesia continued to show current evidence of tardive dyskinesia ($p < 0.002$). We cannot state whether clozapine has masked or ameliorated tardive dyskinesia in these individuals. There were no significant differences between the akathisia in patients receiving stable doses of clozapine, unless they are also receiving another traditional neuroleptic drug. These and other data support the need for a controlled trial of clozapine in patients disabled by persistent akathisia.

NR558 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Behavior Disorder Subtypes in Adolescence

Daniel F. Becker, M.D., Yale Psychiatric Inst., P.O. Box 12-A, New Haven, CT 06520; Kenneth N. Levy, B.A., William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

Summary:

Objective: To test concurrent and predictive validity of DSM-III-R subclassifications of disruptive behavior disorders in adolescents at the Yale Psychiatric Institute. *Method:* Inpatients with conduct disorder (CD, $n = 65$) and oppositional defiant disorder (ODD, $n = 19$) were compared, as were CD patients with ($n = 23$) and without ($n = 42$) attention-deficit hyperactivity disorder (ADHD). The majority of subjects were reassessed two years later. Assessments at baseline and follow-up were independent, structured (K-SADS), and reliable (average kappa for diagnosis = .77). *Results:* (All differences reported are significant at least at the $p < .05$ level). Compared with the ODD group, the CD group at baseline had lower past-year GAF scores, more cannabis abuse, and lower schizoid but higher antisocial and sadistic scores. At follow-up the CD group had more cannabis and alcohol abuse, higher antisocial and sadistic scores, more criminal activity, and higher school dropout rates. The ODD group had more subjects crossing over to the diagnosis of CD than vice versa. Compared with the group of CD without ADHD, at baseline CD with ADHD had more previous hospitalizations, and higher rates of major depression and substance abuse. At follow-up, however, there were few differences. *Conclusions:* Results support both concurrent and predictive validity of the distinction between CD and ODD in adolescence. However, these results do not support the validity of the distinction between CD with and without ADHD, when diagnosed in this age group.

NR559 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Validity of Behavior Disorders in Adolescence

Daniel F. Becker, M.D., Yale Psychiatric Inst., P.O. Box 12-A, New Haven, CT 06520; Kenneth N. Levy, B.A., William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

Summary:

Objective: To test concurrent and predictive validity of the disruptive behavior disorder (DBD) diagnosis via a two-year follow-up of adolescent inpatients at the Yale Psychiatric Institute. *Method:* Twenty-seven inpatients with at least one DBD (conduct disorder, oppositional defiant disorder, ADHD) but no mood or anxiety disorder (M/AD) were compared with 24 inpatients with at least one M/AD but no DBD. Subjects received structured diagnostic interviews (K-SADS) and psychological testing (including a WAIS or WISC-R). Twenty-two DBD and 17 M/AD subjects were independently reassessed two years later using functional evaluations and the same structured diagnostic interviews. Assessments were reliable (average kappa for diagnosis = .77). *Results:* (All differences reported are significant at least at the $p < .05$ level). Several dimensions distinguished the groups at baseline: DBD patients met fewer personality disorder criteria and had higher performance IQ scores, higher GAF scores, and more substance abuse. At follow-up, differences were fewer: DBD patients still had more behavior problems and less anxiety than the M/AD patients—but the groups were no longer different on level of depression, personality disorder criteria, GAF, or substance abuse. *Conclusions:* Results strongly suggest that while DSM-III-R may define DBD as a diagnostic category with modest concurrent validity, the construct has very limited predictive validity, even over a relatively brief period of time. The study calls into question notions that externalizing and internalizing disorders are fundamentally different in adolescence.

NR560 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Do Autistic Children Turn (Spin, Rotate) Left or Right?

H. Stefan Bracha, M.D., 116-A1-NLR, VA Medical Center, Neuropsychiatry Research, North Little Rock, AR 72114; Bernadette Lange, M.D., Balkozar S. Adam, M.D., A. Jonathan Dugger, B.A., Jeffrey W. Gilger, Ph.D., Richard L. Livingston, M.D.

Summary:

Objective: This study was done to examine the anecdotal reports of spinning behavior in autistic disorder. *Method:* This study used a portable, automated device (Bracha, *Biological Psychiatry,* 1987) to measure turning (circling) behavior in a group of 40 children. Nine were outpatients with autism of unknown etiology and 31 were healthy children. *Results:* This study confirms clinical observations of spinning and running in circles in patients with autism, and it goes beyond the previous clinical anecdotal reports by: 1) demonstrating that subclinical turning behavior exists in children with autism, in whom overt turning behavior was not clinically identified, and quantifying this behavior; and 2) demonstrating that this behavior is asymmetric. The circling and the spinning are preferentially toward the left hemi-space.

Conclusions: We suggest that subclinical right hemi-inattention (hemi-neglect) may underlie the spinning phenomenon of pervasive developmental disorder.

Supported by NIMH Grant MH 43537.

NR561 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Depression in Children With Behavior Problems

Nicole Pawliuk, M.A., Child Psychiatry, Douglas Hospital, Lyall Pavilion 6875 LaSalle Bl, Verdun Quebec H4H 1R3, Canada; Natalie Grizenko, M.D.

Summary:

Objective: Behavior problems are the most commonly cited reasons for psychiatric referral of children. Reported rates of comorbidity of disruptive behavior and depression in children range from 29% to 51%. Depression frequently may go undetected and untreated in these children. The goal of our study was to investigate the prevalence of depression in a day-treatment population compared with a normal control population of children and to determine if day treatment "normalizes" depression and hopelessness scores. *Method:* Twenty-five control children, matched on age and sex, were compared on self-report ratings of depression and hopelessness with 25 behavior problem children admitted to a multimodal day-treatment program. Pre/post-treatment comparisons were made for the behavior problem group on the same variables. *Results:* Analysis of variance showed that the day-treatment group initially scored significantly higher than the control group on both depression ($p < .01$) and hopelessness ($p < .001$). The day-treatment group at discharge was not different on ratings of hopelessness and rated even less depressed than the control group ($p < .05$). *Conclusion:* The study indicates that children with severe behavior problems are significantly more depressed and hopeless than a control group of children. Intensive, multimodal, day treatment utilizing a psychodynamic-familial-behavioral approach is effective in treating these problems.

NR562 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Reduced Imipramine Binding in Childhood Autism

Janos Balaze, M.D., II EM.5, Szephalom U 13/A, II.KER, Budapest 1021, Hungary; Mihaly Arato, M.D., Zsuzsa Schrott, Ph.D., Judith Gaspar, Ilona Ozoroczy, Sarah Olajos, Ph.D.

Summary:

Serotonergic dysfunction has been implicated in the pathophysiology of childhood autistic disorder (AD), as well as in attention-deficit hyperactivity disorder (ADHD). We measured the serotonin (5HT) related binding sites of platelets (Bmax and Kd of imipramine and paroxetine) and the platelet 5HT content in 15 children with AD, five children with ADHD, and 12 healthy controls. The three

groups were comparable regarding age; the majority of the subjects were 7-8 years old. All patients were drug free at the time of the investigation, and 12 out of the 15 children with AD had never received any medication. *Results:* The Bmax and Kd values of the platelet imipramine binding was significantly lower in the AD group than in the controls. There was not even overlap between the Kd values of the two groups. On the other side, there were no differences in the parameters of paroxetine binding and platelet 5HT content among the three groups. These findings indicate that the binding parameters of the nonspecific imipramine binding better reflects the postulated serotonergic change in AD than the paroxetine binding and the platelet 5HT content. However, it is not clear how this markedly reduced imipramine binding on the platelets of children with AD is related to the 5HT hypothesis of autism.

NR563 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Familial Occurrence of ADHD, Reading Disorder, Mood Disorder, Sleep Disorder in ADHD With and Without Reading Disorder

Drake D. Duane, M.D., Neuro/Biological Psych., Arizona State University, 10250 N. 92nd St. Ste 117, Scottsdale, AZ 85258; Michael E. Brennan, M.D., Steve Wallrichs, B.S., Michelle Clark, A.A

Summary:

Objective: Attention deficit-hyperactivity disorder (ADHD) is a heterogeneous syndrome with which the less heterogeneous phenomenon of reading disorder (RD) may co-occur. Both disorders may be associated with an increased risk for mood disorder in affected patients. ADHD first degree relatives have an increased risk for mood disorder. The impaired vigilance common in ADHD may also be observed in RD and may relate to daytime somnolence, perhaps a narcolepsy-essential hypersomnia equivalent. The individual manifestations of and the interrelationships between ADHD, RD, mood disorder, sleep disorder may be familial, perhaps genetic. Delineating that interrelationship may have implications for psychopharmacologically based short and long term intervention in ADHD patients.

METHOD: This investigation compares by structured interview with parents and patients 42 DSM-III-R ADHD patients, 13 of whom also met DSM-III-R criteria for RD with 49 neurological controls as to familial occurrence in 1st degree relatives of ADHD, RD, mood disorder, alcoholism and sleep referred to an outpatient adult and developmental neurological service. N = 29 ADHD without RD (25 male; mean age 11.9, range 8.5-16.5). 13 ADHD with RD (9 male; mean age 11.6; range 7.5-15.6) and 49 neurologic control patients without evidence of ADHD or RD referred for non-behavioral symptoms (36 male; mean age 27; range 8-49). Dysthymic, major effective, and bipolar disorders were combined, it was not always possible to distinguish alcohol dependence from alcohol abuse.

Results: Analysis by Cochran-Mantel-Haenszel statistic.

ADHD-*Controls* 1 (2%); *ADHD only* 7 (24%) P = .002 vs. controls; *ADHD + RD* 4 (31%), P = .001 vs. controls.

RD—*Controls* 3 (6%); *ADHD only* 9 (31%) P = .003 vs. controls; *ADHD + RD* 9 (69%) P = < .001 vs. controls .02 vs. ADHD only.

ALCOHOLISM-*Controls* 16 (33%); *ADHD only* 14 (48%) P = .173 vs. controls; *ADHD + RD* 6 (46%) P = .18 vs. controls, NS vs. ADHD only; *ADHD +/− RD* 20 (48%) P = .148 vs. controls.

MOOD DISORDER-*Controls* 7 (14%); *ADHD only* 13 (45%) P = .003 vs. controls; *ADHD + RD* 5 (38%) P = .013, ADHD +/− RD 18 (43%) P = .002 vs. controls.

SLEEP DISORDER—Controls 0, ADHD only 0, ADHD + RD 4 (31%) P = .001 vs. controls.

CONCURRENT FAMILY DIAGNOSES—RD & ADHD: *Controls* 0, *ADHD only* 2, *ADHD + RD* 2. ADHD or RD with mood disorder: *Controls* 0, *ADHD only* 5, *ADHD + RD* 4. RD or ADHD with alcoholism: *Controls* 1, *ADHD only* 8, ADHD + RD 5. 2 of the 4 families with RD and sleep disorder included 2 with depression and 1 with alcoholism.

Conclusion: Within the limits of this pilot investigation, childhood ADHD with or without RD is associated with an increased risk of familial occurring ADHD. Concurrent RD is associated with an increased risk of RD in family members. Thus, a distinct familial, perhaps genetic mechanism may underlie the RD in ADHD patients, perhaps similar to familial RD without ADHD. ADHD with or without RD increase the risk for familial mood disorder. Therefore, when mood disorder is comorbid with ADHD it may be familial in origin, but whether the two share similar familial mechanisms is unclear. Both ADHD and ADHD + RD have more relatives with alcoholism, but not an increased number of families with alcoholism. Family history of sleep disorder is associated with ADHD when concurrent with RD. When the propositus selection is male biased the associated disorders have an increased male familial prevalence. A line bias was noted for only alcoholism, there paternal. Future studies should investigate the correlation of family history in ADHD patients with biobehavioral measures, acute treatment response and long term outcome to clarify the biological relationship between these disorders and their optimal management.

NR564 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

The Etiology of Dyslexia: Current Data

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Summary:

Objective: This paper reviews what is currently known about the genetics of dyslexia, including much of the author's published and unpublished research. *Method:* Several large twin and family studies make up the data base for this paper. *Results:* A number of hypotheses about the transmission of dyslexia can be rejected on the basis of available data: 1) Dyslexia is not X-linked in the classic sense; 2) A simple polygenic/multifactorial (MFP) model does not adequately account for the patterns of familial transmission: 3) A classic monogenic-disease locus model can be rejected; and 4) While some form of a major gene (MG) model fits the familial patterns observed, dyslexia is genetically heterogeneous. *Conclusions:* Data thus far suggest that the best fitting etiologic model is a compromise between a MFP and MG mechanism. Specifically, a small and limited number of quantitative trait loci (QTLs) appears to underlie the transmission of both dyslexia and normal variations in reading skill. However, it is unclear if the same loci are operating across the entire range of reading ability. The degree to which all levels of reading ability are expressions of the same loci bears on the clinical issue of whether or not dyslexia is distinct from normal variation in reading skill.

NR565 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Homeless Mothers and Children: A Policy Perspective

Bonnie T. Zima, M.D., Psychiatry, West LA VA Med. Center, 207A Wilshire & Sawtelle Blvds, Los Angeles, CA 90073; Kenneth B. Wells, M.D., Howard E. Freeman, Ph.D.

Summary:

Objective: To determine: 1) the prevalence of major mental disorders and substance abuse among homeless mothers: 2) the association of parent problem with child emotional disorders and academic delays; and 3) predictors of use of health services.

Methods: We interviewed 110 mothers and 155 children (6-12 years) living in the majority (82%) of homeless shelters in L.A. County. Using standardized measures, we identified parents with symptoms of a major mental disorder and/or substance abuse and

children with symptoms of a major depression, behavior problems, or severe academic delay. *Results:* Over one-half (52.7%) of mothers had suffered from symptoms of high psychologic distress; one-third (33.6%) from major depression; 14% from schizophrenia; and a quarter (24.6%) from substance abuse. Children with internalizing behavior problems were more likely to have a parent with high psychologic distress [$F(1,155) = 4.61$, $p = .03$], major depression [$F(1,155) = 6.68$, $p = .01$], and alcohol abuse [$F(1,155)$, $p = .03$]; children with externalizing behavior problems were more likely to have parents with depression [$F(1,155) = 11.18$, $p = .001$] or schizophrenia [$F(1,155) = 5.74$, $p = .018$]; and depressed children were more likely to have a parent with schizophrenia [$F(1,155) = 13.33$, $p < .000$]. Only 10% to 30% of parents with a major mental illness had ever received any type of mental health care. *Conclusion:* Many homeless mothers suffer from major mental illness, yet few receive care. The significant association of parent mental disorder with child emotional problems underscores the need for psychiatric evaluation and treatment for homeless mothers and children.

NR566 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Obsessive Characteristics in Tourette Patients are Related to Symptoms in Their Parents

Christopher M. de Groot, M.D., Psychiatry, The Ohio State University, 473 West 12th Avenue, Columbus, OH 43210; Robert A. Bornstein, Ph.D., Glen B. Baker, Ph.D.

Summary:

This study reports the clinical characteristics of two Tourette syndrome (TS) subgroups defined by their parent's obsessive-compulsive symptom loading. OC symptoms were measured in subjects and parents by the Leyton obsessive-compulsive inventory modified for use in TS. The TS subjects were divided into two groups: those having parents endorsing an elevated OC symptom score ($n = 7$) and those with parents having a low score ($n = 27$). The two groups were compared (t-test) in terms of their TS and OC characteristics. It was found that the mean total OC score and several OC symptom cluster scores were significantly higher in the TS group defined by parents who endorsed a high level of OC symptoms. Pearson correlation coefficients also demonstrated a robust association with elevated OC symptom scores in the parents and OC symptoms in the TS subgroups. There are no differences between the groups with respect to the presence of simple tics, but complex tics were greater in the TS patients having parents who endorse OC symptoms. In addition, the age of symptom onset was later in the TS group with elevated parental OC symptoms. These findings suggest an association between parent OC symptoms and OC symptoms in their TS offspring.

NR567 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Short and Long Hospital Treatment of Adolescents

William S. Edell, Ph.D., Horizon Ment. Health Serv, 2220 San Jacinto Blvd Ste 320, Denton, TX 76205; Thomas H. McGlashan, M.D., Jonathan J. Fleischacker, B.A.

Summary:

Objective: Financial constraints have virtually eliminated long-term hospital treatment for severely disturbed adolescents. We provide outcome data to inform judgments about the role of long-term vs. short-term hospitalization in this group. *Method:* We examined post-discharge utilization of psychiatric services in a two-year follow-up study of adolescents treated in longer-term ($N = 58$, ≥ 6 months) versus shorter-term ($N = 43$, ≤ 3 months) programs at the Yale Psychiatric Institute. *Results:* Assessments were reliable. Groups did not differ on age, sex, SES, or current GAF score at admission. Longer-term patients had an earlier age at first psychiatric contact (12.3 vs. 13.8), and at first hospitalization (14.8 vs. 15.9), and a greater number and length of prior hospitalizations (2.3 for 175 days vs. 0.7 for 38 days), and prior outpatient treatment (2.0 treaters for 547 days vs. 1.4 treaters for 245 days). Despite these poorer prognostic signs in the longer-term group, there were no post-discharge differences between groups in number and length of hospitalizations (0.8 for 50 days for both groups) or in length of outpatient treatment (259 vs. 230 days). More long-term patients entered residential care post discharge, but as length of follow-up increased, a significantly larger proportion of the short-term patients required rehospitalization. Thus, long-term treatment was associated with greater reduction in the utilization of inpatient and outpatient psychiatric services compared with before index hospitalization. *Conclusions:* Longer-term hospitalization is effective for a segment of adolescents and requires further study as to its cost effectiveness.

NR568 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Quantitative Assessment of Fidgeting in ADHD

Martin H. Teicher, M.D., Psychiatry, Harvard Medical School, 115 Mill Street, Belmont, MA 02178; Yutaka Ito, M.D., Carol A. Glod, R.N., Paul Wallace, B.S., Natacha Barber, B.A.

Summary:

Objective: According to the DSM-III-R field trials, the most discriminating feature of ADHD is "fidgeting with hands or feet, or squirming in the seat." Technology is now available to precisely quantify movement. We sought to determine whether ADHD children move more than controls during a repetitious cognitive task. *Method:* Subjects were assessed using structured interview (Kiddi-SADS). Rating scales were completed by parents and teachers (Connors, IOWA). Children were tested on a continuous performance task (CPT) based on Greenberg's MCA, while an infrared motion analysis system (Innovision) tracked the precise X-Y location of four small markers (head, shoulder, back, elbow) 50 times per second. *Results:* Data are available on seven ADHD children (10.3 yrs) and four controls (10.0 yrs). Controls moved their head an average ($\pm$SD) of 9.13 ± 1.89 mm/sec during the CPT. ADHD children moved four-fold more (39.21 ± 24.23 mm/sec; $p < 0.04$). All of the ADHD children moved at least twice as much as controls, with the exception of one ADHD child, who had no signs of hyperactivity on teacher ratings. ADHD children were 16.6% less accurate than controls on the CPT ($p < 0.04$), but did not differ in response latency or variability. *Conclusions:* These findings suggest that it may be possible to measure fidgeting. Eventually, this measure may serve as a diagnostic aid or target symptom.

NR569 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Malpractice Litigation in Child Psychiatry Programs

Karen D. Wagner, M.D., Psychiatry, UTMB, 3.258 Graves Bldg, Galveston, TX 77555; Ronnie Pollard, M.D., Richard F. Wagner, Jr., M.D.

Summary:

Objective: The purpose of this study was to investigate malpractice litigation at U.S. child and adolescent psychiatry residency programs between 1981 and 1991.

Method: One hundred eleven directors of child and adolescent psychiatry at accredited child and adolescent psychiatry residency programs were mailed a questionnaire that inquired about litigation against their programs. Information about the claim, defendants, and litigants was requested, as well as strategies that may have prevented the malpractice claim.

Results: There was an 83% response rate. Fourteen percent of directors reported at least one malpractice claim. The highest percentage of lawsuits was in the northeast. Suicide and sexual abuse of latency-aged patients by other patients accounted for the most

litigation. The mean monetary award was $167,000, and the largest award was $500,000 for discharge of a patient who killed his mother. In all but one case, the academic institution was named as the defendant, along with the faculty in half of the cases. Malpractice litigation has increased during the past 10 years.

Conclusion: Recognition of the unique constellation and legal issues surrounding the care of children and adolescents is the first step in developing successful risk-management programs in child and adolescent psychiatry training programs.

NR570 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Race and Mental Health Treatment in Adolescents

Steven P. Cuffe, M.D., Neuropsychiatry, Univ of Sc Sch of Med, P.O. Box 202, Columbia, SC 29202; Jennifer L. Waller, M.S.P.H., Michael L. Cuccaro, Ph.D., Andres J. Pumariega, M.D., Carol Z. Garrison, Ph.D.

Summary:

The majority of children and adolescents with mental illness remain untreated. Evidence also suggests that race is a factor in the placement of African-American adolescents in corrections rather than psychiatric facilities, thus reducing their access to treatment further. Service utilization patterns of epidemiologic samples help clarify the variables influencing treatment decisions. During a two-stage epidemiologic study of adolescent depression, data were collected on 478 adolescents. Seventy-six percent were white and 24% were black. Twenty-eight percent had contact with mental health professionals during the prior year, and 55% of adolescents with a diagnosis received treatment. Significant odds ratios (OR) were found between all diagnoses (excluding generalized anxiety) and treatment. Race, gender, and socioeconomic status were nonsignificant in univariable logistic models. In multivariable logistic models, however, Caucasians with affective disorders were significantly more likely to be treated than African-Americans with affective disorders (OR = 2.27). Nonaffective diagnoses did not show significant effects. Data suggest that when affective diagnoses are considered, race has an effect on adolescent treatment utilization patterns. Further study of cultural influences on diagnostic and treatment decisions for mentally ill adolescents is needed.

NR571 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Do Depressed Teens and Mothers Agree on Symptoms?

Nga A. Nguyen, M.D., Psychiatry, OU HSC, 920 Stanton L. Young 5SP136, Oklahoma City, OK 73190; Suzanne W. Whittlesey, M.S.W., Dolores Mills, R.N., Bao Q. Bui, M.D., Kathy D. Scimeca, R.N., Alfretia L. Scarborough, M.P.H.

Summary:

Objective: To explore (1) degree of mother-adolescent agreement regarding adolescent's depressive symptoms; (2) differences in agreement as a function of symptom types (behavioral vs. ideation); (3) effect of maternal depression on agreement. *Method:* After screening out nondepressed adolescents, 81 subjects, aged 12-17, and their mothers separately completed the Schedule Affective Disorders and Schizophrenia: Present Episode (KSADS-P) interviews in our Depression Clinic. Twenty KSADS-P symptoms were selected for analysis. Pearson (r) and Kappa (k) correlation coefficients were used to correlate adolescents' and mothers' scores on adolescents' 20 symptoms. Maternal depression was defined by Beck Depression Inventory ≥ 13. *Results:* An overall acceptable and significant mother-adolescent agreement ($r = .54$; $p = .0001$) was found, with higher agreement on behavioral ($r = .57$) than ideational items ($r = .46$); result with k were similar. Overall, "depressed" mothers (n = 24) agreed less with their adolescents ($r = .23$) than did "nondepressed" mothers (n = 57; $r = .64$). These two correlations differed significantly ($z = 2.03$; $p = .04$), mainly due to differences on the ideational items. *Conclusions:* Our findings of a moderately high mother-adolescent agreement that varies with symptom types, and the effects of maternal depression on agreement, have direct clinical applications for interview strategy and interpretation of interview findings.

NR572 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Stable and Unstable Adolescent Borderline Diagnoses

Jonathan J. Fleischacker, B.A., Psychology, UC Berkeley, 2150 Channing Way Apt 34, Berkeley, CA 94704; William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

Summary:

Objective: To compare adolescent inpatients at the Yale Psychiatric Institute with DSM-III-R borderline personality disorder (BPD) who continue to meet BPD criteria at two-year follow-up (stable group) with those who don't (unstable group).

Method: The Personality Disorder Examination, a structured clinical interview, was applied independently and reliably at baseline and follow-up (FU). *Results:* The stable group (N = 8) shared features with the psychotic spectrum of disorders more so than the unstable group (N = 22), i.e., was more likely to receive a comorbid diagnosis of schizotypal personality disorder at baseline than the unstable group (50% vs. 0%) more likely to receive neuroleptics at discharge (75% vs. 13.6%), and more likely to receive a diagnosis of psychosis-NOS at FU (54.5% vs. 14.3%). The stable group also had lower FU Global Assessment of Functioning (GAF) scores ($M = 52.5$ for stable group vs. $M = 66.1$ for unstable group), most evident in poorer work history, more reported unhappiness, and greater personality pathology as recorded on the PDE.

Conclusion: Findings suggest that a stable BPD diagnosis in adolescence may be associated with greater severity and/or BPD as a psychotic spectrum disorder.

NR573 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Gender and Social Factors in Child Psychopathology

Sharon Silber, Ph.D., Child Psychiatry, Schneider Children's Hosp. 271-16 76th Avenue Sch. 135, New Hyde Park, NY 11042; R. Connell, G. Hirsch, M.D.

Summary:

Objective: Boys and girls differ in their relative risk for psychopathology and in the type of pathology they are most likely to exhibit. In the present study, we compared boys and girls to determine if different social factors (family characteristics, demographics, life events) are predictive of psychopathology for the two groups.

Method: Subjects were 200 children, aged 4 to 16 years (X = 9.6), referred for outpatient psychiatric services. The sample was culturally and ethnically diverse and ranged in socioeconomic status (SES) from 1-5 on Hollingshead's Four Factor Index. Parents completed the short form of the Family Environment Scale (FES), a list of past and current life stressors and the Achenbach Child Behavior Checklist and Social Competence Scales.

Results: Multiple regression analyses indicated that, for boys, past stress ($F = 9.84$, $p = .002$) and current stress ($p = .04$) predicted psychopathology. For girls, family conflict on the FES ($p = .004$) predicted psychopathology and SES was a negative predictor ($p = .02$). For both boys and girls, academic competence acted protectively. This pattern held for internalizing pathology, while a more complex model described boys' but not girls' externalizing pathology.

Conclusion: Gender can constrain the pathways through which social factors affect psychopathology, and clinicians should consider this in planning treatment.

NR574 Wednesday, May 26, 3:00 p.m.-5:00 p.m.
Quantitative EEG in Adult Neuropsychiatry

H. Jordon Garber, M.D., Psychiatry, Allegheny Gen. Hospital, 320 East North Avenue, Pittsburgh, PA 15212; Trevor R.P. Price, M.D., Christopher Starratt, Ph.D.

Summary:

QEEG studies were performed on 30 neuropsychiatric inpatients (ages 19-39; mean age 29.7 +/− 6.6 years; 15 male, 15 female) with DSM-III-R organic (n = 23; 12 mood, six personality, five other, no delirium) and non-organic (n = 7; all mood, four bipolar) mental disorders. Using a Biologic Brain Atlas, surface EEG activity was recorded on computer and artifacts rejected; averaged samples were transformed to power spectra; statistical comparisons of each patient to an age-appropriate (by decade) normal group (n ≥ 25 all normal groups) were explored as topographic z-score maps of frequency bands. QEEG was abnormal (> 3 s.d.) in 29/30 patients (22/23 organic, 7/7 non-organic) with increased delta activity in 28/30 (two with increased alpha and beta). By comparison: routine EEG was read as abnormal in 7/29 (6/23 organic, 1/6 nonorganic); MRI (n = 26) or CT (n = 4) was abnormal in 15/30 (15/23 organic, 0/7 nonorganic); Tc-99m- HmPAO SPECT was abnormal (areas of decreased uptake) in 22/28 (17/21 organic, 5/7 non-organic). In epileptics, QEEG was abnormal in 7/7 (abnormal EEG: 4/7; MRI/CT: 6/7; SPECT: 4/6). In head injured patients, QEEG was abnormal in 7/7 (abnormal EEG: 2/7; MRI/CT: 5/7; SPECT: 4/5). For cerebrovascular patients, QEEG was abnormal in 6/6 (abnormal EEG: 1/6; MRI/CT: 4/6; SPECT 6/6). Congruence of localization for findings by different procedures, methodological limitations and clinical implications will be discussed.

NR575 Wednesday, May 26, 3:00 p.m.-5:00 p.m.
Quantitative EEG in Adolescent Neuropsychiatry

H. Jordan Garber, M.D., Psychiatry, Allegheny General Hosp, 3220 E. North Avenue, Pittsburgh, PA 15212; Marianne Krouk, D.O., Gregory Slomka, Ph.D., Dale Hindmarsh, M.D.

Summary:

QEEG data were obtained on 28 adolescents (ages 10-20; mean 13.9 +/− 3.0 years; six females, 22 males) during neuropsychiatric evaluation. DSM-III-R diagnoses included disorders of attention (n = 7), mood (n = 13) or both (n = 4); others (n = 4, severe MR and delirium not included). With a Biologic Brain Atlas, EEG was recorded on computer; artifact-free epochs were complied (30 sec EC/30 sec EO) and transformed to power spectra; each patient was compared with an age-matched normal group (n ≥ 20 all normal groups); results were explored by topographic z-score maps of frequency bands. Abnormally increased (> 3 sd) delta activity was present in all 28 cases, and exceeded 7 sd in 26/28. Abnormally increased delta activity was present over temporal regions in all cases, and was maximal overall temporal regions in 27/28 cases, with R > L lateralization in 18/28. Abnormally increased delta activity over frontal regions was frequent in those with attention disorders (with or without mood disorder: 10/11) and with mood disorders (8/13); for both groups, when frontal delta excess abnormality was present, lateralization to the right was frequent (13/18). By comparison, in this population EEG was abnormal in 6/28 (1/4 with seizure disorders); by MRI (n= 21) or CT (n = 2) brain structure was abnormal in 5/23 (all mood disorder); Tc-99m-HmPAO SPECT was abnormal in 14/20. Agreement between localization of findings by different procedures, methodological limitations, and effects of QEEG on clinicians' diagnosis and treatment will be discussed.

NR576 Wednesday, May 26, 3:00 p.m.-5:00 p.m.
Stress Reactivity Predicted by Adaptive Style

Hans Steiner, M.D., Child Psychiatry, Stanford University, 725 Welch Road, Palo Atlo, CA 94304; Jane W. Chen, B.S.

Summary:

Significant associations between adaptive styles and stress reactivity have been reported in adult populations. Using some methodological refinements, we replicate these findings in a normal adolescent sample (X age 15.4; range 14-18; half boys) recruited from a local high school. The standardized protocol included: psychometrics (Spielberger Trait Anxiety Inventory [Y-2] and the Marlow Crowne Social Desirability Scale [MCSDS]) and a previously described stress-inducing speech task (SIST), which consisted of two conditions administered to each subject in randomized order: specific stress (SIST-SSTR) and nonspecific stress (SIST-NSSTR). Pulse rate, obtained at baseline, then five and 10 minutes into each task, was the dependent measure. Based on psychometric results, subjects were classified as: high anxious (high Y-2/low MCSDS; n = 29), low anxious (low Y-2/low MCSDS; n = 26), impression managers (high Y-2/high MCSDS, n = 20), or repressors (low, Y-2/high MCSDS, n = 23). Results were similar to those found in adult populations and were consistent with hypotheses: 1) Adaptive style correlated significantly to pulse response to SISTs; low anxious subjects showed no changes during either task; high anxious subjects reacted to SIST-NSSTR only, impression managers to the SIST-SSTR; 2) Repressors responded equally to both. Findings have implications for the study of stress and coping in adolescents, i.e., in that repressors seem to be at highest risk for stressful arousal in a variety of conditions.

NR577 Wednesday, May 26, 3:00 p.m.-5:00 p.m.
Soft Signs in Children of Agoraphobics

Stuart L. Kaplan, M.D., Rockland Children PC, Convent Road, Orangeburg, NY 10962; Joan Busner, Ph.D., Richard Gallagher, Ph.D., France Chaput, M.D., Elsa Acosta, M.S., Manuel Zane, M.D., Doreen Powell

Summary:

Objective: Soft signs in childhood have been linked to the development of anxiety disorder in adolescence. To study this possible biological vulnerability to anxiety development, children of agoraphobic parents were compared with children of nonagoraphobic parents on a standardized neurological examination for soft signs. *Method:* 25 children of SADS-L diagnosed agoraphobics with panic attacks (15 girls, 10 boys, x age = 9.15) and 25 public-school-recruited, age, sex, and geographically matched children of SADS-L-confirmed nonagoraphobics with no history of panic attacks were administered the Physical and Neurological Examination for Soft Signs (PANESS). To rule out differences in intelligence as contributory, all children were also administered four subtests of the WISC-R.

Results: Experimental children exhibited significantly more slow for age repetitive time movements on both the right t(48) = 4.0, p < .001) and left (t(48) = 3.3, $p < .01$) sides. Seventy-two percent of experimental versus 28% of control children were slow on at least one timed item (X2 (1) = 9.7, $p < .01$. There were no significant differences between experimental and control children on other signs such as overflow, mirror movements or balance difficulties. Experimental and control children were statistically similar on the WISC-R subtest.

Conclusions. Motor slowness may be a neurological marker in children at risk for the development of agoraphobia with panic attacks.

NR578 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

A Social Phobia Inventory for Adolescents

Duncan B. Clark, M.D., Psychiatry, University of Pittsburgh, 3811 O'Hara Street, Pittsburgh, PA 15213; Samuel Turner, Ph.D., Rolf G. Jacob, M.D., Deborah Beidel, Ph.D., Levent Kirisci, Ph.D., John Donovan, Ph.D.

Summary:

Although social phobia often presents in adolescence (Schneier, et al., 1992), there are no generally accepted self-report measures for this age group. The Social Phobia and Anxiety Inventory (SPAI: Turner, et al., 1989) is a self-report measure that has been found to be reliable and valid for adults. The purpose of this study was to determine the reliability and validity of the SPAI for adolescents. The sample consisted of 230 adolescents (12 to 18 years old) from clinical and community sources. Intra-scale reliability, by Cronbach alpha, was high for the Social Phobia (alpha = 0.97) and Agoraphobia (alpha = 0.91) subscales. Factor analysis confirmed the two-factor structure. The SPAI demonstrated convergent validity, correlating significantly with fear of criticism ($r = 0.47$, $p < .001$), heteorosexual avoidance ($r = 0.41$, $p < .001$), and assertiveness ($r = -0.27$, $p < .001$). The SPAI discriminated cases with DSM-III-R defined social phobia from cases with other anxiety disorders, cases with other psychiatric diagnoses, and cases with no psychiatric diagnoses ($F = 6.34$, $p < .001$). The results demonstrate that the SPAI is a useful measure of social phobia for adolescents.

Supported by NIMH (MH19816-01) and NIAAA (AA08746-02).

NR579 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Early Trauma in Behavior Disordered Adolescents

Stevan M. Weine, M.D., Yale Psych. Inst., Yale University, P.O. Box 12A, New Haven, CT 06520; Daniel F. Becker, M.D., Kenneth N. Levy, B.A., Thomas H. McGlashan, M.D.

Summary:

Objective: To determine the prevalence of prior traumatic experiences in treatment-resistant adolescent inpatients with diagnoses of disruptive behavior disorders (DBD). *Method:* A Childhood Trauma Chart Review Scale (CTCRS) was developed to quantify the number and types of traumatic experiences in early childhood, late childhood, adolescence. The CTCRS was applied to the medical records of 25 adolescent inpatients with DBD. *Results:* The CTCRS showed good inter-rater reliability (Total ICC = .90). The lifetime prevalence of traumatic experiences was high: 88% of subjects lost a care giver, 72% suffered physical abuse, 36% witnessed domestic violence, 32% suffered sexual abuse, 20% experienced gross neglect. The number of subjects experiencing multiple or repeated traumatic experiences was also high: 56% had five or more lifetime traumatic experiences. Also noteworthy was the 56% were traumatized in both early childhood (0-6 yrs.) and late childhood (6-12 yrs.) There was no association of traumatic experiences with demographic variables or co-morbid diagnoses. *Conclusions:* Findings suggest a strong association between early traumatic experiences and DBD in adolescents. Further studies are needed to test the specificity of trauma to other diagnoses in adolescence and to investigate their course into adulthood. The CTCRS proved to be a useful and reliable method for organizing trauma histories retrospectively by frequency, types of trauma, and developmental epochs in which trauma occurred—parameters that may be helpful in assessing the etiologic significance of childhood and adolescent traumatic experiences in disorders of adolescence.

NR580 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Mental Health Assessment of Deaf Children 11-13 Years Old

Andre P. Masse, M.D., Riviere-Des-Prairies, 7070 Boul. Perras, Montreal QC H1E 1A4, Canada; Gisele Chiniara, M.D., Marie-Jose Lacour, S.W.

Summary:

Objective: To assess mental health of hearing impaired children (11-13 years old).

Procedure: All the deaf children (11-13 years old) attending french speaking schools in Montreál were evaluated with *Dominic* a structured pictorial questionnaire. Drawings represent a situation corresponding to a DSM-III-R criterion for: SAD-ODD-OAD-SPh-CD—Depression and ADHD. Samples were 28 children from Gadbois school (using sign language)—12 children from others hearing school (using oralist language). The results are compared with those obtained with normal, nonreferred children (Valla et al. 1991).

Findings: (Sign < oralist): A higher prevalence of ODD (32%-66%)—CD (14%-33%)—ADHD (14%-33%) in deaf children than in normal (4.3%—1.4%—2.9%). A similar large difference for depression (17%-25%), SAD (10%-16%) OAD (21%—50%). We find percentage of children with at least one diagnose of 46% in sign-language children, 66% in oralist deaf children, and 22% in hearing children (Valla et al. 1991).

Conclusion: Because of the small sample these results must be confirmed but trends are useful to pinpoint intervention with parents and teachers: to enforce development of better communication with children and to pay attention on special difficulties of deaf children.

NR581 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Children in Crisis: Clinical Characteristics

Lonny J. Behar, M.D., Psychiatry, UMDNJ New Jersey Med Sch, 215 South Orange Avenue RM B55, Newark, NJ 07103; Kanchan Malvade, B.A., Anthony Yancey, M.S.W.

Summary:

This study examines one year of clinical data related to 282 patients treated in an outpatient child and adolescent crisis program at New Jersey Medical School in Newark. The database included sociodemographics, a 30-item symptom checklist, family history, diagnosis, length of episode, and disposition. The group had a mean age of 12.3 ± 3.6 years, and was mostly African-American (62.8%) and Hispanic (23.3%). They constituted a population "at risk"; only 12.4% lived with both parents, 27.7% were involved with child protective services, and 28.0% were in special education. There was a high degree of multiple symptomatology, including 72.3% with depressed mood, 50.7% with suicidal ideation, and 41.8% with violence. Also, 11.8% of the patients required hospitalization. When examining the chief complaint, three subgroups were identified: (1) patients who presented with violent behavior (19.5%), (2) patients who presented with suicidal ideation without attempts (27.3%), and (3) patients who presented with a suicide attempt (14.2%). Analysis revealed that the violent group was more likely to be younger and male, to be in special education, and to have had prior mental health treatment. The suicide attempters were more likely to be female and were healthier than the other two groups on several parameters related to family history. There were no differences in disposition after up to four weeks of crisis treatment. The study highlights the high degree of psychopathology and family disruption in this population and points to the need for specialized services.

NR582 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Adult Attachment Styles and Personality Pathology

Kenneth N. Levy, B.A., Yale Psych Institute, P.O. Box 12A Yale Station, New Haven, CT 06520

Summary:

Objective: To examine the relationship between attachment difficulties and personality disorders.

Method: 111 male and 106 female non-clinical subjects (ages 17 to 28, median = 19), completed the Millon Clinical Multiaxial Inventory (MCMI) and the Adult Attachment Questionnaire (AAQ).

Results: Attachment security correlated negatively and avoidance of attachment correlated positively with the Schizoid, Avoidant, Schizotypal, Anxiety, and Dysthymia scales. Secure attachment also correlated negatively with the Passive-Aggressive scale. Anxious ambivalence correlated positively with Schizoid, Avoidant, Dependency, Passive-Aggressive, Schizotypal, Borderline (BPD), Anxiety, Somatoform, and Dysthymia scales. Additionally, 20 subjects (9%) met the cutoff for probable borderline personality disorder (BPD), of which 19 were of insecure attachment, and all eight subjects (4%) who were definite for BPD were of insecure attachment. *Discussion:* Anxious ambivalent attachment is related to measures of borderline, dependent, and passive-aggressive personality disorders and measures of anxiety, somatoform, and dysthymia. Fearful avoidant attachment characterized by a desire for relatedness but fear of intimacy is related to avoidant and schizoid personality disorder. Dismissing avoidant attachment characterized by a denial of the need or desire for intimacy is related to antisocial and paranoid personality disorders. These results are congruent with attachment theory and research.

NR583 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Risk and Protective Factors in Children

Natalie Grizenko, M.D., Child Psychiatry, Douglas Hospital, Lyall Pavillion 6875 LaSalle Bl, Verdun Quebec H4H 1R3, Canada; Nicole Pawliuk, M.A.

Summary:

Objectives: Disruptive behavior is the most frequent reasons for referral of preadolescents to psychiatry. The objective of this study was to identify factors that may put children at risk or protect them from developing behavioral disorders.

Method: Risk and protective factors were assessed using a biopsychosocial model through questionnaire administered to parents of 100 children. Fifty preadolescents (26 boys and 24 girls) with severe behavior problems (Achenbach $\geq$ 70) referred to outpatient or day treatment services were matched with 50 control children (24 boys and 26 girls) without behavioral difficulties (Achenbach $<$ 70). Responses to the questionnaire were subject to a stepwise logistic regression.

Results and Conclusions: Learning difficulties, perinatal complications, and maternal depression were significant biological risks; difficult temperament and a history of physical abuse were significant psychological risks; and social work involvement and an unsettled home life were significant social risks for disruptive behavior disorders. A happy childhood, academic success, living with both parents, positive self-image, and good relationships with friends and grandparents were found to be significant protective factors. Findings will be discussed in view of developing "protective" measures that may reduce the incidence of future disruptive behavior disorders in children who are targeted as being at risk.

NR584 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Childhood Psychosis and Organic Pathology

Jean-Georges Rohmer, M.D., Psychiatry 2, C.H.R.U. Strasbourg, 1 Place De L'Hospital, Strasbourg-Cedex 67091, France; Claude Bursztejn, Photis Nobelis, Anne Danion, Jean-Calude Pomes, Annick Chauvin

Summary:

The records of 144 patients of child psychiatry units of Alsace (France), with childhood psychosis (CP)- or pervasive developmental disorders (PDD) have been systematically screened for previous or associated pathological events.

Half of the children studied have been or are still affected by severe somatic disorders, but none of the diagnostic subcategories (referring to DSM-III or CFTMEA) appeared significantly more frequently affected.

In this study the most frequent associated disorders (neonatal pathology 45% of the cases, epilepsy 17% of the cases, neurological or neurosensorial pathology 15% of the cases) were associated neither with a specific diagnostic nor with a clinical pattern. This was confirmed by multivariate statistical analysis. Our results suggest that a history of organic pathological events is frequent not only in autistic disorders but in any kind of PDD or early CP associated with moderate to severe mental retardation, in most cases of our study. However this does not demonstrate that this type of pathological event constitutes the direct and unique cause of PDD and CP: the concept of the etiology of these severe diseases must take account of other factors such as relational disruption, also frequently seen in these children.

NR585 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Anhedonia and Outcome in Young Inpatients

Kathy Garnet, M.A., Yale Psych Institute, P.O. Box 12A Yale Station, New Haven, CT 06520; William S. Edell, Ph.D., Thomas H. McGlashan, M.D.

Summary:

Objective: Physical anhedonia, a long-term deficit in the ability to experience pleasure, has been linked to poor premorbid adjustment across diagnostic groups. If anhedonia reflects a dimension of social competence, it should predict outcome as does premorbid adjustment. We examined the relationship between physical anhedonia and outcome in a group of young, nonpsychotic psychiatric patients: *Method:* 61 Adolescent inpatients at the Yale Psychiatric Institute were assessed with the Chapman Physical Anhedonia Scale. These patients were followed up (FU) two years later, and outcome was assessed using current GAF scores and highest GAF scores for the past year. *Results:* Point biserial correlations indicated a modest but significant ($p < .05$) relationship between the presence of baseline anhedonia and lower current ($r = .28$) and past year GAF ($r = .29$) scores at FU. A comparison of FU GAF scores between groups divided at the median for baseline anhedonia yielded comparably significant results. Anhedonia was unrelated to diagnosis, both at baseline and at FU.

Conclusion: Physical anhedonia appears to be a nonspecific liability in young nonpsychotic inpatients, unrelated to diagnosis but associated with premorbid incompetence and poorer short-term outcome.

NR586 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Fatigue and HIV Infection

Diana O. Perkins, M.D., Psychiatry, Univ of North Carolina, CB 7160, Chapel Hill, NC 27599; Jane Leserman, Ph.D., Susan G. Silva, Ph.D., Stephan F. Baum, M.D., Robert A. Stern, Ph.D., Robert N. Golden, M.D., Dwight L. Evans, M.D.

Summary:

Objectives: Differential diagnosis of fatigue in HIV-infected patients is complicated because fatigue is common to both HIV infection (e.g. ARC), and to major depression. We examined the

relationship of fatigue with: 1) clinical major depression, 2) level of dysphoric mood, and 3) indicators of HIV disease (CD4 count and neuropsychological function). *Methods:* We studied 108 asymptomatic HIV-infected and 71 uninfected gay men at baseline, and 82 HIV infected and 63 uninfected men at six-month follow-up. We used the self-report POMS Fatigue scale to measure fatigue. SCID interviews assessed *DSM-III-R* major depression, and the POMS Depression Scale was used to assess depressed mood. Performance on a battery of standardized tests was used to derive neuropsychological function ratings. Partial Spearman correlation coefficients, controlling on age, race, and years of education are reported. *Results:* Mean fatigue did not significantly differ in the HIV-infected and uninfected groups at both initial and follow-up visits. At initial visit fatigue was significantly correlated with depressed mood (POMS Depression) and *DSM-III-R* major depression for both HIV-infected ($r = .59 < .0001$; $r = .40$, $p < .0001$, respectively) and uninfected ($r = .71$, $p < .0001$; $r = .41$, $p = .0007$, respectively) men. Similar correlations were found at the follow-up visit. In the HIV-infected men there were no significant correlations of fatigue with CD4 count (mean CD4 count = 350, sd = 150, range = 28-858) or with global neuropsychological functioning at either visit. *Conclusion:* Early in the course of HIV infection complaints of fatigue were associated with depressed mood and major depression, but not with low CD4 counts or poorer neuropsychological functioning. Results suggest that HIV-infected patients complaining of fatigue should routinely be assessed for major depression.

NR587 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Safer Sex and Substance Use Attitudes: Typology

Stephen Brown, M.D., Psychiatry, Univ of Calif, San Diego, 2760 5th Avenue #200, San Diego, CA 92103; James Weinrich, Ph.D., J. Hampton Atkinson, M.D., Joseph Davies, M.D., J. Chandler, M.D., Igor Grant, M.D.

Summary:

Objective: Previous studies examining the relationship between unsafe sexual behavior and concomitant substance use have found only weak correlations. These studies assume these attitudes and behaviors are normally distributed. We speculated that specific subgroups might be associated with increased risk of substance-related unsafe sex.

Method: Subjects were HIV+ (n = 150) and HIV- (n = 53) men participating in a cohort study. We developed a questionnaire that measures attitudes toward safer sexual practices and drug and alcohol use (positive scores reflect heavy alcohol/drug use and unsafe sexual behavior, a negative score reflects little substance use and safer sex). Scores were normalized, and custer analysis was performed.

Results: Four groups were identified, representing "Low" (Group 1), "Moderate" (Group 2), and "High" (Groups 3 & 4) risk-taking behavior. The two high-risk taking groups (3 & 4) were elevated on alcohol and unsafe sex scores but diverged on attitudes towards other drugs.

Mean Score	*Group 1*	*Group 2*	*Group 3*	*Group 4*	*p**
N	67	109	18	9	
Alcohol	-17.4*	-2.4*	7.7*	12.2*	<0.001*
Sex	-16.9*	-9.1*	3.8*	3.6*	<0.001*
Drugs	-5.9*	-1.7*	4.3*	-6.2	<0.001**
Age (years)	34.4*	32.0	29.5*	26.9*	<0.03
Education (yrs)	14.9*	13.9*	12.9*	13.3	<0.001

Conclusion: Distinct subgroups reflecting attitudes toward sexual behavior, alcohol, and drugs appear to exist. Older age and more education is associated with more negative attitudes toward risk-taking as has been found in other studies. Selective intervention may be needed to intervene successfully in moderate and high risk-taking populations.

NR588 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

High, Undetected HIV Positive Rate on an Alcohol Rehabilitation Unit

John C. Mahler, M.D., Psychiatry, New York Hospital, 21 Bloomingdale Road, White Plains, NY 10605; Samuel W. Perry III, M.D., Donna Yi, M.D., Michael Sacks, M.D., Helen Dermatis, Ph.D.

Summary:

Objective: To determine the rate of undetected HIV infection (HIV+) among admissions to an alcohol rehabilitation unit serving a seroprevalent area (greater NYC).

Method: Absolute seroprevalence was determined by serologically attesting waste blood from admission labs tests (with this unlinked design, results could not be matched to specific subjects and informed consent was not required). "Known seroprevalence" was determined by reviewing medical records for recorded HIV+ either before or during hospitalization. "Rate of undetected HIV+" was defined as the difference between absolute and known HIV+. *Results:* Over 11 months, waste bloods were HIV tested on 298 adults (92.8% of all admissions). Absolute seroprevalence was 10.4% (31 HIV+) subjects. Known seroprevalence on admission was 1.3% (4 of 31 HIV+ subjects had previously tested HIV+). Known seroprevalence at discharge was 2.3% (an additional three subjects who were HIV tested by staff during hospitalization and were HIV+). Therefore, at discharge, rate of undetected HIV+ was 8.1% and 24 of 31 HIV+ inpatients (77%) left the hospital without their HIV infection being diagnosed. *Conclusion:* Among our sample of 298 hospitalized adults with alcoholism, about one in 10 was HIV+; yet most HIV+ (87%) were not known to be infected on admission or even at discharge (77%). Explanations and solutions for the troubling high rate of undetected HIV+ among this population await further study.

NR589 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

New Onset Depression in Patients With AIDS Dementia Complex is Associated With Frontal Lobe SPECT Scan Defects

Jonathan L. Worth, M.D., Psychiatry, Mass General Hospital, Fruit St. Wang 812, Boston, MA 02114; Perry F. Renshaw, M.D., Keith A. Johnson, M.D., J. Alex Becker, M.D., Mark H. Halman, M.D., Cary R. Savage, Ph.D.

Summary:

Objective: Since new-onset depression following frontal lobe injury has been reported in neurologic disorders such as stroke (Sinyor, 1986), and the majority (63%) of single photon emission computerized tomography (SPECT) perfusion defects in ADC occur in the frontal lobes (Johnson, 1992) we studied the relationship between frontal lobe SPECT defects and mood disorders in patients with ADC.

Methods: Patients with ADC underwent a psychiatric interview at the time of brain MR and SPECT. Patients meeting DSM-III-R criteria for major depressive episode were classified into one of two groups: 1) No past history of depression (New-D), n = 12; and 2) Past history of depression (Old-D), n = 6. SPECT and MR images were superimposed (Holman, 1991) to determine "true" defects, since 35% of "apparent" defects correspond with enlarged cortical sulci (Johnson, 1992).

Results: The mean number (±SE) of true frontal lobe defects in New-D = 7.2 (0.8) was significantly greater ($p = .01$, ANCOVA, age covaried) than Old-D, 3.2 (1.1). The ratio of true frontal lobe to

total brain defects in New-D = 0.65 was significantly greater ($p <$ .05, ANCOVA) than Old-D, 0.37. There were no significant differences in the following regions: total brain, parietal, temporal, occipital, and parahippocampal. New-D patients were at more advanced stages (CDC, 1987) of HIV-1 disease (p = .03,X^2), but there was no association between stage of HIV-1 disease and number of defects in any of the brain regions. There was no significant difference between the groups in terms of rate of good response to single agent antidepressant therapy.

Conclusions: Although preliminary and retrospective, these findings suggest that new-onset depression in ADC is associated with frontal lobe SPECT perfusion defects and may be due to HIV-1 CNS infection. While the proximate cause of these depressive syndromes is unclear, they may be effectively treated using conventional pharmaco-therapy.

NR590 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Nine Months Experience of an HIV/AIDS Psychiatry Clinic: Demographics, Diagnoses and Outcomes

Jonathan L. Worth, M.D., Psychiatry, Mass General Hospital, Fruit St. Wang 812, Boston, MA 02114; Mark H. Halman, M.D., Perry F. Renshaw, M.D.

Summary:

Objective: To assess the psychiatric disorders of patients referred to an HIV/AIDS psychiatry clinic.

Method: All patients referred over a nine-month period underwent a semi-structured psychiatric interview, and were given a Global Assessment Scale (GAS) score, the Beck Depression Inventory (BDI), and four computer-based reaction time measures.

Results: 64 consecutive HIV-1 infected patients were evaluated. Five (8%) were women, all Caucasian, mean age = 38 yrs.; HIV-1 risk groups: IVDU (60%) and heteosexual sex (40%). Fifty-nine (92%) were men, mean age = 34 yrs.: 83% white, 12% African-American, and 5% Latino; HIV-1 risk groups: gay/bisexual (56%), IVDU (12%), gay/bisexual/IVDU (7%), and transfusion (3%). CDC (1987) HIV-1 disease stages: II/III n = 26 (44%); IVa n = 15(25%); and IVb-d n = 18 (30%). Current DSM-III-R psychiatric diagnosis: mood disorder n = 29 (49%); substance abuse n = 25 (42%); personality disorder n = 22 (37%); adjustment disorder n = 17 (29%); organic disorder n = 15 (25%); anxiety disorder n = 8 (14%); and psychotic disorder n = 2 (3%). There was no difference across CDC groups in GAS or BDI scores, or rates of psychiatric disorders, other than anxiety disroders, which were significantly increased in the IVa group ($p<.04$,X^2). GAS and BDI scores were inversely correlated ($r = -.51$). 31 (52%) prematurely terminated treatment, which was significantly associated with any substance abuse disorder ($p = .03$,X^2), and any personality disorder ($p = .01$,X^2).

Conclusions: While preliminary, this study finds that rates of organic and major mood disorders are higher than previously reported (O'Dowd, 1993). The increased rate of anxiety disorders in CDC group IVa is consistent with previous reports (Chuang, 1989). Treatment compliance is adversely impacted by personality and substance abuse disorders. In this cohort the GAS and BDI were not influenced by stage of medical illness and, therefore, they may be reliable as psychometric instruments in this ambulatory, but medically ill, population.

NR591 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Impact of Acute Psychiatric Illness on Sexual Behaviors and Risk for HIV

Michael H. Sacks, M.d., Psychiatry, Cornell Univ Med. College, 525 East 68th Street, New York, NY 10021; Helen Dermatis, Ph.D., William Burton, M.A., Samuel W. Perry III, M.D.

Summary:

Objective/Methods: Recent studies have documented high HIV risk and seroprevalence rates in psychiatric inpatient samples. To study if acute psychiatric illness is associated with increased HIV risk behaviors, 789 consecutive psychiatric inpatient admissions were interviewed to assess their perceptions of how acute psychiatric illness affects their sexual functioning and their tendency to protect themselves against AIDS. *Results:* The majority of patients (68%) reported psychiatric crisis affected their sexual functioning—51% reported a decrease in one or more aspects of their sexual functioning, 9% reported an increase in one or more aspects, and 8% reported increases in some aspects and decreases in others. Eighty-two (11%) patients reported that in crisis they were less likely to protect themselves against getting AIDS. Patients who were less likely to protect themselves against AIDS. Patients who were less likely to protect themselves against AIDS in a psychiatric crisis associated their acute psychiatric illness with increases in sexual thoughts and sexual activity and were more likely to have comorbid personality disorder than patients who were not less likely to protect themselves against AIDS in crisis. Bipolar disorder was not associated with a decreased likelihood to protect oneself from AIDS in crisis, although it was associated with increased sexual functioning. *Conclusions:* Most patients experience a decrease in some aspect of their sexual functioning during crisis. Clinicians are advised in assessing risk for HIV that a small segment of psychiatric patients may be vulnerable to increased risky sexual behaviors in the acute phase of their illness.

NR592 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

HIV Risk linked to Psychiatric Disorder in Injection Drug Users

David R. Gibson, Ph.D., Psychiatry, University of California, 74 New Montgomery St. Ste 600, San Francisco, CA 94105; Martin Young, B.A., Jane Lovelle-Drache, M.S.W., Margaret Chesney, Ph.D., Steven L. Batki, M.D.

Summary:

Objective: We examined associations between 10 scales of the MMPI and injection and sexual risk behavior reported both cross-sectionally and longitudinally.

Method: 120 injection drug users self-administered a 71-item short form of the MMPI (MiniMult) at entry to a 21-day heroin detoxification program. Subjects were classified according to whether they did or did not have clinical scores (T scores $\geq$ 70) on eight main scales (1,2,3,4,6,7,8,9) of the MMPI, or extreme scores (1SD>X) on two special scales (Hostility, Arousal-Seeking). We reached 72% and 60% of subjects, respectively, for follow-up interviews three and 12 months after the initial interview. At the initial (T1) and follow-up (T2,T3) interviews subjects reported injection and sexual risk behavior for the previous 30 days.

Results: The cross-sectional (T1) and longitudinal (T2 and T3) findings were of similar pattern and magnitude. At T1, subjects with clinical scores on the 2 (Depression) scale were much more likely than those with normal scores to report using a "dirty" needle (42% vs. 20%, p = .006) and less likely to be sexually monogamous (59% vs. 74%, p = .05) or report some use of condoms (35% vs. 64%, p = .008). A very similar pattern of relationships with sexual behavior was observed for subjects with extreme scores on the Hostility scale. Other cross-sectional and longitudinal findings will be reported at the conference.

Discussion: Psychiatric disorder may increase the likelihood of infection with HIV. Services providing for opiate addicts' mental health needs are essential. Interventions to reduce risk of infection with HIV need to take account of psychological impairment.

NR593 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

HIV Illness and Sleep Disturbances

Steven L. Prenzlauer, M.D., Psychiatry, Beth Isreal Medical, 317 East 17th Street Ste 509, New York, NY 10003; Philip A. Bialer, M.D., Lisa Bogdonoff, M.D., Maria L.A. Tiamson, M.D.

Summary:

Objective: To assess the severity and prevalence of sleep disturbances in patients attending an urban AIDS clinic and to determine the correlation to the stage of HIV illness and to psychosocial factors.

Methods: The Pittsburgh Sleep Quality Index (PSQI), Beck Depression Inventory (BDI), Spielberger Anxiety State/Trait Inventory (STAI) and a demographic questionnaire were randomly administered to patients in an ongoing study. The CDC stage of HIV illness, CD4 counts, and Beta-2 microglobulin levels were obtained for each patients. Relationships between different variables and sleep disturbances (PSQI > 5) were analyzed using chi-square, ANOVA and regression analysis. *Results:* Forty-one surveys were completed. Demographically, 52.5% of subjects were male and 47.5% were female, with a mean age of 37.8 (± 7.2) for the entire sample; 22% white, 41.5% black, 24.4% Hispanic, and 12.2% other. Twenty-nine patients (71%) had a sleep disturbance by PSQI score. This group had significantly higher STAI scores ($p < .01$) and significantly higher BDI scores ($p < .01$). There was a trend towards a higher proportion of those receiving anti-anxiety medications ($p = .08$) and hypnotics ($p = 0.59$) having a sleep disturbance, but no statistical relationship existed with any other class of medication. There was also a trend towards a higher proportion of unemployed in the group with a sleep disorder. No other variables, including stage of illness or level of immune dysfunction were related to sleep problems. *Conclusion:* The prevalence of sleep disturbance in our sample was very high and related to significantly higher scores on anxiety and depression scales, but not to progression of HIV illness. The presence of a sleep disturbance in an HIV patient should alert the physician to investigate for comorbid psychiatric disorders.

NR594 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Asymptomatic HIV Infection and Insomnia

Stephan F. Baum, M.D., Psychiatry, Univ of North Carolina, CB 7160 Med Sch Wing B. UNC, Chapel Hill, NC 27599; Diana O. Perkins, M.D., Susan Gray-Silva, Ph.D., Robert A. Stern, Ph.D., Robert N. Golden, M.D., Dwight L. Evans, M.D.

Summary:

Objectives: Previous studies have demonstrated associations of asymptomatic HIV infection with subjective complaints of impaired sleep quality and objective alterations in sleep architecture. We examined the relationship of subjective insomnia with HIV infection and with other depressive symptoms. In HIV-infected men we examined the correlation of subjective insomnia with neuropsychological functioning and CD4 count.

Methods: We studied 108 asymptomatic HIV-infected and 71 uninfected gay men at baseline, and 82 HIV-infected and 63 uninfected men at six-month follow-up. Subjective sleep difficulty was the sum of the three items on the 17-item HDRS regarding initial, middle, and terminal insomnia. The HDRS score minus the three insomnia items determined level of depressive symptoms excluding insomnia. Two neuropsychologists determined neuropsychological functioning using a battery of standardized tests.

Results: Insomnia was significantly correlated with other HDRS depressive symptoms at initial ($r = .41$, $p < .0001$) and follow-up ($r = .35$, $p < .0001$) visits for both HIV infected and uninfected men. Mean insomnia did not significantly differ in the HIV-infected and HIV-uninfected groups at initial and follow-up visits. In the HIV-infected men there was no significant correlation of insomnia with CD4 count or with neuropsychological functioning at either visit.

Conclusion: Subjective complaints of insomnia were equally common in asymptomatic HIV-infected and uninfected gay men. In HIV-infected patients, subjective complaints of insomnia were associated with other symptoms of depression, but not with indicators of HIV disease progression. Further research is needed to determine whether subjective complaints of insomnia may be a symptom of more advanced HIV disease, independent of depression.

NR595 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Multiple Drug Use and Needle Sharing in Intravenous Drug Abusers

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Summary:

The purpose of this study was to examine the effect of the number of illegal drugs used on the needle-sharing behavior of male intravenous drug abusers (IVDAs). The sample of 294 male IVDAs consisted of 59% white, 16% Hispanic, 20% Afro-American, and 5% others seen in the AIDS and methadone maintenance clinics of a large urban hospital. Forty-one percent of the sample was HIV positive. All subjects were individually interviewed using a structured questionnaire. The questionnaire included psychosocial measures from four domains: personality, family, friendship networks, and acculturation/cultural factors.

Results of a logistic regression analysis indicated that there was a direct relationship between the number of different illegal drugs used and needle sharing. Cocaine and heroin use increased the odds of needle sharing with both familiar people and strangers. The results further showed that as the number of illegal drugs used increased, so did the percentage of those subjects who shared needles with both familiar people and strangers. In addition, interactive findings revealed that certain protective factors, such as a close bond with parents or siblings, could offset the adverse impact of multiple illegal drug use on needle-sharing behavior. Implications of the findings for prevention and treatment are discussed.

NR596 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Psychiatric Prevalence and the Role of Substance Abuse in an Inner-City HIV Seropositive Population

Mary Meritz, D.O., Psychiatry, Graduate Hospital, 1740 South Street 4th Floor, Philadelphia, PA 19146; William Holmes, M.D., Carol Hudelmeyer, M.S.N., Claire Young, M.S.S., Barbara Bix, M.D.

Summary:

Objectives: To define the prevalence of psychiatric disease and to determine the contribution of substance abuse prior to seroconversion in a seropositive population.

Methods: 63 consenting, HIV-seropositive patients were randomly enrolled in a psychiatric prevalence study. They were recruited from a primary care practice serving underinsured and Medicaid managed-care patients. A 15-minute standardized intake interview was used to obtain sociodemographic and risk behavior data. Patients also underwent a 60-minute standardized clinical interview for DSM-III-R (SCID-NP-HIV) to evaluate the presence of Axis I psychiatric diagnoses since knowledge of seroconversion. Patients with a history of psychosis were excluded from the analysis.

Results: Demographics: mean age 37 years, mean education 12.1 years, 46/63 (73%) below poverty level, 33/63 (52%) nonwhite, 61/63 (97%) male, 50/63 (79%) gay or bisexual, and 19/63

(30%) with injectable drug use as a risk behavior. 48/63 (76%) patients were given at least one of the following Axis I diagnoses after knowledge of seroconversion: major depression 26/63 (41%); bipolar disorder 4/63 (6%); HIV adjustment disorder 9/63 (14%); anxiety disorder 9/63 (14%); psychoactive substance dependence 25/63 (40%). 19/63 (30%) had a diagnosis of psychoactive substance dependence prior to seroconversion. Of these, 13/19 (68%) continued to be substance dependent after seroconversion. 18/19 (95%) developed at least one Axis I diagnosis after seroconversion: major depression 7/19 (37%), anxiety disorder (2/19 (11%), adjustment disorder 4/19 (21%), psychoactive substance dependence 13/19 (68%).

Conclusion: The high prevalence of psychiatric disease in inner-city, HIV-positive, substance-abusing patients underscores the need for a greater commitment to psychiatric screening, prevention and treatment.

NR597 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Predictors of Suicide Attempts in HIV Seropositive and Seronegative at Risk Individuals

William Holmes, M.D., Psychiatry, Graduate Hospital, 1740 South Street 4th Floor, Philadelphia, PA 19146; Mary Meritz, D.O., Barbara Bix, M.D., Carol Hudelmeyer, M.S.N., Claire Young, M.S.S.

Summary:

Objective: To define the importance of sociodemographic factors, psychiatric diagnoses, and serostatus on suicide behavior.

Methods: 157 patients from two hospital based practices were enrolled in a psychiatric prevalence study. 104 (66% were seropositive. 53 (34%) were seronegative but at risk for infection by either injectable drug use or sexual behavior (multiple sex partners without barrier protection, prior STDs or prostitution). Risk behavior in both groups was similar. A 15-minute standardized intake interview was used to obtain sociodemographic, risk behavior, and suicidal activity data. Patients also underwent a 60-minute Standardized Clinical Interview for DSM-III-R (SCID-NP-HIV) to evaluate for lifetime presence of Axis I diagnoses.

Results: Seropositive (21/104 [20%]) and seronegative (10/53 [19%]) patients did not differ with respect to suicide attempts. Controlling for risk group did not alter this finding. Presence of an Axis I diagnosis was associated with an increase in suicide attempts, independent of serostatus ($p < 0.01$; RR = 8.4; 95% CI = 1.2 to 59.1). When controlling for risk group, only injectable drug use was associated with an increase in suicide attempts, again independent of serostatus ($p = 0.03$; RR = 2.1; 95% CI = 1.1 to 3.9). A linear association was noted between a younger age and more suicide attempts in both serostatus groups ($p = 0.04$). Logistic regression analysis revealed the presence of an Axis I psychiatric diagnosis ($p = 0.04$) and younger age ($p = 0.05$) to be the only significant predictors of suicide attempts. The presence of injectable drug use risk behavior approached significance in the analysis ($p = 0.08$). Neither HIV serostatus nor the sociodemographic variables of sex, race, education, or income were predictive of suicide attempts.

Conclusion: An Axis I diagnosis and younger age are associated with and predictive of a higher risk of attempting suicide in HIV seropositive and seronegative, at-risk patients. Injectable drug use is associated with but may not be predictive of a higher risk. We found no association with or predictive value of seropositivity.

NR598 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

A Bedside Test of Cognition in HIV Infected Patients

Beverly N. Jones, M.D., Psychiatry, Johns Hopkins Hospital, P.O. Box 41381, Baltimore, MD 21203; Katherine Harrison, M.D., Marshal F. Folstein, M.D.

Summary:

Objective: To compare the Mental Alternation Test, a new 60-second bedside test of cognition, to the Mini-Mental Status exam and the Trailmaking Test parts A and B in HIV-infected patients. *Participants:* Sixty-two HIV-infected inpatients. *Measurements:* The three test scores were compared using correlation calculations and analyses of variance. Receiver operating curves were constructed to identify the best cut-off score on the Mental Alternation Test for detecting impaired performance on the Mini-Mental and Trailmaking tests. A Chi Square analysis was made to determine the ability of an abnormal Mental Alternation score to predict abnormal cognition. *Main Results:* The Mental Alternation score correlated significantly with the Mini-Mental, (r .68, $p < .01$), Trailmaking Part B, (r − .54, $p < .01$). ROC graphs demonstrated that a Mental Alternation cut-off score of 15 yielded best results in detecting abnormal performance on the Mini-Mental (sensitivity 95%, specificity 79%) and Trailmaking Part B (sensitivity 78%, specificity 93%). Patients scoring making less than 15 alternations in 30 seconds were significantly more likely to have abnormal Mini-Mental scores. *Conclusions:* The Mental Alternation test is a valid, rapid, easily administered test of cognition with good sensitivity and specificity in detecting cognitive impairment.

NR599 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Sleep and Light Exposure in HIV Infected Men

Andres D. Sciolla, M.D., Psychiatry, Univ of Calif. San Deigo, 2760 5th Avenue Ste 200, San Diego, CA 92103; Daniel F. Kripke, M.D., Stephen J. Brown, M.D., J. Hampton Atkinson, M.D., Wes Whitehall, M.A., Igor Grant, M.D.

Summary:

Objective: To study the relationship between objective and subjective sleep measures, and between sleep quality and bright light exposure.

Method: Subjects were nondemented HIV+ men in a longitudinal cohort study (N = 12, ages 27-42), with elevated Pittsburgh Sleep Quality Index global scores ≥ 5 (2SD above normal mean, indicating poor sleep), and drug-free for ≥ one week. Exclusion criteria were history of sleep disorder prior to infection, Axis I psychiatric diagnosis in the past six months, or significantly elevated scores in the Hamilton Depression and Anxiety Rating Scales. Activity and light exposure were recorded using wrist-worn electronic device. Sleep-wake cycle was estimated from activity data through a computer algorithm and analyzed with the cosinor method. *Results:* Linear regression analyses showed trends for negative correlation between global sleep scores and the amplitude of the sleep rhythm ($p < .09$), and between sleep scores and duration of ≥1,000 lux light exposure ($p < .08$). *Conclusions:* Objective measurement seem to validate self-reported sleep quality. There was no correlation between light exposure and T-cell counts, suggesting that bright light may improve sleep independently of health status. Light therapy may be a safe and effective intervention in HIV sleep disorders.

NR600 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

AIDS Related Bereavement Themes of IV Drug Users

Julie A. London, Ph.D., Psychiatry, UC San Francisco, 74 New Montgomery Ste 600, San Francisco, CA 94105; James L. Sorensen, Ph.D., Kevin Delucchi, Ph.D., Laurie A. Roehrich, Ph.D., Tamara Wall, Ph.D., Ronald Stall, Ph.D.

Summary:

Coping with AIDS-related bereavement can be problematic for substance abusers because bereaved individuals often use drugs and alcohol. While much is known about how the gay community

is coping with AIDS-related bereavement (Geis & Fuller, 1986; McKusick & Hilliard, 1991), little is known about how substance abusers in MMT are coping. This study examined bereavement themes of substance abusers who had experienced AIDS-related deaths in the preceding 12 months. Forty injection drug users participated in the study. Eight focus groups were conducted. Seropositive and seronegative patients were in separate groups. Patients ranged in age from 31-68 years; approximately 60% were male; 55% were Caucasian, 25% African-American, 15% Hispanic, and 5% racially mixed; methadone dose ranged from 11-90 mgs.; length of time in MMT ranged from two months to 13 years; 27 out of 40 (67%) had used illicit drugs in the month preceding the study; patients experienced anywhere from one to 30 AIDS-related deaths and from none to 20 non-AIDS deaths. Themes reflected coping difficulties; relapse while in MMT was quite common. Patients reported increases in their use of illicit drugs and prescribed medications. Sexual practices did not increase or change. Depression was a common problem, although seropositive patients experienced depression and fear of death more intensely. Seropositive patients were more interested in bereavement counseling. For both groups of patients, AIDS deaths were difficult because they reactivated earlier losses. Seropositive injection drug users are more likely to report themes suggesting that AIDS-related bereavement may lead to relapse and other coping problems. Bereavement interventions may be more useful for seropositive substance abusers. Treatment for bereaved substance abusers should focus on coping with relapse difficulties, depression, and fear of death.

NR601 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Natural Killer Cells and Psychological Distress in HIV Infection

John A. Sahs, M.D., Psychiatry, Columbia University, 722 W. 168th St Unit 10, New York, NY 10032; Jack M. Gorman, M.D., Mohan Reddy, Ph.D., Raymond Goetz, Ph.D., Judith G. Rabkin, Ph.D.

Summary:

Objective: To determine whether the number of natural killer (NK) cells is associated with measures of distress in a sample of HIV- and HIV+ gay men.

Methods: The subjects are participants in a longitudinal study of psychiatric, neurologic, and medical aspect HIV progression. A total of 120 men (46 HIV-, 27 HIV+/ASx with few or no HIV symptoms and 47 HIV+/Sx with ARC or AIDS) had NK cells identified by staining for CD56; concurrent psychosocial assessments were performed by trained clinicians.

Results: NK cell number was significantly decreased in HIV+ compared with HIV- subjects. (HIV-: 82 ± 55 cells/ul; HIV+/Asx: 48 ± 47; HIV+/Sx: 46 ± 43; $F = 7.60$, $p = .001$), but the presence of any DSM-III-R diagnosis, including psychoactive substance abuse, had no relationship to NK cells for any HIV-Sx Group (by ANOVA). Also, Global Assessment of Functioning and Hamilton Depression and Anxiety Rating Scales were not significantly correlated with NK cell number, regardless of HIV-Sx Group.

Conclusions: Previous studies have shown that psychological state is not associated with CD4 lymphocyte counts in HIV infection. NK cells, another cell type involved in the pathology of HIV illness, is not related to depression or anxiety in those infected with the virus.

NR602 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Social Support, Heterosexual Exposure to HIV Infection and Depression

Katherine L. Puder, Dr. P.H., Prev. Medicine, NJ Medical School, 24 Hutton Avenue Unit 72, West Orange, NJ 07052; Peter Messeri, Ph.D., Mark A. Quinones, Ph.D., Donald b. Louria, M.D.

Summary:

Objective: This research examined the differential effects of five dimensions of social support (belonging, perceived availability of support, validation, integration, and social conflict) on depressive symptoms in heterosexual persons with HIV-related stress. Such individuals were: 1) seronegative, but at high-risk or threat of HIV infection; 2) seronegative, but caring for HIV-infected mates; or 3) HIV-seropositive, with seronegative partners.

Method: A cross-sectional research design was used to sample 173 heterosexual subjects from three N.J. HIV counseling and testing sites. Depressive symptoms were measured by the Derogatis and Melisaratos "Brief Symptom Inventory."

Results: Patterned differences were found in the effects of social bonds. Belonging mitigated depressive symptoms more robustly for HIV-seropositives than at-risk seronegatives. For caregivers of seropositive mates, perceived availability of support attenuated depressive symptoms. Social conflict, however, directly increased depressive symptomatology for all three types of HIV-related stress. Isolated males were more depressed than females, while social conflict was greater for women than men.

Conclusion: Both health-promoting and health-negating effects were found for social ties. Support interventions need to be designed that minimize isolation for HIV-seropositives, while helping the caregivers to fortify their instrumental support networks.

NR603 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

HIV Clinic-Based Study of Psychiatric Disorders

Joyce Y. Chung, M.D., Psychiatry, Georgetown Medical School, 3800 Reservoir Road N.W., Washington, DC 20007; Michael K. Popkin, M.D., Frank S. Rhame, M.D., W. Keith Henry, M.D., Ross Crosby, Ph.D.

Summary:

Objective: To address conflicting reports about the prevalence rate of psychiatric disorders in HIV-infected patients, we studied a clinic-based sample of HIV patients in geographic area outside an AIDS epicenter. We hypothesized that HIV patients would have higher rates than those reported in previous studies of the general population (ECA studies), and diabetic patients.

Method: 72 subjects were selected using a random number table from two hospital-based HIV clinics. Psychiatric disorders were ascertained using the Diagnostic Interview Schedule; self-report surveys were also administered. Clinical information and absolute CD4 counts were extracted from medical record review.

Results: Lifetime (78.6%) and one-month (44.3%) prevalence for any psychiatric disorder were found. Subjects had higher prevalence rates of current and lifetime psychiatric disorders for *all* diagnoses when compared with ECA findings. Rates were similar or higher compared with diabetic patients. Mean CD4 counts did not differ between those with or without psychiatric disorders.

Conclusions: HIV patients who seek medical help have a high psychiatric morbidity, even when compared with another group of medically ill patients. The high rate of psychiatric disorders in this medical setting calls for greater integration of HIV medical and mental health services.

NR604 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Personality Characteristics in Parasomnias

Colin M. Shapiro, M.B., Psychiatry, The Toronto Hospital, 399 Bathurst St EC3D-040, Toronto Ontario M5T 2S8, Canada; Paul Draga, M.D., Lawrence Reinish, M.D.

Summary:

Personality features in sleepwalkers (SW) and patients with night terrors (NT) were studied. Both groups had scored exceptionally

high on the anxiety (A) and hysteria (H) scales of the CCEI compared with normal controls ($p < 0.001$). These results confirm the observations of Crisp et al. with regard to the high scores on H scale. In contrast with Crisp et al., the scores on A scale did not differentiate between NT and SW groups. Both our groups had scored significantly higher than normals on the depression (D) scale ($p < 0.05$). The NT group had significantly higher scores compared with normals on the psychoticism (P) scale of the EPQ ($p < 0.05$). The CES-D scores ranged from 1 to 56 for the SW group (mean = 21 + 19), and from 11 to 26 for the NT group (mean = 19 + 5).

Our findings support those by Crisp et al. and add to the evidence regarding the possible dissociative nature of the two disorders. The high scores on A and D scales of the CCEI may represent different facets of the same feature characterizing the group as a whole. The high scores on the P scale of the EPQ may reveal a degree of proneness to develop psychiatric symptoms in the NT group.

NR605 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Psychiatric Services to Older Caregivers of Aids Patients

Peter M. Aupperle, M.D., Psychiatry, Hillside Hospital, PO Box 38 Lowenstein Res Bldg, Glen Oaks, NY 11004; Joan Perrkell, C.S.W.

Summary:

The epidemic nature of AIDs suggests that elderly individuals affected by a significant other with AIDS (e.g., adult child or grandchild) represent a burgeoning population in need of mental health services. Although an impressive awareness exists about psychiatric/psychologic issues (e.g., depression, anxiety, adjustment reactions, burden, role reversal, stigma) and treatment approaches in the older caregivers of Alzheimer's disease patients, analogous information regarding AIDS is lacking. *Objective:* To determine whether mental health services for elderly people affected by AIDS have been developed. *Methods:* A telephone poll was conducted of national, state, and local professional organizations/service agencies (n = 18) categorized as psychiatric, aging-related, or AIDS-related. *Results:* Amongst psychiatric organizations polled, no national and state programs addressing mental health issues of elderly caregivers to AIDS patients were identified. Locally, one such program within a NYC mental health clinic was uncovered. Among aging organizations, no programs exist statewide; however, two task forces (one national, one local) on aging and AIDS were identified, but neither had any clear mental health agenda. Among AIDS organizations, no specific mental health programs for older caregivers were identified. *Conclusion:* This preliminary investigation suggests that professional attention to mental health needs of older caregivers of AIDS patients is needed. Future efforts should (1) survey mental health clinicians' practices; (2) conduct epidemiological studies; and (3) develop specific services for elderly affected by AIDS.

NR606 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

HIV Positive Persons and Childhood Abuse

Susan E. McManis, M.D., Psychiatry, Wilford Hall Med., 2200 Bergquist Drive Ste 1, Lackland AFB, TX 78236; Carol Coyle, Ph.D., Robert Zachary, Ph.D., George R. Brown, M.D., Cliff Butzin, PH.D., Sarah Kendall, B.a.

Summary:

Objective: To assess rates of childhood abuse in an HIV+ population and its association with psychiatric diagnosis.

Methods: 109 male and 26 female HIV+ subjects underwent standard psychiatric evaluation including direct questions on experiences of physical and sexual abuse before age 18. A comparison group of 73 HIV− substance abusers undergoing inpatient rehabilitation underwent the same evaluation. Age and sex distributions were comparable in both groups.

Results: 37% of HIV+ subjects reported childhood abuse (22% physical, 19% sexual). This was not significantly different from the HIV- substance abusing population (32% abuse rate). In the HIV+ population, a history of childhood abuse was significantly associated (defined as $p < .05$) with having any current Axis I diagnosis ($X^2 = 4.4$), any past Axis I diagnosis ($X^2 = 11.9$), and any past *major* Axis I diagnosis ($X^2 = 10.2$). A history of childhood abuse was not significantly associated with current or past substance abuse.

Conclusions: HIV+ persons reported childhood abuse at a rate comparable to substance abusers. Given this high rate of abuse and its association with psychiatric diagnoses, psychosocial evaluations of HIV+ persons should include an assessment for histories of childhood abuse.

NR607 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Religiosity and Psychosocial Adjustment in AIDS

Vijaya L. Boppana, M.D., Psychiatry, Queens Hospital Center, 82-68 164th St TB Bldg 3rd Flr, Jamaica, NY 11432; Agustin Gomez, M.D., Sonia Oquendo, M.d., Helen Hanley, C.S.W., Arthur Rifkin, M.d.

Summary:

Previous research has shown that religious belief is associated with better life satisfaction in patients with advanced cancer. To our knowledge it has not been studied if religious attitudes and activities might make a difference in how people cope with AIDS. Our study looks at the predicative value of religious belief in psychosocial adjustments of patients with AIDS. Twenty-three inpatients on a prison unit (range: 21-51) were assessed for religious beliefs by a six-item scale of religious imagery, the importance of religion on a 10 cm visual analogue scale (VAS), and whether they attributed their illnesses to God's will on a VAS. We measured depression on the Hamilton Scale, and anxiety on the Hamilton Scale; and pain, by a VAS. Our outcome measure was the Psychosocial Adjustment to Illness Scale (PAIS). *Preliminary Results:* All but two subjects had polysubstance dependence. There were no other Axis I syndromes. The correlation (Spearman) between the importance of religious and the PAIS outcome was only .167 ($p = 442$). Of those with the better median outcome on the PAIS, 52% had high median values of importance of religion, and 43% had the lower median values ($p = 987$; 95% CI: − .33 to .51). Depressive symptoms correlated significantly with a worse outcome (Spearman = .502, $p = .016$). No other predictors were significant.

NR608 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

The Neglect of Psychiatric Training for Internists

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Summary:

The ABIM recommends psychiatric training for internists. This survey reports a virtual absence of such training. *Methodology:* 140 internal medicine training directors of affiliated programs were surveyed about psychiatric training with a questionnaire asking: 1) Number of trainees; 2) Type of program; 3) Numbers of lectures and conferences per year; 4) Educational provider, 5) Need for funding; 6) Opinion about prevalence of psychiatric disorder; 7) Preferred approach to treat depressed patients. *Results:* 114 of 140 programs responded (81%), representing 9,852 trainees. Programs were required by 16 (14%), optional for 43 (37.7%), and 55 had none (48.3%). Only 10% of trainees (N = 986) participating

usually in a program with mixed experience. A total of 67 programs (58.7%) had three lectures per year, and 52 programs (45.6%) had an average of three conferences per year. Twenty-four programs had neither (21%). Faculty support from psychiatry was not a problem, nor was funding. Nineteen respondents said there was no time, while six felt the training unnecessary. A total of 92% (82) felt that from 5% to 50% of their patients had psychiatric disorders. Seventeen percent reported use of drugs for depression seldom to never, while 10% reported referral seldom to never. Findings are similar from a companion survey of combined medicine pediatric programs, reflecting a virtual absence of psychiatric training for these primary care providers.

NR609 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Divergent Effects of Types of Consultation/Liaison Intervention on Length of Stay

Albert Diefenbacher, M.d., Psychiatry, Mt. Sinai School of Med, 1 Gustave Levy Place Box 1228, New York, NY 10029; James J. Strain, M.D., Mary Eichman, Ph.D., John S. Lyons, Ph.D., Jeffrey S. Hammer, M.D., George Fulop, M.D.

Summary:

Objective: A psychiatric liaison approach in elderly hip fracture patients is associated with a reduction in length of stay (LOS) of 20.7 days (control year) vs. 18.5 days in the intervention year. This study examines the different aspects of the psychiatric intervention on LOS. *Method:* Each patient admitted to the ward was seen by the psychiatrist after giving informed consent. Psychiatrists' interventions were grouped into three categories: staff intervention (notes written into chart by consultant regarding additional laboratory tests, asking for social worker or other medical discipline to get involved, etc), interventions done by the consultant either alone (psychotherapy) or together with the staff (discussion of management of specific patients), or recommendation of medication. *Results:* Refusers remained in hospital fewer days than consenters (N = 113): 18 vs. 21 days. Consenters had different LOS with different interventions: staff – 25.2 days; social worker recommendation by psychiatrist—29 days; consultant work with patient alone—23 days; consultant plus staff—14 days; and recommendations for medication—19 days. *Conclusion:* The results indicate the need to dissect the nature of the psychiatric intervention in the medical setting and its correlation with LOS. The study also suggests reasons for the divergence in C-L outcome studies reported to date. Psychiatric interventions in this population are correlated with both decreased and increased LOS even in patients of similar age and medical diagnosis. The average change in LOS for a study cohort group must be further examined from the subset of specific interventions to understand the impact of them on LOS in the medical setting.

NR610 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Psychiatric and Psychosomatic Consultation Delivery in Germany: A Comparative Study

Albert Diefenbacher, M.D., Psychiatry, Mt. Sinai School of Med, 1 Gustave Levy Place Box 1228, New York, NY 10029; Christian Knorr, M.D., and the ECLW in Amsterdam

Summary:

Objective: We studied the profiles of a psychiatric and a psychosomatic C-L service at two German university hospitals to describe the characteristics of a singular German feature that provides two different psychosocial departments within hospitals. *Methods:* We compared 278 inpatients consecutively referred to a psychiatric C-L service with 100 inpatients of a psychosomatic service. The Patient Registration Form developed by the ECLW was used to document each consultation episode. Both investigators were trained in the use of the form and took part in the ECLW reliability study. Psychiatric diagnoses were made according to ICD-10 by clinical interview. *Results:* Both services are similar insofar as most patients had no previous psychological treatment (82% of psychiatric and 75% of psychosomatic patients) and show a longer length of stay (4.8 vs. 4.1 weeks vs. a hospital average of 1.7 weeks). The psychiatrist sees nearly all patients with organic mental syndromes (FO), substance abuse (F1), schizophrenic disorders (F2), whereas the psychosomaticist sees those with behavioral disturbances accompanying somatic disorders (F5) and personality disorders (F6). There is overlap within the mood (F3, 18% seen by each service) and adjustment/somatoform disorders (F4, 21% vs 40%, respectively). *Conclusion:* Both services treat a distinct subgroup of inpatients with a higher morbidity than the average patient population. They serve different populations, except for some overlap in mood and adjustment disorders. The American model of C-L psychiatry can be described as unitarian vs. a dichotomous one in Germany. This is of major importance for health care delivery studies that intend to compare German services with those of other countries.

NR611 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Surgical Delay in Psychotic Patients

Nancy M. Speed, M.D., Psychiatry, VA Medical Center, 2215 Fuller, Ann Arbor, MI 48105; Joseph A. Schwartz, M.D., Jane M. Carnahan, M.D., Daniel B. Hinshaw, M.D.

Summary:

Objective: Pain insensitivity has been described among chronically psychotic patients. These patients may face delays in diagnosis and treatment of life-threatening medical conditions. The purpose of this study is to determine whether psychotic patients experience delays in surgical intervention for the acute abdomen, and to describe factors leading to delay.

Method: A review of the surgical log of a VA medical center from 1985 to 1992 revealed 15 cases of acute abdomen in chronically psychotic patients. Each psychotic subject was matched to the next nonpsychotic similar case in the surgical log. Medical records were reviewed for patient and illness characteristics.

Results: Psychotic patients had a tendency to longer preoperative periods of pain, but lengths of stay, WBC counts, and death rates were comparable to controls. Delays in treatment occurred primarily in psychotic patients with obstruction, not perforation (12.67 pain days preop vs. 3.83 days), or in control subjects with obstruction (3.8 days) or perforation (5.63 days).

Conclusions: Surgical delays can occur in psychotic patients. Patients with diffuse, nonlocalizing pain of obstruction may be difficult to diagnose. In spite of surgical delay, psychotic patients have outcomes as good as nonpsychotic surgical controls.

NR612 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Pain Perception and Beta Endorphin Level in Trauma

Lawson F. Bernstein, M.D., Psychiatry, Western Psych Inst., 3811 O'Hara Street Ste 102, Pittsburgh, PA 15213; Bruce Kramer, M.D., Pamela E. Garzone, Ph.D., Dwight Stiff, Ph.D., Thomas Rudy, Ph.D., Andrew Peitzman, M.D.

Summary:

Traumatic injury engenders the production of Beta-endorphin (BE) an endogenous opioid. Studies suggest that elevated levels of BE correlate with increased pain perception in trauma patients. However, a great variability in pain response is common in individuals with similar traumatic injuries, and physiologic factors such as hypotension may confound the relationship between traumatic injury, pain perception, and BE. We administered brief rating instruments for pain and unpleasantness, and drew blood for BE analysis

in 48 consecutive trauma admissions and 33 age/weight/sex/race matched nontrauma controls. We found no correlation between severity of patient pain and BE level, but a significant correlation between BE and patient body weight ($p << .05$), physician pain rating ($p < .01$), and Injury Severity Score ($p < .001$). These three variables accounted for 51.3% of the variance in the sample ($p < .001$). Physician assessment of pain was significantly correlated with Injury Severity Score ($r = 0.46$, $p < .01$), while patient pain perception was not. The pathophysiology of trauma-associated BE production is physiologically complex, and past findings associating the two may be spurious. Physicians are more likely to rate as painful obvious injury, and may underestimate other subjective experiences of the patient unrelated to injury severity.

NR613 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Alcoholism Prognosis and Liver Transplantation

William R. Yates, M.D., Psychiatry, University of Iowa, 2000 Newton Road, #2887 JPP, Iowa City, IA 52242-1057; Brian J. Masterson, M.d.

Summary:

Background: Liver transplantation for end-stage alcohol-related liver disease (ESARLD) is becoming more common. However, no consensus has developed on the best method to evaluate and rank these candidates prior to transplantation.

Objective: The objective of this study was to compare four strategies used to evaluate liver transplant candidates with ESARLD. *Method:* A series of 33 liver transplant candidates with ESARLD were ranked using 1) the Psychosocial Assessment of Candidates for Transplantation scale (PACT); 2) the Michigan Alcoholism Prognosis Scale for Transplantation (MAPST); 3) duration of sobriety; and 4) the High-risk Alcoholism Relapse scale (HRAR). Comparison of rank orders for homogeneity was made using the Friedman rank order test. Pairwise comparisons were made using the Spearman rank order correlation. *Results:* The null hypothesis of no difference in rank by the four strategies was rejected (Friedman rank ch-square = 61.1, df = 3, $p = .0001$). The PACT rank correlated highly with the MAPST rank ($r = .63$, $p = .004$) and the HRAR rank ($r = -.53$, $p = .003$). The duration of sobriety rank did not correlate with the HRAR rank. *Conclusion:* Existing models to estimate prognosis in ESARLD are not equivalent. Prospective studies using existing and new models are needed.

NR614 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Psychiatric Issues in Liver Transplantation

Marian Fireman, M.D., Psychiatry, Portland VA Medical Ctr, 3710 SW Veterans Hospital Rd, Portland, OR 97207; Roland M. Atkinson, M.D., John M. Rabkin, M.D., C. Wright Pinson, M.D.

Summary:

Objective: This study examined issues in psychiatric evaluation of liver transplant candidates, the occurrence of psychiatric diagnoses in pre- and post-operative transplant patients, and whether preoperative psychiatric diagnosis predicted postoperative psychiatric complications.

Method: All 73 patients evaluated since the liver transplant program at the Portland VA Medical Center was established received psychiatric assessment including record review, patient interview, and mental status evaluation. All patients transplanted were followed by the psychiatric consultant pre- and post-operatively.

Results: Sixty-two (85%) patients had one or more preoperative psychiatric diagnoses including substance use disorders (42), delirium (28), PTSD (9), personality disorders (7), major depression (5), other organic mental disorders (5), and schizophrenia (1). Forty-seven were accepted for transplant, and 27 have been transplanted to date. Psychosocial factors were important in seven of 14 cases in which transplantation was denied; intractable psychosis, severe nonreversible cognitive deficit or active substance abuse was present in these patients. Postoperative psychiatric consultation was formally requested for 18 patients (67%) for issues including PTSD, major depression, family problems, delirium, corticosteroid-induced psychosis, and cognitive, anxiety, and adjustment disorders.

Conclusions: The prevalence of preoperative psychiatric diagnoses and incidence of postoperative psychiatric complications in liver transplant patients both exceed 65%. Preoperative psychiatric evaluations is important in assessing the presence or history of psychiatric disorders, patterns of compliance with medical treatment, and determining the mental status "baseline." Analysis of the data shows no clear predictors of postoperative psychiatric complications on the basis of preoperative psychiatric diagnoses.

NR615 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Depression and Eosinophilia-Myalgia Syndrome

Steven A. Epstein, M.D., Psychiatry, Georgetown University 615, 3800 Reservoir Rd Kober-Cogan, Washington, DC 20007; Lois Krahn, M.D., Richard Goldberg, M.D., Daniel J. Clauw, M.D., Susan Weigert, M.A., Arminda P. Gomes, B.A.

Summary:

Objective: Eosinophilia-myalgia syndrome (EMS) is a systemic disease caused by contaminated L-tryptophan. In a pilot study, the authors evaluated adjustment to illness and the relationship between past psychiatric history and current symptomatology.

Method: 13 outpatients with EMS were administered a structured interview (SCID), Beck Depression Inventory (BDI), Speilberger State Anxiety Inventory (STAI), and Psychosocial Adjustment to Illness Scale (PAIS). A rheumatologist, who was blind to psychiatric data, rated EMS severity.

Results: This group of EMS patients had high levels of depressive (BDI mean 21.3) and anxiety (STAI mean 54.0) symptoms. PAIS mean T score was 66.9 compared with a normative renal dialysis sample. Persons with a pre-EMS history of major depression had significantly ($p < 0.005$) poorer adjustment to illness ($n = 9$, PAIS mean = 78.6) than those without a history (mean = 40.0). Severity of EMS was significantly correlated with BDI score ($r = 0.58$, $p < 0.04$) but not with any other measures.

Conclusions: This group of persons with EMS had a high degree of depression, anxiety, and difficulty adjusting to illness. A pre-EMS history of major depression was a better predictor of poor adjustment to illness than was rheumatologist-rated severity of illness. Physicians should be aware of the relevance of psychiatric history to present adjustment to EMS.

NR616 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Steroid-Induced Mental Status Changes in Patients Receiving Dye Contrast

Michael T. Lardon, M.D., Psychiatry, UCSD School of Medicine, 9500 Gilman Drive, La Jolla, CA 92037; Elisa Feingold, D.O., John Ewing, M.D., Shakrokh Golshan, Ph.D., Michael Irwin, M.D.

Summary:

Corticosteroids are routinely used as an essential pharmacologic treatment in radiographic procedures utilizing dye contrast. Adverse psychiatric symptoms are a common side effect. We prospectively assessed differential psychiatric responses between patients treated with and without corticosteroid prior to dye-contrast angiography. Patients facing an acute stressor (angiographic procedures) are likely to show mild psychiatric disturbances prior to the procedure with improvement upon completion. We hypothesized that pretreatment with corticosteroid before angiography may alter the severity of patients' psychiatric symptomatology.

*Methods:*Twenty-seven medically ill patients admitted for angiographic study were randomly assigned to either a steroid group (N = 12) or a control (no steroids) group (N = 15). Patients received pre- and post-angiographic ratings relative to the procedure. The steroid group received a total 80 mg of P.O. prednisone prior to the procedure.

Results: The groups treated with and without steroids differed in their psychiatric responses to angiography. For the MMSE and the HAM-17, responses of the steroid treated group significantly (p = 0.03, 0 = 0.04 respectively) differed from the control group; the control group improved while the steroid group remained unchanged.

Conclusion: These findings support the hypothesis that acute moderate dosages of corticosteroids are likely to impede psychiatric symptom recovery in context of an acute stress.

NR617 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Adolescent Suicide Attempts Seen in a General Hospital Psychiatric Emergency Service and a Pediatric Hospital Emergency Service

Michael T. Sorter, M.D., Psychiatry, University of Cincinnati, 231 Bethesda Avenue NL 559, Cincinnati, OH 45267; Ole J. Thienhaus, M.D., Brian McConville, M.D.

Summary:

In this pilot study, the charts of a random sample of 20 adolescent patients evaluated for attempted suicide by ingestion at a general hospital psychiatric emergency service were compared with a similar sample of 20 adolescents seen at a pediatric hospital emergency room. Both samples were comparable in age and gender distribution. Patients seen in the general hospital psychiatric emergency service were rated as having less serious suicidal intent and medical lethality than those seen in the pediatric hospital E.R. For example, 14 subjects (70%) of the pediatric ER group, versus six of the psychiatric E.R. sample (30%) thought that their self-destructive behavior would kill them. Immediate hospitalization in a general medical ward was significantly more frequent if the patient was processed through the children's hospital E.R. (15 vs. 6), while the general hospital psychiatric emergency room service released patients more frequently to home with outpatient follow up (10 vs. 3). However, despite the noted differences between the two settings, the eventual rates of admission to an adolescent psychiatric ward from either setting were not significantly different. Seriousness of suicidal intent appears to influence the pre-E.R. triaging function assumed by parents, ambulance drivers, or EMT's who decide whether to take an adolescent perceived as more suicidal to the pediatric ER rather than to the general hospital E.R. This suggests that the evaluation and disposition of suicidal adolescents should be studied within larger sociologic concepts such as perception of severity of suicidal act, nature of the treating facility, and the impact of triage to initial referral sites rather than only from the viewpoint of studies after patients enter the emergency room.

NR618 Withdrawn

NR619 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Bone Marrow Transplant: Impact on Family Members

Roger-Michel Poirier, M.D., Pedopsychiatrie, Mais Onne Uve-Rosemont, 5689 Blv Rosemont, Montreal QU H1T 2H1, Canada; Patricia L. Dobkin, Ph.D.

Summary:

Bone marrow transplantation (BMT) is the treatment of choice and often last resort for children with a variety of diseases (e.g., leukemia, aplastic anemia). The medical procedure is complicated, involving several phases, each of which places new demands on the patient and his/her family members. Health care professionals working in this area readily acknowledge a link between family factors and patient reactions. For example, clinicians note that pediatric patients with dysfunctional families have more complications and die more often than those who have healthy families. Yet, little is known about the impact this procedure has on the family members who bear witness to this often traumatic event.

The present study employs a prospective, longitudinal, repeated measures design involving four phases: Time 1 (prior to BMT), Time 2 (15 days post BMT), Time 3 (120 days post BMT), and Time 4 (1 year post BMT). Both parents and siblings are interviewed and asked to complete questionnaires assessing individual, couple, and family functioning, with an emphasis on the last variable. A healthy control group, matched for age and gender of the patient, is being followed for comparison purposes. Initial findings indicate that both parents manifest psychosomatic symptoms at Times 1 and 2, while showing blunted affective responses. Other results concerning the impact this experience has on individual, marital, and family functioning will be reported.

NR620 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Body Image Changes After Cardiac Surgery: The Heart

Herman C.B. Denber, M.D., Mt. Sinai Sch of Medicine, 113 Tidyisland Blvd, Bradenton, FL 34210; Michel Denber, M.A., Valentin Fuster, M.D.

Summary:

Twenty-two male and female patients were asked to draw a picture of their heart both before and after cardiac surgery as part of a general study of the nonsurgical aspect of both coronary artery bypass graft and open heart surgery: 1) heart image size was larger; 2) pressure exerted on the pen during drawing was stronger and 3) the number of inflection points in the drawings changed. The data suggest that after cardiac surgery the patient unconsciously perceives an altered cardiac status with greater capability to respond to physical demands. This was supported by their free associations to the before and after drawings.

NR621 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

The Course and Prediction of Outcome in Bulimia Nervosa

Allan S. Kaplan, M.d., Psychiatry, Toronto General Hospital, 200 Elizabeth St CW1 RM 311, Toronto, Ontario M5G 2C4, Canada; Marion Olmsted, Ph.D.

Summary:

Objectives: This study aims to establish predictors of outcome in bulimia nervosa (BN). *Method:* 64 patients with BN treated for 10 weeks in a day hospital group psychotherapy program were reinterviewed two years after discharge. Subjects were categorized as good outcome, defined as being either completely or mostly abstinent over the entire two-year period, or having symptoms initially after discharge but becoming symptom free for most of the second year; or poor outcome, defined as having an average of more than two episodes of binging and purging per week for more than half of the follow-up period. These two groups were compared on a variety of pre- and post-treatment demographic, eating behavior, weight, attitudinal, and mood-related variables to determine predictors of outcome. *Results:* At two years, 66% (n = 42) were categorized as having a good outcome and 34% (n = 22) as having a poor outcome. At pretreatment, patients who had a good outcome were older, vomited less frequently, were closer to their heaviest weight ever, had less fluctuation between their minimum

and maximum weights, and were less cognitively preoccupied with binging as measured by the bulimia subscales of the EAT and EDI. Stepwise discriminant function showed that these six variables accounted for 22% of the variance in group membership. We found that 85% of the group who were abstinent as discharge had a good outcome two years later compared with only 9% of patients who were binging regularly at discharge ($p < .0001$). *Conclusions:* This study demonstrates the prognostic significance of abstinence following intensive treatment for BN and establishes pretreatment predictors of long-term outcome. Individually tailored treatments targeted at patient characteristics predictive of poor outcome could then be implemented to improve the long-term prognosis for such patients.

NR622 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Cleric Sexual Misconduct and Assessment of Deviance

Howard M. Kravitz, M.P.H., Psychiatry, Rush Pres. St. Luke's, 1720 West Polk Street, Chicago, IL 60612; Mark McClung, M.D., Thomas Haywood, M.A., Susanne Liles, R.N., Linda S. Grossman, Ph.D., James L. Cavanaugh, M.D.

Summary:

Objective: Recently there has been an increase in media and ecclesiastic attention given to clergy alleged to have engaged in sexual misconduct with minors. Clinicians are increasingly being called upon to provide comprehensive psychiatric evaluations of clergy and alleged child molesters. There are no known studies analyzing sexual functioning among clergy involved in sexual misconduct in comparison to other sex offenders and normals. *Method:* In the current study 32 alleged cleric child molesters referred from a variety of locations including different diocese and religious orders are compared with 41 alleged non-cleric child molesters and 29 normals in sexual functioning as assessed by the Derogatis Sexual Functioning Inventory (DSFI).

Results: The results indicated that both alleged cleric and non-cleric child molesters demonstrate significantly more sexual inadequacy than normals (P .0001) Both alleged cleric and non-cleric child molesters espoused more conservative sexual attitudes and indicated a lower level of accurate sexual information compared with normals.

Conclusion: Cleric offenders demonstrate multi-level sexual inadequacy. However, questionnaires about sexual functioning among clergy may need to be interpreted differently and administered with sensitivity to moral offensiveness because of clergy's vows to celibacy and because of the low frequency of heterosexual activity in the cleric population.

NR623 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Diabetes, Sleep Disorders and Male Sexual Function

Raul C. Schiavi, M.D., Psychiatry, Mount Sinai Med. School, 1 Gustave Levy Pl Box 1084, New York City, NY 10029; Barbara Stimmel, Ph.D., John Mandeli, Ph.D.

Summary:

Information on the prevalence of sleep disorders among diabetic patients is lacking. Studies of patients with sleep apnea or with erectile impotence suggest that sleep disorders are involved in the pathogenesis of erectile difficulties. Although erectile impotence is a common complication of diabetes, the role of sleep disorders on the sexual problems of diabetic patients remains unexplored. This study included 40 married diabetic men free from comorbid conditions, obesity, or drug use other than antidiabetic medication and 40 age-matched healthy volunteers. Subjects underwent a psychosexual assessment, a medical evaluation, and completed the Schedule for Affective Disorders and Schizophrenia, several psychological questionnaires, and a daily record of sexual activities for at least 30 days. Polygraphic assessment of sleep respiration, periodic leg movements (PLM) and nocturnal penile tumescence was conducted in the sleep laboratory during three nights.

Diabetic men selected to exclude the confounding effects of unrelated medical disorders had significantly higher prevalences of respiratory and PLM disturbances than healthy controls. The results indicated that respiratory abnormalities during sleep contribute to erectile difficulties in diabetic men. Growing evidence of increased morbidity associated with sleep disorders in the context of conflicting information about the pathogenesis of diabetic impotence emphasizes the importance of studies in this area.

NR624 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Sexual Dysfunctions in HIV-Positive Gay Men

Miles A. Cohen, M.D., HIV Clinic, The Toronto Hospital, 60 Langley Avenue, Toronto Ontario M4K 1B5, Canada; Shelagh Emmott, Ph.D.

Summary:

Objective: The study was designed to 1) assess the frequency and type of sexual dysfunctions at different stages of illness in HIV-positive gay men, and 2) assess the level of concern expressed by these patients.

Method: Self-report questionnaires were completed by 89 HIV-positive gay men (30 asymptomatic, 24 symptomatic, and 35 with AIDS), and 84 HIV-negative gay men. Data were collected on frequency of sexual activity, changes in sexual activity, symptoms of dysfunctions, and concerns about their sexual lives. *Results:* There was a significant decrease in frequency in all forms of sexual activity for the HIV-positive groups ($X^2 = 6.92$, $p < .01$). There were no sexual dysfunction in the HIV-negative group or the asymptomatic group. However, 49% of the AIDS group and 12.5% of the symptomatic group had an erectile disorder, and 40% of the AIDS group and 25% of the symptomatic group had hypoactive sexual desire disorder. There were significantly greater levels of concern in viewing their sexual lives as a problem in all HIV-positive groups than the HIV-negative group ($X^2 = 491.9$, $p < .001$), yet less than half had discussed their concerns with their physician. *Conclusions:* The results suggest that sexual dysfunctions increase significantly in gay men with symptomatic HIV illness.

NR625 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Sexual Dysfunction in Alzheimer's Disease Patients

Richard A. Greer, M.D., Psychiatry, University of Florida, 1600 SW Archer Rd. Box 100256, Gainesville, FL 32601; Michael J. Herkov, Ph.D.

Summary:

Sexual dysfunction and declining sexual activity with age has been an increasingly significant area of research and clinical concern. The impact of Alzheimer's disease and other primary degenerative dementias on sexual functioning has been neglected. Although briefly mentioned in books concerning Alzheimer's disease, little empirical data exist regarding the sexual functioning of Alzheimer's patients and their spouses. The sexual functioning of 37 Alzheimer's patients and their spouses was evaluated. Spouses completed questionnaires regarding their own and their partner's sexual activities. For males, the frequency, duration, and tumescence of erections was assessed. Females were evaluated regarding their ability to achieve orgasm. Both males and females were questioned regarding the frequency of sexual intercourse, sexual responsiveness, masturbation behavior, and overall sexual satisfaction. Results indicate a significant decline among male and female Alzheimer's patients with regard to erectile function, ability to achieve orgasm, sexual intercourse, sexual responsiveness, and

general sexual satisfaction. An overall diminution in sexual desire, activity, and ability was discerned. Only the frequency of masturbatory activity remained stable. Finally, in the spouses of both male and female patients with Alzheimer's disease the same trend was found. Only the amount of masturbation remained unchanged or increased.

NR626 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Diagnosing Fibromyalgia in Psychiatry Patients

Douglas H. Finestone, M.D., Psychiatry, ECU School Medicine, Dept. Psych Med ECU Sch of Med, Greenville, NC 27858; David W. Fisher, M.D., Mary H. Berg, M.T., David L. Merrifield, Richard M. Bloch, Ph.D.

Summary:

Objective: Fibromyalgia is a chronic pain syndrome characterized by diffuse aching, marked fatigue, and disturbed sleep. Fibromyalgia now is diagnosed by the complaint of widespread pain of at least three months duration and the finding of at least 11 tender points upon physical examination. Up to 71% of fibromyalgia patients have a current or past history of major depression, 47% a family history of depression, and 31% abnormal MMPI scores. Therefore, some patients with fibromyalgia might be expected to be seen by psychiatrists. This study examines the prevalence of fibromyalgia in psychiatric patients. *Method:* We used a previously developed method of screening for fibromyalgia to detect the presence of fibromyalgia in psychiatry patients. We asked 101 patients in an adult psychiatry outpatient clinic (51) and inpatient unit (50) the four-part question: "Do you have widespread pain of at least three months duration: On your right side (yes no), On your left side (yes no), Above your waist (yes no), Below your waist (yes no)?" Patients who answered yes to all four parts of the screening question subsequently underwent a tender-point exam for fibromyalgia using the American College of Rheumatology 1990 criteria for the classification of fibromyalgia. *Results:* Nine percent (9/101) of the patients had a positive exam for fibromyalgia, 12% of the outpatients, and 6% of the inpatients. Eight of the nine patients with a positive exam and 63 of the 101 patients had a primary diagnosis of depression. Thirteen percent of the patients with depression, 16% of the outpatients, and 9% of the inpatients, had a positive exam for fibromyalgia. Only one patient with a positive exam previously had been diagnosed as having fibromyalgia. *Conclusions:* Fibromyalgia exists as a previously undiagnosed co-morbid disorder in a significant number of psychiatry patients, especially psychiatry outpatients, with depression.

Supported by the Rehabilitation Hospital of Texarkana

NR627 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Hypochondriasis and Mental Distress in Chronic Fatigue Syndrome

Peter Manu, M.D., Psychiatry, Univ of Conn. Hlth Center, 263 Farmington Avenue, Farmington, CT 06032; Glenn G. Affleck, Ph.D., Howard Tennen, Ph.D., Priscilla A. Schmidt, M.a., Javier I. Escobar, M.D.

Summary:

Chronic fatigue syndrome (CFS) is characterized by disabling tiredness and multiple somatic and neuropsychological symptoms. Whether the mental health in CFS patients (pts) is impaired as a result of changes in the physical, social, and role functioning or is related to hypochondriacal ideation has remained controversial. In an attempt to clarify this issue we studied 30 consecutive pts (76% women) with a chief complaint of persistent fatigue. All pts were non-Hispanic whites. Their mean age was 38.3 years (S.D. = 12.3) and they had experienced fatigue symptoms for 3.7 years (S.D. = 4.6). Pts were given a comprehensive medical and psychiatric evaluation and completed the mental health (MENTAL) and physical functioning (PHYSICAL) scales of the Rand Medical Outcomes Study, a scale designed to assess losses in social and role functioning (LOSS), and the Whitely Index of Hypochondriasis (HYPOCHONDR). These four instruments demonstrated adequate internal consistency in this group (Cronbach's alpha .78, .85, .70, and .74, respectively). CFS was diagnosed in 22 pts (44%). Multiple regression with MENTAL as the dependent variable showed that the variance in MENTAL observed in CFS pts was explained by HYPOCHONDR ($p = .003$), but not by PHYSICAL or LOSS. Regression with CFS as the dependent variable indicated significance for HYPOCHONDR ($p = .048$), but not for MENTAL, PHYSICAL, and LOSS. We conclude that hypochondriacal ideation may contribute more to the impaired mental health in CFS than changes in physical, social, and role functioning.

NR628 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Stress and Somatization Disorder in Adolescents

John B. Jolly, Psy.D., Psychiatry, Univ of Arkansas Med Sci, CSC ACH 800 Marshall, Little Rock, AR 72202; Richard L. Livingston, M.D., Janet M. Jolly

Summary:

Objective: No previous studies have examined whether a unique set of stressors is associated with somatization disorder in youths. *Methods:* Twelve adolescents with comorbid major depression-somatization disorder (DEP-SOM) were compared with 98 adolescents with MDE-other diagnoses (DEP-O) and 17 adolescents with externalizing-only diagnoses (EXT-O). All variables were derived from the Diagnostic Interview for Children and Adolescents-Revised (DICA-R). *Results:* Results demonstrated that even with level of depression and demographic variables controlled, DEP-SOM adolescents reported significantly more frequent total stressors and somatic complaints than either DEP-O or EXT-O groups. Factor analyses and multiple regression analyses demonstrated that specific factors of stress events were significantly predictive of specific factors of somatic complaints. 83.3% of the DEP-SOM adolescents reported experiencing a factor of events associated with the death of a loved one, compared with 32.0% and 27.8% of the DEP-O and EXT-O groups, respectively. The death factor was significantly associated with increased somatization within the DEP-O group but not the EXT-O group. *Conclusions:* Somatization disorder in severely disturbed adolescents is uniquely associated with the significant trauma of death. Experience of loss should be assessed and targeted in this group.

NR629 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Cacosmia and Somatic Disorders in Young Adults

Iris R. Bell, M.D., Psychiatry, AHSC Univ of Arizona, 1501 N. Campbell Avenue, Tucson, AZ 85724; Claudia S. Miller, M.D., Gary E. Schwartz, Ph.D., Julie M. Peterson, B.S., Diane Amend, M.S., Howard C. Mitzel, Ph.D.

Summary:

Objective: The present study examined characteristics of young adults who report illness and lifestyle changes from multiple environmental chemicals. *Methods:* College undergraduates (N = 781, age 19 ± 2 yrs, 60%F/40%M) enrolled in Introductory Psychology completed an eight-page questionnaire for course credit on environment, psychological factors (SCL-90, Cheek-Buss Shyness Scale, Barsky Amplification Scale), and health. Cacosmia score was the sum of illness frequency ratings from the odor of 10 common chemicals (possible range 10-50); Simon Environmental Illness Symptom Survey (Am J Psych 1990, possible range 0-4) scores reflected degree of lifestyle change because of self-perceived chemical sensitivity. *Results:* Twenty-eight percent of the

sample rated themselves to be "especially sensitive to certain chemicals" (CHEMSENS); 11% of the CHEMSENS had elevated Simon scores (≥ 2, HISIMON). On analysis of convariance, the CHEMSENS subjects were still significantly higher in cacosmia than the NOCHEMSENS ($p < 0.0001$), even after covarying for eight SCL-90 subscales, shyness, and amplification (only somatization and amplification were significant covariates, $p < 0.05$). HISIMON subjects reported increased prevalence of nasal allergies, migraine headaches, asthma, irritable bowel, arthritis, nasal polyps, hives, chronic pain, and sinusitis, as well as more adverse reactions to alcohol, opiate drugs, aspirin, penicillin, novocaine, pollen, dust, mold, food, and animal dander. *Conclusions:* As in previous surveys, psychological variables do not fully explain cacosmia. The data support the hypothesis that cacosmia is a symptom of time-dependent sensitization activated by a range of environmental agents, including chemicals, drugs, foods, and natural inhalants.

NR630 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Altered Sweet Taste Preference in Bulimia Nervosa

David C. Jimerson, M.D., Pschiatry, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215; Debra L. Franko, Ph.D., Barbara E. Walton, M.S.N.

Summary:

Objective: Recent reports suggest that some patients with bulimia nervosa have increased preference for highly sweetened solutions. This study assessed whether perceived pleasantness of sucrose solutions was correlated with eating disorder symptomatology in patients with bulimia nervosa. *Method:* Subjects included 20 healthy female controls (age 24 ± 4 years) and 20 medication-free, normal-weight women meeting DSM-III-R criteria for bulimia nervosa (age 25 ± 4 years) subgrouped according to absence (BN_{ANhx-}) or presence (BN_{ANhx+}) of history of anorexia nervosa. Subjects sampled sweetened water solutions, ranging from 0% to 40% sucrose, presented in single-blind, randomized design. Subjects rated each solution for sweetness intensity and pleasantness on 100 mm analogue scales. Change scores from baseline water solution were analyzed by ANOVA. *Results:* Ratings of sweetness intensity were not significantly different for bulimia nervosa patients and controls. On pleasantness ratings, however, BN_{ANhx-} patients had a significantly stronger preference for highly sweetened sucrose solutions than controls ($p < 0.05$), while BN_{ANhx+} patients tended to score lower than controls. *Conclusions:* This preliminary study identified a group of bulimia nervosa patients with elevated preference for highly sweetened solutions. Altered taste preference could be a possible consequence of recurrent bulimic episodes or, alternatively, could predate and contribute to the onset of abnormal eating patterns in some bulimia nervosa patients.

NR631 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Cytokine Production in Major Depression

Ronit Weizman, M.D., Mental Health Center, 9 Hatzvi St Ramat Hatayassim, Tel Aviv 67197, Israel; Nathaniel Laor, M.D., Eduardo Podliszewski, Ida Notti, Meir Djaldetti, Hanna Bessler

Summary:

Objective: A possible association between cell-mediated immunity and depression was investigated. *Method:* The synthesis of interleukin (IL)-1B, IL-2 and IL-3- like activity (LA) by peripheral blood mononuclear cells was measured in depressed patients (n = 10) before and after four weeks of clomipramine (CMI) treatment. Cytokine production was compared with that of normal controls (n = 20) with similar age and sex distribution. IL-1B production was determined after lipopolysaccharide (LPS) stimulation and IL-2 production was determined after phytohemagglutinin (PHA) stimulation. *Results:* Reduced cytokine production was detected in the major depression patients when compared with normal controls. CMI treatment resulted in a significant elevation of IL-1B and Il-3-LA. The drug treatment induced a slight increase in IL-2 production and post-treatment levels did not differ from that of controls. No correlation was found between the clinical improvement (as assessed by Beck Depression Inventory) and the alterations in cytokine production. *Conclusions:* It seems that there is dysfunction of immunocompetent cells in major depression.

NR632 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Immune Status and Behavior in Depressive Subtypes

Arun V. Ravindran, M.D., Psychiatry, University of Ottawa, 1145 Carling Avenue, Ottawa ON K1Z 7K4, Canada; Jenna Griffiths, M.Sc., Yvon D. Lapierre, M.D., Connie Waddell, R.N., Hymie Anisman, Ph.D.

Summary:

A prospective study was conducted in which immune status varied with affective states, stressful life events, and the individual's coping style. Patients with major depression (n = 20) or dysthymia (n = 20) were evaluated before and after eight weeks of treatment with a specific serotonin reuptake inhibitor. Prior to treatment both major depressives and dysthymics exhibited increased natural killer (NK) cell numbers relative to age- and sex-matched controls (n = 20). Likewise major depressives showed significantly more B cells and total lymphocytes relative to controls, while dysthymics exhibited intermediate levels. Following treatment the immune status of major depressives resembled that of controls, whereas NK cell abnormalities persisted in dysthymics. Behaviorally, prior to treatment the depressives and dysthmics reported elevated levels of perceived stressors and lower levels of perceived uplifts relative to controls. Moreover, both patient groups used inappropriate coping strategies. Following treatment, neither patient group could be differentiated from the controls with respect to perceived stressors and uplifts, and they reported using fewer maladaptive coping styles.

The data indicate that persistence of increased NK cell numbers may be a trait marker of dysthymia, and that antidepressant treatment may rapidly alleviate those behavioral symptoms previously thought to be longer lasting in both major depression and dysthymia.

NR633 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Mood and Substance Use: Effects on Health and Immunity

Jacqueline A. Bartlett, M.D., Psychiatry, NJ Medical School, 185 South Orange Ave MSBE501, Newark, NJ 07103; Steven Schleifer, M.D., Steven E. Keller, Ph.D., Melissa K. Demetrikopoulos, M.S.

Summary:

We have begun to investigate relationships among depression, substance use, health, and immunity in 319 inner-city minority adolescents (mean age 16.7 ± 2) recruited at a local high school and studied with diagnostic, psychosocial, health history, and immune measures on two occasions six to eight months apart (T1 & T2). Subjects included were healthy with no history of substance abuse at T1. Severity of depression was measured with the HDRS. Substance use for the week prior to study was documented. Average ETOH use was one ounce of liquor; drug use was one marijuana cigarette. We present findings supporting the hypothesis: psychological factors longitudinally predict immunity and health.

T1 and T2 correlations were done. HDRS (T1) positively predicted T2 measures including HDRS ($p < 0.0001$), illness, esp URI ($p < 0.02$), NK cells ($p < 0.03$), but inversely granulocyte activity

($p < 0.05$). Drug use (T1) predicted lower T2 granulocyte activity ($p < 0.06$) and increased infections ($p < 0.06$). ETOH (T1) predicted T2 increased infections ($p < 0.04$).

These data suggest that mood and substance use may influence both immunity and health outcomes over time. Because mood disturbance and substance use frequently coexist in adolescents, the potential health risks may be amplified even in relatively functional youth.

NR634 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Diagnosis and Severity of Major Depressive Disorder: Effects on Immunity

Jacqueline A. Bartlett, M.D., Psychiatry, NJ Medical School, 185 South Orange Ave MSBE501, Newark, NJ 07103; Steven Schleifer, M.D., Steven E. Keller, Ph.D.

Summary:

Previously we reported significant age-related differences in depressed adults; specifically elevated enumerative and functional immune measures were found in young but not older depressed adults. However, irrespective of age, symptom severity was associated with decreased immune measures. We now present immune data on 17 depressed adolescents and 18 depressed prepubescent children compared with matched controls, in which the contribution of diagnosis (MDD) and symptom severity were investigated.

In adolescents, MDD predicted increased lymphocytes ($p < 0.03$), CD4 cells ($p < 0.02$), and inducer-helper cells ($p < 0.01$). In children, MDD predicted higher numbers of lymphocytes ($p < 0.05$), B cells ($p < 0.03$), and CD8 cells ($p < 0.05$). Of the functional measures, MDD adolescents tended to have elevated mean NK activity ($p < 0.08$). In children, greater NK activity was independently associated with MDD at the 25:1 ($p < 0.04$) and 50:1 ($p < 0.08$) E:T ratio while lower NK was associated with increased severity (100:1 $p < 0.06$; 50:1, $P < 0.06$; 25:1, $p < 0.05$).

These data are consistent with findings in young adults and suggest that symptom severity and depressive disorder may represent different phenomena that have opposite effects on immunity. MDD in children and young adults may represent a continuum distinct from MDD in older adults.

NR635 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Alcohol Abusers, Cocaine Use and Immunity

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Summary:

Alcohol use and depression, which are often comorbid, may influence the immune system. With increased prevalence of mixed substance abuse, immune effects of the concurrent use of alcohol and other agents of abuse require investigation. We have studied inner-city alcohol abusers attending an ambulatory alcohol treatment center with a community comparison sample. Among 215 inner-city (SCID-DSM-III-R diagnosed) subjects, 85 were free of active medical disorders likely to influence immunity: 34 met criteria for alcohol abuse alone, 34 for abuse of alcohol plus cocaine, and 17 were non-substance abusers. Two-thirds of each groups were male; mean age of the pure alcohol abusers was 41.8 + 10.4 yrs, 31.5 + 5.1 for the mixed abusers, and 35.8 + 13.6 for the non-abusers. Thirty percent of the pure alcohol abusers met criteria for major depression as did 24% of alcohol-cocaine abusers, compared with 14% of the community sample. Preliminary comparisons for the first 52 subjects suggested that ConA mitogen responses were *higher* in each substance abusing group compared with the community controls, while pokeweed mitogen responses were *lower* in each substance abusing group. Little difference among the groups was noted in circulating lymphocytes, lymphocyte subsets, NK cell activity, or PHA response. These findings suggest differential effects on T and B cell systems and possible interactions among substance abuse, age, affective disturbance, and general health.

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Psychological Side Effects Induced by Interleukin-2 and Alpha Interferon Treatment

Mark J. Smith, M.D., Psychiatry, Memorial Hospital, 1275 York Avenue Box 421, New York, NY 10021; David Khayat, M.D.

Summary:

The combination of the cytokines interleukin-2 (IL-2) and alpha interferon (INF) is increasingly used in cancer treatment. Psychological side effects were accordingly analyzed in 40 metastatic melanoma and renal cell cancer patients undergoing four one-week infusions of IL-2 with concurrent INF injections at the Salpetriere Hospital. Fatigue progressively worsened in all patients and was often a limiting side effect. Delirium (20% of patients) occurred throughout the treatment period. During IL-2 infusions delirium was usually hypoactive and correlated with intensity of somatic symptoms; in the immediate post-infusion period, delirium was usually hyperactive and correlated with IL-2 induced immune changes (lymphocyte counts). Anxiety and depression were frequent and worsened over time. Anxiety, depression, and fatigue correlated positively and delirium correlated negatively with lymphocyte parameters.

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Central Noradrenergic Contributions to PTSD

J. Douglas Bremner, M.D., Psychiatry, Yale University, 116A West Haven, West Haven, CT 06516; Chin K. Ng, Ph.D., Lawrence Staib, Ph.D., John H. Krystal, M.D., Steven M. Southwick, M.D., John P. Seibyl, M.D., James Ducan, Ph.D., Dennis S. Charney, M.D., Robert B. Innis, M.D.

Summary:

Objective: The purpose of this study was to compare regional glucose metabolic rates (GMR-glc) with PET following administration of 0.4 mg/kg of the alpha-2 antagonist, yohimbine, which stimulates brain norepinephrine (NA) systems, to administration of placebo in patients with post-traumatic stress disorder (PTSD) ($N = 3$) and healthy subjects ($N = 3$). *Methods/Results:* GMR-glc was increased at baseline in the PTSD patients in comparison to controls in left amygdala and bilateral cerebellum. Administration of yohimbine to PTSD patients resulted in decreases in all cortical areas with significant decreases in GMR-glc compared with placebo in left amydala (3.79 (1.68 SD) vs. 7.53 (1.09 SD ($t = 3.2$; $df = 4$; $p = 0.03$), right amygdala (4.10 (1.94 SD) vs. 7.36 (0.44 SD)) ($T = 2.9$; $df = 4$; $p = 0.04$), left caudate (6.82 (0.73 SD) vs. 10.31 (1.93 SD)) ($t = 2.9$; $df = 4$; $p = 0.04$), left cerebellum (6.47 (0.25 SD) vs. 9.56 (0.96 SD)) ($t = 5.3$; $df = 4$; $p = 0.01$), and right cerebellum (5.95 (0.54 SD) vs. 9.60 (1.02 SD)) ($t = 5.46$; $df = 4$; $p = 0.01$) (GMR-glc reported as mg/min/100 ml). *Conclusions:* These preliminary results are consistent with a relative decrease in metabolism in brain structures receiving NA innervation following NA challenge in patients with PTSD in comparison to healthy subjects. These findings could have implications for pharmacological approaches to the treatment of PTSD.

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Co-Occurrence of Major Mood Disorder and Personality Disorder

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Summary:

This study examined the co-occurrence of major mood disorder and personality disorder in a sample of 68 acutely ill patients. Each participant was administered a modified version of the Schedule for Affective Disorders and Schizophrenia and the Personality Disorder Examination. Among the sample of 68 patients, 11 (16.2%) had major depression, single episode; 35 (51.5%) had major depression, recurrent; 19 (28%) had a bipolar disorder; and three (4.4%) had schizoaffective disorder. Forty-three (63.2%) patients were assigned at least one Axis II diagnosis. Borderline personality disorder and avoidant personality disorder were most commonly diagnosed. No significant association was found between any single personality disorder and subtypes of major mood disorder. Twenty-one (30.9%) of the subjects had co-occurring dysthymia. The association of any single personality disorder and dysthymia was significant ($X^2 = 4.00$, df = 1, $p < .05$). A significant association was found for patients with Cluster B personality disorders and dysthymia ($X^2 = 8.5$, df = 1, $p < .005$) and Cluster C personality disorders and dysthymia ($X^2 = 7.1$, df = 1, $p < .01$). No significant association was found between the presence of Cluster A personality disorders and dysthymia. There was no significant difference of Cluster A personality disorders and dysthymia. There was no significant difference between major depression and bipolar subtypes and co-occurring personality disorders. Longitudinal observation will be necessary to conclude whether the association of major mood disorder and personality disorder in this sample endures.

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Clinical Utility of Axis-IV in the Elderly

Julia Rothe, M.Ed., AOS, CCHB, 411 Oak Street Ste 103, Cincinnati, OH 45219; Ibrahim Gunay, M.D., Eugene Somoza, M.D.

Summary:

In this study we measured differences in the severity of psychosocial stressors and symptoms between geriatric and younger patients in order to establish if DSM-III-R Axis IV is clinically useful in a geriatric population. A scale that measured the individual patient's perspective of stressor severity was also used. Symptom severity was rated with an 18-item BPRS. This was done on all walk-in patients (1729) to a V.A. psychiatric emergency room over a two-year period. Geriatric patients scored significantly lower than younger patients on the severity of stressors ($p < 0.0005$) by both scales, and on 12 of the 18 BPRS items. The correlation between Axis IV and severity of illness (as determined by total BPRS score or admission status) was better for geriatric than for younger patients. The clinical utility of Axis IV for several diagnostic categories will be discussed. *Conclusions:* (1) Axis IV is clinically more useful in geriatric than in younger patients. (2) The present DSM-III-R convention of rating stressor severity using universal standards appears to be more useful clinically than the use of individualized standards. (3) Geriatric ER patients have significantly lower stressor and symptom severity than younger patients.

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Early Trauma and Depression: Effects on Serotonin

Mark H.N. Corrigan, M.D., Psychiatry, UNC-Chapel Hill, 809 Ruggles Drive, Raleigh, NC 27611; R. David Ekstrom, M.P.H., Linda P. Miller, M.A., Robert N. Golden, M.D.

Summary:

Serotonergic dysregulation has been demonstrated in patients with major depression. Early life events, particularly sexual and physical abuse, may contribute to the development of depression. These life events, occurring during a developmentally vulnerable period, may affect serotonergic function into adulthood. We investigated central serotonergic function as measured by prolactin and cortisol responses to clomipramine (CMI) infusion, a 5-HT uptake inhibitor, in a population of 10 female psychiatric inpatients who had histories of sexual abuse prior to age 14. We compared them with age- and sex-matched normal controls and confirmed our initial hypothesis that trauma victims had significantly blunted prolactin ($p = .05$) and cortisol ($p < .02$) responses, indicating dysregulated serotonergic function. Since one-half of the patients carried a diagnosis of depression, we questioned whether the finding was due to the presence of mood disorder.

A subsequent study of 36 females divided into four groups to analyze for the effect of traumatization and mood disorder revealed robust associations between blunted neuroendocrine response to CMI and current depression in patients with and without trauma histories. In contrast, the neuroendocrine responses to CMI in patients with trauma histories who were not depressed were not blunted. We concluded that serotonergic dysregulation may be a neurobiological feature associated with clinical depression, regardless of whether the etiologic factors are inherited or a product of early-life traumatic experience. The early childhood experience may set in motion processes that lead to a vulnerability to depression (and character disorders, suicidality, aggression, etc.) but during the depressive episode, serotonergic dysregulation is indistinguishable from that observed in depressed patients without histories of early life trauma. We will present new data from our ongoing study of the effects of early-life experience as they relate to depression and neuroendocrine response to CMI.

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Sertraline for PTSD With Comorbid Major Depression

Neal A. Kline, M.D., Psychiatry, VA Medical Center, 3350 La Jolla Village Drive, San Diego, CA 92161; Bruce M. Dow, M.D., Sandra A. Brown, Ph.D., Jeffrey L. Matloff, Ph.D.

Summary:

Objective: With post-traumatic stress disorder (PTSD) and comorbid depression responding heterogeneously to pharmacotherapy, and with tricyclics often failing due to unacceptable side effects, might the selective serotonin reuptake inhibitor sertraline be an effective agent due to its favorable side effect profile and its putative serotonergic modulation of stress-triggered neuroendocrine cascades?

Method: Nineteen (30%) of 64 Vietnam combat veterans with PTSD and co-occurring major depression were prescribed sertraline after failing other antidepressants, at our department of veterans affairs PTSD outpatient clinic. Bipolar affective disorder and current substance abuse were exclusion criteria for this open-label sertraline pilot study. A minimum of three consecutive months on sertraline was a necessary condition for consideration as being a "positive sertraline responder."

Results: As measured by the Clinical Global Evaluation scale, 12 (63%) of the 19 veterans on sertraline were "much improved." Positive responders (mean daily dose 98.5 mg, range = 50-150 mg) reported significantly reduced dysphoria, irritability, and social

volatility. Nine (75%) of the 12 responders had no improvement in their pre-existing insomnia.

Conclusion: Sertraline may be a promising medication for treating the hyperaroused, dysphoric biological and behavioral sequelae of exposure to extremely stressful life events, characterized diagnostically as PTSD with comorbid major depression.

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Predictors of Vulnerability After Trauma

Joseph A. Schwartz, M.D., Psychiatry, University of Michigan, 1500 E. Medical Center Drive, Ann Arbor, MI 48109; John Kettley, M.S.W., Judith Rizzo, C.N.S.

Summary:

Objective: In hope of improving our understanding of the predictors of post-traumatic stress disorder (PTSD), we surveyed a medical department after the murder of a physician in clinic.

Method: Subjects responded to structured questions about 1) work and social relationship with the victim, 2) proximity to the murder and rescue efforts, and 3) sleep disturbance. They also completed the Profile of Mood States (POMS) and the Impact of Events scales (IES) as measures of early outcome.

Results: Fifty-four of the 154 subjects responded. At three months the POMS was highly associated with the initial sleep disturbance at day 5-7. The IES was significantly elevated by the relationship with the victim ($f = 2.3$, $df = 5$, $p = .06$) but not affected by the proximity to the event ($f = 1.7$, $df = 4$, $p = .16$). POMS scores were not significantly correlated with either proximity ($f = .25$, $p = .90$) or relationship to the victim ($f = 0.9$, $p = .49$).

Conclusions: Close coworkers may have a vulnerability to PTSD symptoms even when they are not involved in witnessing the traumatic event. Initial insomnia of more than 30 minutes, persisting more than a week after a trauma, is an indicator of problems coping with the trauma.

NR643 Wednesday, May 26, 3:00 p.m.-5:00 p.m.
Adolescent Response Bias: Impact on Assessment

David L. Pogge, Ph.D., Four Winds Hospital, 800 Cross River Road, Katonah, NY 10536; John M. Stokes, Ph.D., Jillian Frank, M.A., Hazel Wong, M.A., Philip D. Harvey, Ph.D.

Summary:

Although comprehensive self-report measures of psychopathology consider the effects of response bias on scores, shorter forms do not. This factor may be most significant in populations whose primary motivation in reporting symptoms is not help-seeking. A further concern is that observer ratings of psychopathology could also be affected by attempts to manipulate impressions of symptom severity. This study examined response bias effects on self-report and therapist ratings of symptoms in adolescent psychiatric inpatients ($n = 235$). Severity scores on self-report and observer rating instruments, including the BDI, the SCL-90, and Hopkins Psychiatric Rating Scale, as well as response bias indices, were examined with multivariate techniques in order to determine the contributions of response bias, measurement error, and true symptom severity. The analyses found that: 1) The primary contributors to self-reported depressive and nondepressive psychopathology in adolescents were response bias and error, respectively, with negligible contributions of true severity; 2) The influence of response bias on observer ratings was statistically significant, but less than true psychopathology. These data indicate that self-reports and observer ratings are both affected by the impression the patient attempts to foster.

NR644 Wednesday, May 26, 3:00 p.m.-5:00 p.m.
Non-Attendance at a Psychiatric Clinic

Rosemary M. Morrison, Ph.D., Psychiatry, Manchester University, Mathematics Tower Oxford Road, Manchester M139PL, England

Summary:

Objective: To discover why patients referred to a psychiatric outpatient clinic fail to attend. To make recommendations to improve attendance rate.

Method: This study was undertaken at an urban psychiatric clinic in the UK. A consecutive series of 56 out of 58 nonattending, new psychiatric outpatients were given intensive, structured interviews at home (97% response). The instrument was devised, pretested, and piloted at another centre; it included a Q-sort technique. Information was also gathered from records, referrers, and attending patients. Where appropriate, statements were verified, comparisons made with attending patients, and statistical tests applied.

Key Findings: Main reasons: Two-thirds related to illness (too ill or alternative medical care for psychiatric or other illness; better; denial of psychiatric illness) Remaining third had problems in communication and reception of appointment; appointment inconvenient; difficulty getting to the clinic. Findings suggest that many reasons could have been identified earlier and illustrate why waiting time for appointments is associated with non-attendance ($p < 0.001$). *Other associations:* employment insecurity; off work with prolonged sickness; requests for urgent appointments; last minute crises; patient little known to referrer. Other influences relate to attitudes.

Conclusion: It should be possible to reduce nonattendance substantially. Attention should be paid to the illness and social circumstances of patient at referral; referral and intake procedures; hospital efficiency.

NR645 Wednesday, May 26, 3:00 p.m.-5:00 p.m.
Identifying Homelessness in the Mentally Ill

Linda Brady, M.D., Psychiatry, SUNY-Downstate, 600 Columbus Avenue Apt 10, New York, NY 10024; Anne Dercole, Ph.D.

Summary:

Objective: This pilot study addresses the accuracy of methods used to identify homelessness among patients presenting to the psychiatric emergency room of a metropolitan hospital.

Methods: 40 patient charts were systematically selected from the ER logs for review. A qualitative analysis of the chart narrative was used to delineate the multifaceted nature of the residential situation of subjects.

Results: 60% of the sample thus far examined ($n = 10$) reveal housing status as not accurately depicted in the emergency room. Of five patients listed in the ER log as undomiciled, 60% could be considered domiciled, with two-thirds of those precariously housed. One was recently evicted and precariously housed prior to that. One of five was frankly undomiciled.

Conclusion: Preliminary results indicate that mailing addresses of entitlement checks are invalid in determining a patient's domicile. Interinstitutional criteria developed to attempt fair distribution of these "burdensome" patients may not serve the interests of the patients. Methods must be developed for more accurate estimation of unhoused psychiatric patients by expanding descriptive criteria to include patients precariously housed (doubleup, domiciled without legal rights to housing, etc.) This could lead to increased and better-targeted government funding for more effective service delivery to this population.

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Psychiatric Consultations to Disasters

George T. Brandt, M.D., Psychiatry, USUHS, 4301 Jones Bridge Road, Bethesda, MD 20814; Carol S. Fullerton, Ph.D., Robert J. Ursano, M.D., Ann E. Norwood, M.D.

Summary:

Objective: In order to better understand psychiatric morbidity in trauma and disaster, we present findings from mental health consultations to two large-scale disasters (Hurricane Andrew and Sioux City, Iowa plane crash). We examine what a mental health consultation team does, how a consultation team acts, and what happens after a disaster. *Methods:* Vignettes from interviews after Hurricane Andrew illustrate experiences of evacuation and destruction of one's home. Case material from debriefing sessions with disaster workers illustrates psychiatric aspects of secondary traumatization following a mass casualty plane crash. *Results:* Case material illustrates characteristic responses, identification with the victims and dead, and feelings of helplessness, guilt, and fear, the need to protect, and mourning.

Conclusions: Mental health consultation to disaster aids recovery from the effects of the trauma of primary victims and their families, disaster workers, and communities. The psychiatric consultation team provides support for primary and secondary victims while educating community leaders to facilitate recovery from disaster. Being available and flexible to the needs of victims and their families, while taking care to not be intrusive, is critical. Communication within the psychiatric team and with the disaster environment is important. Helping individuals, groups, and communities understand the course of recovery following disaster is an important function of the psychiatric consultation team.

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Quality of Care Assessment With Ethnic Groups

Vikki L. Vandiver, Dr.PH., Social Work, Portland University, P.O. Box 751, Portland, OR 97207; Pablo Diaz, M.D., Kevin Corcoran, Ph.D., Carlos Castaneda, M.D., Maria Dominquez, M.D., Reinaldo Gomez, M.D.

Summary:

Objectives: Although managed care is designed to contain costs and assure quality, this becomes a challenge when considering treatment with ethnic minorities. The objective is to determine if measures of psychoticism, quality of life, and self-efficacy are reliable and valid measures with Anglos compared to Hispanic/Spanish populations. The research question asked if standardized scales are applicable in cross-ethnic (national) settings.

Methods: Data were collected by structured interviews and medical records reviews with four samples of schizophrenic outpatients who participated in community based services (Cuba, n = 10; Canada, n = 42; Mexico, n = 17; USA, n = 36). Back translation of assessments was conducted by two independent bilingual translators. Instruments used were Quality of Life (QOL; Lehman), Brief Symptom Inventory (BSI; Derogatis), Self-efficacy (SES; Sherer), and Client Satisfaction Questionnaire (CSQ; Attkisson), the latter used only in Cuba/Mexico.

Results: Back translation reliability checks illustrated 87%, 86%, 88%, and 90%, respectively. Internal consistency for Anglos were QOL = .84, BSI = .80, SES = .90, while Hispanic/Spanish were QOL = .88, BSI = .86, SES = 90 and CSQ = 79. CSQ ratings were not done for Anglos. Additionally, QOL instrument for Hispanic/Spanish populations was correlated with service satisfaction (CSQ) $r = .44$, $p < .01$).

Conclusion: Preliminary results suggest that instruments are psychometrically sound for cross-ethnic quality (managed) care comparisons and evaluations.

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Affective Disorders Among Jewish Ethnic Groups

Robert Kohn, M.D., Psychiatry, Brown Univ/Butler Hosp., 345 Blackstone Blvd, Providence, RI 02906; Itzhak Levav, M.D.

Summary:

Objectives: The literature in reference to Jewish vulnerability to affective disorders has repeatedly recorded that the distribution of these rates among Jews varies according to their intraethnic affiliation, being higher among the Ashkenazi than among Orientals or Sephardics. We will re-examine past studies and recent unpublished data. *Methods:* Twelve published studies were re-analyzed and odds or risk ratios calculated for affective disorders among the Jewish ethnic groups. In addition, previously unpublished data on lifetime prevalence from a community based cohort study of 4,914 Jewish Israel-born respondents, using SADS interviews and RDC diagnoses, were analyzed. *Results:* The earlier 12 studies found that treated incidence rates for affective disorders were higher among the Ashkenazi group. The more recent prevalence study challenges those findings since major depression was higher among North African Jews (19.8% v. 12.4%, $p < 0.001$), as well as affective disorders as a total group (33.2% v. 23.2%, $p < 0.001$). *Conclusions:* We were able to ascertain that methodological artifacts were present in the studies that initiated the debate. North African Jews were found to be more vulnerable to unipolar affective disorders. In contrast, Ashkenazim seem to be more vulnerable to bipolar disorders, but this requires a study with a larger number of bipolar cases for ultimate confirmation.

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Gay and Lesbian Patient Care in United States Psychiatric Training

Mark H. Townsend, M.D., Psychiatry, LSU Medical School, 1542 Tulane Avenue, New Orleans, LA 70112; Molle M. Wallick, Ph.D., Karl M. Cambre, M.S.

Summary:

Recently we conducted a survey of gay and lesbian psychiatry residents, eliciting their perceptions of how the topic of homosexuality is addressed in their training. We now report the results of a national survey of U.S. psychiatry training directors which assessed current instruction in gay and lesbian patient care and the directors' perceptions of their programs' stance toward homosexuality. Analysis of the 103 responses received at this time indicate that homosexuality is most commonly addressed within a human sexuality course (76%), in case conferences (66%), within a child development course (56%), or in a transcultural psychiatry course (35%). Regarding whether homosexuality is considered pathological or normal at their programs, 49% reported "normal," 1% reported "pathological," and 50% reported their program was "neutral," More than half (51%) disapproved of gay and lesbian residents disclosing their orientation to patients. Directors who endorsed the normality of homosexuality were more likely ($p < 0.05$) to report that gay and lesbian residents were an asset to their programs, and were less likely ($p < 0.05$) to disapprove of disclosure to patients. The results indicate that gay and lesbian issues are addressed with great variability among U.S. psychiatry programs.

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Elevated Plasma Clozapine Levels in Chinese Patients

Ching-Piao Chien, M.D., Taipei City Psych Ctr., 309 Sung Te RD, Taipei, Taiwan; Shih Ku Lin, M.D., Wen Ho Chang, M.D.

Summary:

Although haloperidol plasma levels have been reported to be higher among Chinese than Caucasians given the same dosage, clozapine plasma levels have hardly been studied, if at all, on Chinese subjects. Steady-state plasma clozapine (CLZ) and its N-demthyl metabolite, demethylclozapine (DMC), concentrations were measured in 27 Chinese refractory schizophrenic patients (13 males, 14 females; age 29.2 ± 6.9 yr). Daily doses of CLZ ranged from 150 to 800 mg. There was no significant positive correlation between plasma levels and daily dosages with the equation of CLZ plasma level (ng/ml) = 1.06 x dosage (mg/day) + 89.40 ($r = 0.459$, $p < 0.0001$). For example, the expected plasma CLZ level of 300 mg/day dose is about 400 ng/ml, which is about 50% higher than that obtained from Caucasian patients as reported in the literature. However, the interpatient variation in plasma CLZ levels at a given dosage was up to six-fold. For example, the plasma CLZ levels ranged from 114 ng/ml to 647 ng/ml (414 ± 206 ng/ml) of 300 mg/day dose. The levels of DMC were much lower than those of CLZ (about 40%) in all patients. A high positive correlation was found between plasma levels of CLZ and DMC with the equation of DMC plasma level (ng/ml) = 0.40 x CLZ level (ng/ml) + 14.81 ($r = 0.896$, $p < 0.0001$).

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Acculturation in Overseas Chinese Students

Madelyn J. Hicks, M.D., Psychiatry, Butler Hospital, 345 Blackstone Blvd, Providence, RI 02906; Ronald Wintrob, M.D.

Summary:

Objective: This study describes the acculturation process, the use of support systems, and differences between aspirations and expectations of the subject and the family, in overseas Chinese students from Taiwan and from the People's Republic of China (P.R.C.).

Method: The method of participant observation was used in administering a semi-structured interview which gathered data on the subject's background, acculturation, and the career and social aspirations and expectations of the subject and the family prior to arrival, currently, and in ten years. In addition, social supports and acculturation were assessed with standardized instruments, Flaherty's Social Support Network Inventory, and a modified Suinn-Lew Measure, respectively. A total of 21 subjects were recruited from the nonpatient population of foreign Chinese students at Brown University: six from each subgroup of P.R.C. males, P.R.C. females, and Taiwanese males, as well as all of the three Taiwanese females. *Results:* Major findings were: 1) Overall, Chinese students were less influenced by current parental wishes than anticipated, and 2) P.R.C. students had a stronger individualistic orientation than Taiwanese students, and also less difference between males and females. *Conclusions:* This study adds new information to the small body of literature on P.R.C. students, the largest foreign student population in the U.S., and challenges stereotypes of parental deference and dependency. The differences between P.R.C. and Taiwanese students reflect the impact of sociopolitical change on traditional values, gender difference, and family relations.

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Depressed Mood in Rural Pregnant Adolescents

Laurie L. Humphries, M.D., Psychiatry, University of Kentucky, 820 South Limestone, Lexington, KY 40536; Teresa A. Free, Ph.D., Therese Moseley, M.S.N., Mary Stuart, Ph.D., Tracy Mullins, B.S.

Summary:

Objectives: The purpose of this study was to compare pregnant adolescents to never-pregnant adolescent females on a measure of depressed mood. A second purpose was to compare depressed mood in urban versus rural subsamples.

Method: In this descriptive pilot study, 64 pregnant adolescents (ages 14-19) were recruited from an obstetric clinic serving urban and rural areas. This sample completed the Beck Depression Inventory (BDI), and was compared to a cohort group of 122 never-pregnant adolescent females recruited from four high schools in urban and rural Appalachian counties.

Results: The incidence of scores indicating depressed mood (scores greater than 20) was six out of 64 (9.4%) for the pregnant Appalachian adolescents. The incidence of depression scores on the BDI for never-pregnant adolescents was five out of 122 (4%). The incidence of depressed mood was not significantly different between pregnant and never-pregnant teens (Fisher's exact test, $p = 0.13$). No urban—rural differences were found.

Conclusions: The incidence of depressed mood appears the same for pregnant and never-pregnant teens and is similar to that previously reported for pregnant inner-city adolescents. Findings indicate that approximately 9% of pregnant adolescents, whether urban or rural, may need mental health services in conjunction with obstetric care.

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Psychosocial/Psychiatric Outcome and Financing Policies: Perspectives From Cuba and Mexico

Pablo Diaz, M.D., Psychiatry, Dalhousie University, 6315 Willow Street, Halifax NS B3L 1P1, Canada; Vikki L. Vandiver, Dr.Ph., Bernabe Ordaz, G. Castaneda, M.D.

Summary:

Objectives: What differences are there between Cuba and Mexico in psychosocial/psychiatric outcomes such as Quality of Life Scale (QOL), Brief Symptoms Inventory (BSI), and Self-Efficacy Scale (SES)? *Method:* Natural experiment design. *Inclusion* Criteria: chronic consumers of mental health services living in the community for at least six months (mainly schizophrenics) *Sites:* Mexico City (10) and Havana (17). Structured interview for the application of QOL (Lehman), BSI, SES. These scales were validated in Spanish prior to their use. Study is part of a larger pilot study. T-test. *Results:* Consumers were 65% female in Mexico and 50% in Cuba. A total of 70%-80% were not married. In Mexico 2% were employed, whereas in Cuba 80% earned some wages. Cubans felt more satisfied with their financial status ($p < .05$), better general satisfaction with life ($p < .05$), their health ($p < .05$), and less psychotic (n.s.). *Conclusions:* Data suggest that Cuba (universal access) reports better psychiatric/psychosocial outcomes (QOL,BSI,SES) than Mexico (unequal access); implications for larger and richer systems as seen in the contrast of the Canadian—U.S. Mental Health Care Systems which share similar philosophical paradigms. Limitations on this study are small size, reliability of the diagnosis, and cultural differences.

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A Longitudinal Study of Mentally Retarded Men: Predictors of Adult Adjustment

Annmarie S. McDonagh-Coyle, M.D., Psychiatry, Dartmouth Medical, VA Medical Ctr. Natl Ctr PTSD, White River JCT VT 05009; George E. Vaillant, M.D.

Summary:

In a 50-year followup study of inner city youth we noted that about half of a group of mildly retarded men (IQ 60 to 85) enjoyed

rather good outcomes. We performed an exploratory analysis of predictors of good outcomes comparing this sample (N = 23) with the sample of poorly achieving mentally retarded men (N = 25). The rich long-term prospective database available on these subjects allowed the collection of 37 predictor variables from childhood (collected age 14), and 11 predictor variables from young adulthood collected age 22). One author, blind to outcome, gathered information on factors from childhood and young adulthood. The second author, blind to childhood and young adulthood data, rated the subjects on six dimensions reflecting adult adjustment (coded at age 60) and found the good outcome group had mean incomes of $33,000, rewarding jobs, mean educational level for their children of 13 years, and classification as generative for 50% of the group. Childhood variables significantly related to adult adjustment (as determined by Chi-square analyses) were: self-efficacy, self-esteem, relationship with siblings, exposure to alcoholism, and family functioning. The only young adulthood variable significantly related to adult adjustment was the quality of the relationship with father at young adulthood.

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Homosexual Identification and Psychological Health

Jane Leserman, Ph.D., Psychiatry, Univ of North Carolina, CB 7160 Med Sch Wing B. UNC, Chapel Hill, NC 27599; Rachel DiSantostefano, B.S., Diana O. Perkins, M.D., Robert N. Golden, M.O., Dwight L. Evans, M.D.

Summary:

Objective: Given the current social climate and the AIDS epidemic, it may be difficult for homosexual men to remain gay identified and accepting of their sexual preference. This paper reports a study of both HIV-positive and HIV-negative homosexual men focusing on: 1) comparisons between the HIV-positive and HIV-negative on gay identification, 2) the inter-relationships among gay identification variables, and 3) the psychological correlates of gay identity.

Method: The sample was composed of 98 asymptomatic HIV-positive and 71 HIV-negative homosexual men. Reported questionnaire data were from the Coping in Health and Illness Project.

Results: We found that: 1) irrespective of serostatus, subjects tended to have positive gay self-acceptance (70%), to socialize mostly with other homosexual men (64%), and to disclose their sexual orientation to parents (71%), 2) about half of the subjects' parents did not accept their sexual orientation, 3) HIV-negative subjects (56%) tended to participate more in gay related groups and organizations compared to HIV-positive men (31%) ($p = .0007$), 4) among the HIV-positive, parental acceptance, participation in gay groups, and socializing with gay men were significantly related to better psychological health (e.g., less depression, less homelessness, more fighting spirit), and 4) among the HIV-negative, gay self-acceptance, disclosing homosexuality to parents, and being in gay groups were consistently correlated with better psychological health (e.g., less depression, less tension).

Conclusions: These results suggest that gay self-acceptance, participation in gay groups, socializing with gay men, and homosexual disclosure and acceptance by parents may be important aspects in the psychological health and outlook of homosexual men.

NR656 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Young Victims of Violence: At Risk and Neglected

Miriam Shuchman, M.D., Psychiatry, Toronto Western Hospital, 399 Bathurst Street, Toronto Ontario M5T 2S8, Canada; Katherine Silbernagel, B.A., Sylvia Villarreal, M.D., Margaret A. Chesney, Ph.D.

Summary:

Violent injury among young people is a traumatic experience with potentially serious psychological repercussions which are frequently ignored. Attention paid to the psychosocial needs of violently injured youth may help prevent future injuries. To examine the psychiatric and social attention focused on this high risk population, we conducted a retrospective chart review of all youths (age 6-17) admitted to a major city hospital in San Francisco in 1991 who had been injured by shootings, stabbings, or other assaults (n = 56). We also reviewed the charts of all youths admitted to the same hospital in 1991 after attempting suicide (n = 29), to control for the availability of psychosocial services at this hospital.

There were more blacks and males among the victims of violent injury than the suicide attempters, but otherwise the two groups were similar in terms of mean age (15 years), school status, family situation, alcohol use, and previous traumatic injury. Violently injured youths typically described themselves as passive victims of episodes such as drive-by shootings. Among injured males, fewer received psychiatric or social services than male suicide attempters (42% vs. 92%, $p < .05$) and fewer received psychosocial consultation (47% vs. 92%, $p < .05$) or were discharged with psychosocial follow-up (2% vs. 67%, $p < .05$). Injured females, however, did not differ significantly from suicide-attempting females in terms of receiving psychosocial services. We suggest that young male victims of violence do not receive needed psychosocial attention to treat the consequences of injury, or to ameliorate stressors which may result in subsequent injury.

NR657 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Circadian Variation in Mass Slayings/Rampages

John J. Mooney, M.D., Mass Mental Health, 74 Fenwood Road, Boston, MA 02115; E. John Orav, Ph.D.

Summary:

Using NEXUS and the *New York Times Index,* we identified 227 mass slayings/rampages (MS/R) during 1949-92, which resulted in 814 deaths and injuries to 1,027 others by perpetrators (97% male; mean age is 34.2 ± 12.2 yrs) acting alone. There was a striking increase in the frequency of these crimes over time: 1951-60, n = 11; 1961-70, n = 38; 1971-80, n = 48; 1981-90, n = 106. Thus, the number of MS/R during 1981-90 (n = 106) was greater than those during the previous three decades combined (n = 97), and a weapons analysis supports broad-ranging gun control legislation. The incidence of suicide among perpetrators was high (32%). Using two-harmonic (24 hr + 12 hr) regression analysis (1) to construct a predictive model for the times of onset in 204 MS/R, we observed a morning (predominant) peak at 11:18 a.m. and an evening peak at 8:30 p.m. Both harmonic components are necessary and significant ($p < .05$). The peaks occurred during the morning (9 a.m.-12 noon) and evening (7 p.m.-10 p.m.) wake-maintenance zones, periods of minimal sleep ability (2) which we find to be associated with increased serotonergic metabolism.

NR658 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Towards a New Measure of Childhood Trauma: The Childhood Trauma Questionnaire

David P. Bernstein, Ph.D., Psychiatry, Bronx VA Med Center, 130 W. Kingsbridge Road, Bronx, NY 10468; Laura Fink, Ph.D., Leonard Handelsman, M.D., Jeffrey Foote, Ph.D., Meg Lovejoy, b.A., Joseph Ruggiero, M.A.

Summary:

Statement of the Problem: Although numerous studies have investigated the psychological sequelae of childhood trauma, most have relied on assessment methods of uncertain reliability and

validity. This report describes a new instrument, the Childhood Trauma Questionnaire (CTQ), developed by the authors to provide a reliable and valid retrospective measure of child abuse and neglect. *Methods:* the CTQ is a 70-item self-report measure with items rated on a five-point Likert-type scale. In this initial validation study, 152 drug or alcohol dependent patients were given the CTQ, measures of the sequelae of trauma (PTSD, dissociation, alexithymia), a vocabulary test, and a structured interview for childhood trauma developed by the authors (the Childhood Trauma Interview). Forty patients were readministered the CTQ after a two-to six-month interval to determine its test-retest reliability.

Results: Principal Components Analysis of the CTQ yielded five rotated factors: emotional support, physical and emotional abuse, sexual abuse, family conflict and chaos, and physical neglect. The factors exhibited high levels of internal consistency (Cronbach's alpha = .94 to .80) and test-retest reliability (Intraclass correlation = .86 to .82). The CTQ showed good convergent validity with measures of PTSD ($r = .37$, $p < .001$), dissociation ($r = .29$, $p < .01$), and alexithymia ($r = .30$, $p < .001$), and discriminative validity with vocabulary scores ($r = -.14$, n.s.). Convergent validity was also demonstrated with ratings of the severity and frequency of physical abuse ($R = .78$, $p < .001$) and sexual abuse ($R = .86$, $p < .001$) based on the Childhood Trauma Interview. *Conclusions:* These findings provide strong initial support for the reliability and validity of the CTQ.

NR659 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Heat and Violence Correlate Independent of Season

Michael J. Norden, M.D., Psychiatry, Univ of Washington, 10740 Meridian Ave N. Ste 101, Seattle, WA 98133; David H. AVery, M.D.

Summary:

Reduced central serotonin (5-HT) has been linked with violence and we have previously hypothesized that heat functionally reduces central 5-HT. Prior studies have associated heat and violence, but recent investigators have suggested that this may be simply attributable to seasonal effects. We thus sought to determine if heat and violence were associated independent of season. U.S. data from 1980 through 1989 were obtained from FBI reports for aggravated assaults (totalling (7,619,130). Interval trends were controlled for by calculating a smoothed curve from five-year running averages. Yearly residuals relative to the smoothed curve were found to correlate with the national average temperature for the corresponding year ($r = .63$, $p < .05$ two-tailed). There were no significant correlations with nonviolent crimes. A second analysis examined homicide rates by state, and controlled for key demographics. Rates for white males ages 16 to 24 correlated with average state temperature ($r = .46$, $p < .05$ two-tailed) for the 25 states with the largest target populations. Therefore both temporal and ecological data support an association between heat and violence independent of season. While no conclusions can be drawn from correlations regarding causation, these results are discussed in terms of utility for predicting violence and possible implications regarding serotonin and thermoregulation.

NR660 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Sadistic Personality Disorder Frequency in Sex Offenders

Peter Berger, M.D., Psychiatry, University Vienna, Waehringer Guertel 18-20, Vienna A 1090, Austria; Wolfgang Berner, M.D., Karin Gutierrez, M.D., Johanna Bolterauer, Ph.D., Bettina Jordan, M.D., Katharina Berger, M.D.

Summary:

Pathology of personality has a major impact on sex offenders. As part of a prospective study, we used a structured interview, the International Personality Disorder Examination, to assess personality disorders (PDs) in 57 consecutively admitted sex offenders at the Justizanstalt Mittersteig, a therapeutic prison facility in Vienna. The majority (49, 86%)) of offenders got at least one *DSM-III-R* diagnosis of PD, including the NOS category. More than one diagnosis was given 22 (38.6%) of the subjects. Sadistic PD and antisocial PD were the most prominent diagnoses, with equal frequency (13 subjects 22.8%)). Concerning the sadistic subjects, nine of them had a comorbid PD diagnosis, with antisocial PD, borderline PD, and narcissistic PD as the most frequent. Using the dimensional score, there is a significant correlation (.44) with the borderline score. The finding of a high proportion of sadistic PD stresses the importance of this diagnosis in forensic populations. Although there seems to be a relationship to other severe PDs, some patients have the disorder as the only diagnosis.

NR661 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Patients' Comprehension of Advance Directives

Cheryl H. Yanuck, M.D., Psychiatry, UNC Chapel Hill, CB# 7160, Chapel Hill, NC 27599; Craig Van Dyke, M.D., Sharon Hall, Ph.D.

Summary:

Objective: To assess the impact of the Patient Self-Determination Act brochure on patients' understanding of their right to make decisions about their health care.

Design: Randomized control trial.

Patients: 65 veterans admitted to the Respiratory Care Center of a university-affiliated Veterans' Admin. Medical Center during a four-month period.

Intervention: Half the subjects were asked to read the brochure, "Your Right to Make Decisions About Medical Treatment."

Main Outcome Measures: A structured interview on patients' right to make choices about medical care and sections of the Neurobehavioral Cognitive Status Examination were administered.

Results: There was no difference in interview score between brochure and control conditions. Educational level and whether the patient was transferred from an intensive care unit were the strongest predictors of the interview score. When these two variables were held constant, differences between conditions on interview score were significant as a function of brochure condition, but actual differences in score were not large enough to be of clinical utility.

Conclusions: In an acute care setting, a brochure does not appear to be an affective means of educating patients about advance directives.

NR662 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Academic Psychiatry and Managed Care

James M. Schuster, M.D., Psychiatry, Allegheny General, 320 E North Avenue, Pittsburgh, PA 15212

Summary:

The rapid growth of managed health care systems such as health maintenance organizations and preferred provider organizations poses many challenges for academic departments of psychiatry. With their traditional emphasis on teaching and research, many departments find it difficult to work effectively with managed care firms which emphasize short inpatient stays and large outpatient networks with many master level providers. This poster presentation utilizes the case study method to outline how an academic department of psychiatry can successfully cope with the challenges of managed care. It describes: 1) methods which can be used to change the "culture" of a department so that it is more receptive to managed care, 2) development of the administrative structures required for effective treatment of managed care patients and pro-

ductive relationships with managed care firms, 3) special challenges posed by the integration of residents and students into the treatment of managed care patients, 4) databases which can effectively track managed care patients, and 5) methods to evaluate the financial benefits and risks of managed care programs. This poster will also review resources which departments can utilize as they develop strategies to work with managed care entities.

NR663 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Managed Care: Impact on Treatment and Outcome

Susan V. Eisen, Ph.D., Eval. Services, McLean Hospital, 115 Mill Street, Belmont, MA 02178; Lloyd I. Sederer, M.D.

Summary:

Objective: Research has suggested that psychiatric patients insured under a fixed, prepayment system did not differ significantly from a control group regarding outcome at discharge or patient satisfaction, despite briefer stays and lower costs (Sederer et al. 1992). The objective of this phase of the study was to assess and compare components and timeliness of treatment received.

Method: The study utilized a two-group comparison design. The "contract" group included all patients over age 16 admitted to the adult service of a private psychiatric hospital over a two-year period under a fixed prepayment reimbursement contract (N = 58). The "control" group included 61 patients admitted to the same services closest in time to contract patients. Demographic and treatment information (tests and consultations, medications, psychotherapy, other modalities, and patient management techniques) were abstracted from the medical records by independent, trained, and reliable raters who were blind to a group composition.

Results: Results indicated that despite shorter stays for the contract group, there were no significant differences in treatment interventions received. Efficiency of care was enhanced as evidenced by completion of both psychopharmacology and neurology consults in significantly less time for contract than control patients.

Conclusions: Results suggest that more efficient, less expensive inpatient psychiatric care can be provided without sacrificing patient outcome.

NR664 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

The Cost of Major Depressive Episode Treatment in Switzerland

Nicole Rosset, Ph.D., Psychiatry, University of Geneva, 47 Rue Du 31 Decembre, Geneva CH 1207, Switzerland; Antonio Andreoli, M.D.

Summary:

Significance: DSM-III-R major depression (MD) has high prevalence in psychiatric patients referred for hospitalization. Crisis intervention may provide cost/effective treatment for depressed subjects referred for intensive care. *Methods:* We compared the cost of psychiatric treatment in 119 patients assigned to outpatient crisis intervention (CCI), intensive inpatient treatment (IIT), and standard hospitalization (SH). Inclusion criteria were age 18-65, referred for hospitalization with *DSM-III-R* major depressive episode (MDE). The presence of psychotic symptoms, bipolar disorder, or severe substance dependence was an exclusion criteria. *Results:* The mean number of days spent in treatment was 66.7 + 54.5 (median: 54), with a mean 33.0 + -48.2 (median 12) days spent in hospitalization and a mean global cost of 20322 $+ -31415 (median: 15650). Global treatment costs, hospitalization costs, and the amount of insurance reimbursements generated by the three treatments were markedly different ($p < 0.0001$). CCI and SH had reduced ($p < 0.0001$) total cost (7487 and 7421 $) compared to ITT (29357 $). In addition, CCI resulted in less hospital treatment, lower hospitalization costs, and reduced insurance reimbursements compared to both ITT ($p < 0.0001$) and SH (p ranging from < 0.01 to 0.0001). *Comment:* MDE patients referred for hospitalization have elevated treatment cost in French Switzerland. Multimodal crisis intervention is suggested to improve cost/effectiveness of mental care for severe depression.

NR665 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

Evaluation of Cost Effectiveness of Major Depressive Episode: Preliminary Results of a Prospective Study

Nicole Rosset, Ph.D., Clinique Psyi., IUPG, 47 Rue Du XXI Decembre, Geneve 7207, Switzerland; Luc Balant, Ph.D.

Summary:

Significance: In the context of depressive disorders, one of the well accepted social burdens is morbidity due to "treatment resistance." Among other factors, non-response may be the consequence of the right drug being given at the wrong dose. This may particularly be the case for tricyclic antidepressants which display high interindividual pharmacokinetic variability combined with a narrow therapeutic range. In order to overcome this potential problem, therapeutic drug monitoring was advocated in 1985 by an APA task force as a valuable tool for dosage individualization. However, one of the objections raised against its large-scale implementation is the lack of prospective data on the cost/benefit ratio of this approach. *Methods:* A representative sample of 33 depressive patients treated with clomipramine has been studied. Daily dose was decided, as usual, by the treating physician, whereas assessment of depressive symptoms severity was performed by an experienced psychiatrist from the research staff. Monitoring of drug concentrations was performed in all patients, independently of their clinical status or the detection of unwanted side effects. *Results and conclusions:* There was a significant relationship between treatment outcome and active principle concentrations being in the optimal therapeutic range. This clearly demonstrates that the cost of US $250 for two drug concentration determination during one depressive episode is cost effective as compared to the average cost of US $7,500 for the treatment of one "typical" major depressive episode in the Psychiatric University Institutions of Geneva.

NR666 Wednesday, May 26, 3:00 p.m.-5:00 p.m.

DRG's Versus Length of Stay for Mood Disorder Referrals

Paula T. Trzepacz, M.D., Psychiatry, WPIC, 2811 O'Hara Street, Pittsburgh, PA 15213; Jeffrey Drayer, Donna Faett, M.S.

Summary:

We describe 176 mood d/o referrals who were consecutively evaluated over 11 mos. from a cohort of 1161. Data were prospectively collected, including U.R. records. Sample was 56% female, mean age = 5.6 ± 18, 41.5% geriatric, 85% white. Internal med. referred 58%, surgery 29%. Major depression in 80%, bipolar in 10%, organic mood in 8%, and depress. NOS in 2%. Mean length of stay (LOS) = 17.7 ± 26 days was longer than mean DRG LOS = 4.5 ± 1.8 d. ($p < .001$), with no difference between geri vs. nongeri groups. Mean number of days between DRG and actual LOS was 13.3 ± 26.3 d. Mean LOS for transplant cases was 38.3 ± 51 ($p < .001$), barely different from nontransplant cases ($p < .05$). Cases with prior psychiatric contacts (n = 123) surprisingly had *shorter* LOS (13.7 ± 18 vs. 26.7 ± 39.5) than those without a past Hx. There was no correlation between durations of LOS and timing of the consultation requests (68% occurred within first half of stay).

DRGs do not account for comorbid mood disorders in medically ill patients. New onset mood disorders are more associated with prolonged LOS than preexisting mood disorders. Late referral requests do not account for prolonged LOS. As noted in studies of

delirious patients, DRGs need to more accurately reflect psychiatric comorbidity.

NR667 Thursday, May 27, 9:00 a.m.-10:30 a.m.

Predictors of Outcome in Panic and Depression

Mark H. Pollack, M.D., Dept. of Psychiatry, Mass Gen Hosp., WACC 815/15 Parkman St., Boston, MA 02114; Michael Otto, Ph.D., Gary S. Sachs, M.D., Andrew Leon, Ph.D., M. Katherine Shear, M.D., Jerrold F. Rosenbaum, M.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to recognize the differential predictors of outcome for patients with panic disorder and depression treated with imipramine, alprazolam and placebo.

Summary:

This study examines clinical predictors of outcome for patients with panic disorder and comorbid depression in a 16-week, multicenter, placebo-controlled trial of alprazolam and imipramine (N = 126). In this study, we investigate the predictive ability of baseline measures of anxiety psychopathology on outcome.

A number of baseline measures of panic disorder severity including greater number of panic attacks, higher levels of phobic avoidance, and increased global severity of illness, were associated with poorer outcome. For two predictors, clinical global severity of illness and phobic avoidance, the effects of baseline severity were differentially predictive of acute outcome to treatment with imipramine, alprazolam, and placebo. The differential predictability of baseline global severity on specific treatment response was most prominent for patients in the mild to moderate range of distress; patients in this range experienced smaller degrees of improvement on alprazolam than on imipramine.

While imipramine-treated patients experienced the same degree of improvement regardless of initial level of severity of illness, alprazolam had its greater effect at higher levels of severity and did less for mildly ill patients. Mildly ill alprazolam-treated patients received lower doses of medication. These dosage levels may have been inadequate to effect maximal therapeutic benefit, underscoring the potential importance of the intensity of benzodiazepine therapy in this population of patients.

References:

1. Klerman G, Shear M, Leon A, et al: Treating the depression secondary to panic disorder. Presented at NCDEU, Key Biscayne, FL 1991.

2. Noyes R, Reich J, Christiansen J, et al: Outcome of panic disorder: relationship to diagnostic subtypes and comorbidity. *Arch Gen Psychiatry* 47:809-818, 1991.

NR668 Thursday, May 27, 9:00 a.m.-10:30 a.m.

Low Dose Valproate Treatment of Cyclothymia and Bipolar II Disorder

Frederick M. Jacobsen, M.D., Transcultural, Mental Health Institute, 1301 20th Street NW Ste. 711, Washington, DC 20036

Educational Objectives:

At the conclusion of this presentation the participant should be able to 1) introduce the use of low doses of valproate as a pharmacologic treatment for mild cycling disorders such as cyclothymia and bipolar II disorder; 2) introduce the concept of a correlation between the severity of bipolar disorder and the blood level of valproate required for stabilization such that milder cycling disorders may respond to lower doses of valproate.

Summary:

Objective: Valproate doses above 500 mg are recommended for tretement of bipolar I disorder. This study investigated whether lower doses of valproate could stabilize cyclothymic and biploar II patients.

Method: In open prospective trials, 33 cyclothymic or rapid-cycling bipolar II patients were started on valproate doses of 125 mg or 250 mg, and doses were increased based on anticycling response. Clinical Global Impressions Scale ratings were performed before and three to six months after starting valproate.

Results: Low-dose valproate (125-500 mg: mean = 351.0 mg; mean serum level = 32.5 μg/ml) stabilized cycling in 26 patients (79%) (15 cyclothymics, 11 bipolar II). Cyclothymics stabilized at significantly lower valproate doses ($p<0.005$) and blood levels ($p<0.01$) than bipolar patients. Five bipolar II patients with partial low-dose responses and complete high-dose responses had significantly higher pre-valproate CGI scores than the cyclothymics ($p<0.05$). Two patients had poor responses or intolerable side effects.

Conclusions: 1) low-dose valproate may stabilize cyclothymia and mild rapid-cycling disorders; 2) a correlation may exist between the severity of bipolar disorder and the valproate blood level required for stabilization such that milder cycling may stabilize with lower doses of valproate.

References:

1. McElroy SL, Keck PE, Pope HG, et al: Valproate in the treatment of bipolar disorder: literature review and clinical guidelines. *J Clin Psychopharmacology* 12:42S-52S, 1992.

2. Akiskal HS, Djenderedjan AH, Rosenthal RH, et al: Cyclothymic disorder: validating criteria for inclusion in the bipolar affective group. *Am J Psychiatry* 134:1227-1233, 1977.

NR669 Thursday, May 27, 9:00 a.m.-10:30 a.m.

Double-Blind Study of Sertraline and Fluoxetine in Outpatients with Major Depression

Jacqueline J. Martindale, M.D., Pfizer International Med., 219 East 42nd Street, New York, NY 10017; Ernest Bennie, M.B.

Educational Objectives:

At the conclusion of this presentation the participant will learn the results indicate that sertraline and fluoxetine were similarly effective and well tolerated in the management of major depression.

Summary:

Objective: Compare efficacy and safety of sertraline and fluoxetine. *Method:* Outpatients with DSM-III-R-defined major depression and a 17-item HAMD score of ≥ 18 were randomized to receive sertraline (n = 142) or fluoxetine (n = 144) once daily for six weeks. Initial daily doses of sertraline and fluoxetine were 50 and 20 mg, respectively. These doses could be raised after a minimum of two weeks to a maximum of 100 mg and 40 mg, respectively, if the response was thought inadequate by the physician. Efficacy was measured at the end of 1, 2, 4, and 6 weeks of therapy using the HAMD, CGI-S, CGI-I, Raskin-Covi, and HAMA scales. *Results:* Mean baseline 17-item HAMD and HAMA totals were 23.19 and 15.85, respectively, for sertraline; and 23.42 and 16.69, respectively, for fluoxetine. Mean final doses were 63.3 mg sertraline, 24.5 mg fluoxetine. Both drugs produced similar antidepressant efficacy in the evaluable patient group: Mean baseline to final visit changes were −35.44% (CGI-S), −48.43% (HAMD total) for sertraline, and −34.80% (CGI-S) and −46.53% (HAMD total) for fluoxetine. Both drugs were generally well tolerated. The most frequent adverse events (all causalities) for fluoxetine were nausea (29.2%), headache (18.1%), anxiety (6.3–), agitation (5.6%), dizziness (5.6%); and for sertraline, nausea (23.9%), headache (15.5%), agitation (4.9%), diarrhea (4.9%), somnolence (4.2%). Adverse

events were mostly mild and transient with few (approximately 14%) resulting in discontinuations. *Conclusions:* The results indicate that sertraline and fluoxetine were similarly effective and well tolerated in the management of major depression.

References:

1. Reimherr FW, et al: Antidepressant efficacy of sertraline: a double-blind, placebo- and amitriptyline-controlled multicenter comparison study in outpatients with major depression. *J Clin Psychiatry* 51 (suppl B): 18-27, 1990.

2. Benfield P, et al: Fluoxetine: a review of its pharmacodynamic and pharmacokinetic properties and therapeutic efficacy in depression illness. *Drugs* 32:481-508, 1986.

NR670 Thursday, May 27, 9:00 a.m.-10:30 a.m.

Meta-Analysis of Venlafaxine Treatment in Retarded and Agitated Depressed Patients

A. Richard Entsuah, Ph.D., Clinical Biostat., Wyeth-Ayerst Research, P.O. Box 8299, Philadelphia, PA 19101; Virginia Upton, Ph.D., Richard Rudolph, M.D., Y. Alcorta, M.S.

Educational Objectives:

The antidepressant activity of venlafaxine in depressed patients with or without agitation and/or retardation is described as an additional guideline for rational prescribing.

Venlafaxine's unique pharmacology, distinct from other antidepressant (e.g., tricyclics, SSIRs), predicted the observed earlier and superior response in depressed patients independent of the presence of agitation and/or retardation compared with imipramine.

Summary:

Venlafaxine (Ven) is a novel antidepressant shown in clinical trials to be effective in relieving the symptoms of major depression. To demonstrate the usefulness of Ven in depressed patients who were agitated, retarded, or neither, a meta-analysis was performed. Five placebo-controlled, double-blind studies (n = 1122) were analyzed, two of which also compared Ven with imipramine (Imip). Patients with baseline agitation or retardation scores of greater than zero on the 21 HAM-D total score were classified as agitated or retarded, respectively. Separate analyses for these variables using 1-way ANCOVA with on-therapy HAM-D total score as the dependent variable, baseline HAM-D score as covariate, and therapy as factor were performed using the last observation carried forward (LOCF) data.

Results indicate agitated or retarded depressed Ven patients showed a decline in total HAM-D scores significantly better than that from placebo starting at weeks 3 and 2, respectively, and better than Imip for week 3 for agitation and weeks 1 to 6 for retardation. Ven-treated patients not agitated or retarded at baseline showed similar improvement over placebo patients as early as week 2 and week 3, respectively. The results support the effectiveness of Ven in depressed patients who are agitated, retarded, or neither, and suggest an earlier and better response when compared with placebo and Imip.

NR671 Thursday, May 27, 9:00 a.m.-10:30 a.m.

Atypical Depression: Prevalence and Biology

Gregory M. Asnis, M.D., Psychiatry, Montefiore Med. Center, 111 East 210th Street, Bronx, NY 10467; Lata Keswani, M.A., William C. Sanderson, Ph.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to learn about clinical and biological issues of AD.

Summary:

Atypical depression (AD) is believed to be a type of depression that predicts preferential responsivity to monoamine oxidase inhibitors. Currently, the DSM-IV workgroup is evaluating whether to include AD as a formal diagnosis. Our study was to help clarify the prevalence and biology of AD for the DSM-IV workgroup.

The sample consisted of 114 consecutive depressed patients with RDC diagnoses of major depression (n = 99) intermittent depression (n = 10), or minor depression (n = 5). All subjects were evaluated with the SADS and received the Columbia Group's Atypical Depressive Disorder Scale. A subgroup (n = 72) also received a neuroendocrine challenge with 75 mg IM desipramine to examine the cortisol response. The latter has been found to be a sensitive indicator of alpha-1-adrenoceptor sensitivity. We found that 29% of patients with an RDC depressive disorder met criteria for AD (26% with major depression, 20% with minor depression, and 60% with intermittent depression). In addition, patients with AD had a significantly greater cortisol response to DMI as compared to non-AD. Thus, the latter was associated with a more significantly impaired norepinephrine system.

AD is not only widely prevalent but differs biologically from non-AD. These findings support that AD is a valid diagnosis.

References:

1. Asnis GM, et al: The cortisol response to desipramine in endogenous depressives and normal controls: preliminary findings. *Psychiatry Research*, 14:225-233, 1985.

2. Quitkin FM, et al: Phenelzine and imipramine in mood reactive depressives: further delineation of the syndrome and atypical depression. *Arch Gen Psychiatry*, 46:787-793, 1989.

NR672 Thursday, May 27, 9:00 a.m.-10:30 a.m.

Depression as a Predictor of Medical Outcomes in HIV Infection

Constantine G. Lyketsos, M.D., Psychiatry, Johns Hopkins, Meyer 4-119 600 N. Wolfe St., Baltimore, MD 21287-7419; D.R. Hoover, Ph.D., M. Guiccione, B.S., W. Senterfitt, M.P.H., M.A. Dew, Ph.D., G.J. Treisman, Ph.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to recognize that depressed patients with HIV infection do not have an accelerated mortality or a worse medical outcome than their nondepressed cohorts.

Summary:

Objective: To ascertain whether depression as determined by the Center for Epidemiologic Studies Depression scale (CES-D) predicts accelerated mortality and worse medical outcomes in HIV-infected patients. *Design:* Eight-year cohort study with semiannual follow-up. *Setting:* Community volunteers. *Participants:* HIV seropositive homosexual men without AIDS entering the Multicenter AIDS Cohort Study in 1984-85 (N = 1,809). Eight-year follow-up data were available on 75% of eligible participants. *Outcome measures:* Time to AIDS, death, and prophylactic treatment, and slopes describing CD4 decline for each individual participant. *Results:* 1,718 participants had complete baseline data. Using a conventional definition of depression (CES-D ≥ 16 at the first visit) 21.3% of participants were classified as depressed. Depressed participants had lower CD4 counts. There were no differences between depressed and nondepressed participants on any of the outcome variables. *Conclusions:* We find no evidence to suggest that depression is associated with worse outcomes in HIV infection. Due to associations of depression with symptom reports, CD4 counts, and indicators of socioeconomic status, future studies of the relationship between depression and HIV outcome should consider these variables as confounders.

References:

1. Ostrow DG, et al: HIV related symptoms and psychological functioning in gay men. *Am J Psych*, 146:737-742, 1989.

2. Cote, et al. Risk of suicide among persons with AIDS: a national assessment, *JAMA*, 268:2066-2068, 1992.

NR673 Thursday, May 27, 9:00 a.m.-10:30 a.m.

In Vitro and in Vivo Evaluations of the Potential for Desipramine Interaction with Fluoxetine or Sertraline

Sheldon H. Preskorn, M.D., Univ of Kansas Sch of Med, 929 North Saint Francis, Wichita, KS 67214; Lisa Von Moltke, M.D., Jeffrey Alderman, Ph.D., Wilma Harrison, M.D., Menger Chung, Ph.D., David Greenblatt, M.D., Richard I. Shader, M.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be knowledgeable about the potential interactions of fluoxetine and sertraline with plasma desipramine levels, and recognize interaction at the hepatic microsomes as a principal cause.

Summary:

Concomitant administration of fluoxetine (F) but not sertraline (S) causes a substantial decrease in desipramine (DMI) clearance, which can result in elevated, potentially toxic DMI levels. Two studies examined the mechanisms. In the first, 18 healthy volunteers were given DMI concomitantly with S (n=9) or F (n=9). Mean DMI clearances decreased > 300% after F treatment, and correlated robustly (r>0.9) with F and norfluoxetine (NF) levels. In contrast, mean DMI clearances decreased 35% after S treatment, and correlated modestly (r=0.63) with S and desmethylsertraline (DS) levels. In a second study, inhibition of DMI 2-hydroxylation by F, NF, S, and DS was examined using microsomes isolated from six human livers. Competitive inhibition of microsomal DMI metabolism was observed, and can be quantitatively expressed as K_i constants: k_{iF} 3.0 μM, K_{iNF} 3.5 μM, K_{iS} 22.7 μM, and K_{iDS} 16.9 μM. Thus, S and DS were 4.5 to 7.5 times less potent than F and NF at inhibiting DMI metabolism in vitro. These results are consistent with the in vivo data and indicate that increased hepatic microsomal inhibition is a mechanism by which F administration reduces DMI clearance more than S administration.

References:

1. Bergstrom R, Peyton A, Lemberger L: Quantification and mechanism of the fluoxetine and tricyclic antidepressant interaction. *Clin Pharmacol. Ther.*, 51:231-248, 1992.

2. Preskorn S, Alderman J, Messig M, et al: Desipramine levels after sertraline or fluoxetine. 1992 APA meeting, NR578, Washington, D.C.

NR674 Thursday, May 27, 9:00 a.m.-10:30 a.m.

Flesinoxan as a Serotonergic Neuroendocrine Test

Marc M. Ansseau, M.D., Psychiatry, University of Liege, Chu Du Sart Tilman, Liege 4000, Belgium; Michael Lebreeghts, M.D., Renaud Jammaer, M.D., Catherine Reel, M.D., Jacques Wauthy, M.Sc., William Pitchot, M.D.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to learn the existence of a very selective and reliable serotonergic neuroendocrine test which could be applied in various psychopathological conditions.

Summary:

Objective: Until now, no reliable serotonergic hormonal probe for i.v. use has been demonstrated; flesinoxan is a highly potent and selective 5-HT agonist (k_i = 1.7). The objective of the study was to test the possible usefulness of i.v. flesinoxan as a serotonergic neuroendocrine probe. *Method:* In a double-blind, placebo-controlled study, single doses of 0.5 mg and 1 mg were injected over 10 min. to 12 healthy male volunteers at one-week intervals, and hormonal and temperature responses were measured at times—30, 0, 15, 30, 60, 90, and 120 min. Statistical analysis used ANOVA with repeated measures. *Results:* Flesinoxan induced a significant and dose-dependent increase in prolactin (PRL), ACTH, cortisol, and GH and a decrease in body temperature (Table). The tolerance of flesinoxan was excellent and associated with a pleasant feeling of relaxation and slight drowsiness without significant GI side effects. *Conclusion:* Flesinoxan appears to fulfill all the criteria for an ideal serotonergic neuroendocrine probe and could represent a breakthrough in the neuroendocrine assessment of various psychopathological conditions.

References:

1. Shipper J. tulp MthM, Berkelmans B, et al: Preclinical pharmacology of flesinoxan: a potential anxiolytic and antidepressant drug. *Hum Psychopharmacol.* 6:553-561, 1991.

2. van Praag HM, Lemus C, Kahn R: Hormonal probes of central serotonergic activity: do they really exist. *Biol Psychiatry*. 22:86-96, 1987.

NR675 Withdrawn

NR676 Thursday, May 27, 9:00 a.m.-10:30 a.m.

Inhibited and Uninhibited Temperament at Age Two: Catecholamines and Behavior Twelve Years Later

Carl E. Schwartz, M.D., Psychiatry, Harvard Medical School, 74 Fenwood Road, Boston, MA 02115; Jerome Kagan, Ph.D., Joseph J. Schildkraut, M.D., Rachel J. Kramer, Ph.D., Nancy Snidman, Ph.D.

Educational Objectives:

At the conclusion of this presentation, a participant will understand the value of studying infant temperament as a predictor of potential behavior problems and physiology at adolescence.

Summary:

Preliminary studies suggest that behavioral inhibition in young children may be a risk factor for the development of childhood psychopathology, particularly anxiety disorders. We studied 76 children at age 13-14 who were previously categorized as extremely inhibited or uninhibited in the second year of life, based on their behavior with unfamiliar people, procedures, and objects in the laboratory. Urinary excretion of the catecholamines and their metabolites was measured in specimens collected at the end of a psychological test battery. All subjects also completed Achenbach's Youth Self-Report Form (YSR). Adolescent boys who were inhibited as children showed significantly (p>.05) higher levels of norepinephrine (NE), normetanephrine (NMN), and 3-methoxy-4-hydroxymandelic acid (VMA) than boys who were uninhibited as children, but did not show significant differences for epinephrine or metanephrine. Similar differences in levels of NE, NMN, and VMA were not observed for girls. Thus, 12 years after these subjects were categorized on the basis of temperamental differences, these measures of sympathetic nervous system activity were different in inhibited boys when compared with uninhibited boys, but did not show differences for girls. Finally, adolescents of both sexes who were inhibited at age two had significantly lower scores on the Total Externalizing Scale of the Youth Self-Report Form than adolescents who were uninhibited (F=4.45, p=<.05), although neither temperament group scored in the clinically deviant range.

References:

1. Kagan J, Reznick JS, Snidman N: Biological bases of childhood shyness. *Science* 240:167-171, 1988.

2. Beiderman J. Rosenbaum JF, Hirshfield DR, et al: Psychiatric correlates of behavioral inhibition in young children of parents with and without psychiatric disorders. *Arch Gen Psychiat* 47:21-26, 1990.

NR677 Thursday, May 27, 9:00 a.m.-10:30 a.m.

Cardiovascular Effects of TCA's in Young People

B. Timothy Walsh, M.D., Psychiatry, Columbia University, 722 West 168th Street, New York, NY 10032; Elsa G.V. Giardina, M.D., Laurence L. Greenhill, M.D., Richard P. Sloan, Ph.D., J. Thomas Bigger, M.D., Juli A. Goldfein, B.A.

Educational Objectives:

At the conclusion of this presentation, the participant should be able to demonstrate that age plays a major role in determining the cardiac effects of TCAs.

Summary:

In the last several years, three deaths have been reported in children being treated with tricyclic antidepressants. These reports have raised concerns about the effects of TCA's in young people. In the current study, supine RR interval (the time between successive heart beats), blood pressure and RR inteval variability, a non-invasive measure of cardiac autonomic control, were assessed in 14 subjects (age 16.9 $\pm$ 6.6 years) prior to and during TCA treatment. TCA treatment was associated with a significant decrease in RR interval, an increase in blood pressure, a substantial decline in total RR interval variability (489 $\pm$ 438 msec^2 to 119 $\pm$ 95 msec^2, $p<.01$), and a dramatic increase in the ratio of low to high heart RR interval variability (0.68 $\pm$ 0.48 to 21.5 $\pm$ 2.48, $p<.05$). The last finding is consistent with an increase in the relative magnitude of sympathetic to parasympathetic input to the heart, which, in certain circumstances, has been associated with an increased risk of ventricular arrhythmias. On the basis of these data and on literature suggesting that age plays a major role in determining the cardiac effects of TCA's, we suggest that the impact of TCAs on autonomic input to the heart should be examined in assessing the risks of TCA's in young people.

References:

1. Walsh BT, Hadigan CM, Wong LM: Increased pulse and blood pressure associated with desipramine treatment of bulimia nervosa. *J Clin Psychopharmacology* 12:163-168, 1992.

2. Riddle MA, Nelson JC, Kleinman CS, et al: Sudden death in children receiving norpramin: a review of three reported cases and commentary. *J Am Acad Child Adolesc Psychiatry* 30:104-108, 1991.

NR678 Thursday, May 27, 9:00 a.m.-10:30 a.m.

Behavioral Inhibition in Infants of Mothers with Panic Disorder

Lee S. Cohen, M.D., Psychiatry, Mass General Hospital, 15 Parkman St WACC 815, Boston, MA 02113; Deborah A. Sichel, M.D., Jacqueline Dimmock, B.S., Jerrold F. Rosenbaum, M.D.

Educational Objectives:

The objective of this paper is to underscore the potential relationship between adult psychopathology (panic disorder) and behavioral inhibition as described by Kagan.

Summary:

Introduction: Kagan and colleagues have described differences in temperament among children in the context of approach or withdrawal to the unfamiliar. Rosenbaum and Biederman have extended the conceptualization of "behavioral inhibition" (BI)—the tendency to constrict behavior in unfamiliar situations—to their investigation of offspring of patients with panic disorder and agoraphobia. In one sample of children aged 2-7 years, a significant number demonstrated higher rates of BI compared with offspring of parents without panic disorder or of those suffering from major depression.

Methods: This study was designed to evaluate whether "behavioral inhibition" might be elevated in a group of children aged 14 or 22 months whose mothers all suffered from panic disorder without major depression. All mothers had presented to a perinatal psychiatry clinical research service for clinical guidelines and follow-up related to course and treatment of psychiatric illness in pregnancy. Fifteen children aged 14 or 22 months were blindly evaluated by independent raters at the Harvard University Infant Study Laboratory using a series of protocols employed in other studies of behavioral inhibition. Rates of BI in this clinically derived sample were compared with rates in a nonclinical sample.

Results: Nine of 15 children (60%) were noted to be behaviorally inhibited as compared with 10%-15% seen in one large comparison sample of American Caucasian children matched for age. Only two of 15 children (13%) had low BI compared with 25%-30% seen in the comparison sample.

Conclusion: These findings support the hypothesis that higher rates of BI noted in clinically derived samples of older children of parents with panic disorder/agoraphobia are also seen in younger children suffering these disorders. The implications of these data will be discussed in the context of identification of children "at risk" for development of later childhood and/or adult psychopathology.

References:

1. Rosenbaum JF, Biederman J, Hirshfeld D, et al: Further evidence of an association between behavioral inhibition and anxiety disorders: results from a family study of children from a non-clinical sample. *J Psychiatric Res* 25:49-65, 1991.

2. Biederman J. Rosenbaum JF, Bolduc-Murphy EA, et al: A three-year follow-up of children with and without behavioral inhibition: further evidence of an association between behavioral inhibition and childhood-onset anxiety disorders. *J Amer Acad Child and Adol Psychiatry* (in press).

NR679 Thursday, May 27, 12 noon-2:00 p.m.

Selective Antagonists in the Flesinoxan Test

Marc M. Ansseau, M.D., Psychiatry, University of Liege, Chu Du Sart Tilman, Liege 4000, Belgium; Renaud Jammaer, M.D., Catherine Reel, M.D., Jacques Wauthy, M.Sc., Michel Lembreghts, M.D., William Pitchot, M.D.

Summary:

Objective: We previously demonstrated a reliable and dose-dependent neuroendocrine and temperature response to the IV administration of flesinoxan 1 mg, a selective 5-HT1A agonist, in healthy volunteers. The objective of the present study was to characterize further the mechanism of these flesinoxan-induced changes by using selective antagonists: pindolol (a 5-HT1A antagonist) and ritanserin (a 5-HT2 antagonist).

Method: Six healthy male volunteers received at two-week intervals, in double-blind and crossover conditions, either: 1) antagonist + flesinoxan 1 mg iv; 2) placebo + flesinoxan 1 mg iv; 3) antagonist + placebo iv; 4) placebo + placebo iv. The antagonists (pindolol 30 mg or ritanserin 10 mg) were administered orally 90 min before the iv injection of flesinoxan 1 mg over 10 minutes and hormones and temperature were measured at times − 30, 0, +

15, 30, 60, 90, and 120 minutes. Statistical analysis used ANOVA with repeated measures and Wilcoxon tests. *Results:* Pindolol significantly antagonized the prolactin, ACTH, GH, and temperature responses to flesinoxan. Ritanserin significantly antagonized the prolactin and ACTH responses. *Conclusions:* These results show the role of 5HT1A mechanisms in the prolactin, ACTH, GH, and temperature responses to flesinoxan and of 5-HT2 mechanisms in the prolactin and ACTH responses. Therefore, they lend support to the flesinoxan test as a neuroendocrine assessment of serotonergic neurotransmission, which could be applied in several psychopathological conditions.

Supported by a grant of the FRSM (Belgium).

NR680 Thursday, May 27, 12 noon-2:00 p.m.

State-Related Changes in Plasma and CSF Cortisol

Marie B. Tobin, M.D., BPB, NIMH Room 3N238, 9000 Rockville Pike, Bethesda, MD 20892; David R. Rubinow, M.D., Robert M. Post, M.D.

Summary:

Affective state-related alterations in HPA axis activity are well-described with most attention focused on disturbances of feedback regulation implied by abnormal responses to dexamethasone. In this study, we examined the value of plasma and CSF cortisol as markers of depression. Multiple 8:00 a.m. plasma cortisols (23-191) were obtained longitudinally in 17 medication-free affective disorder patients and CSF cortisols in patients during depressed (17), euthymic (9), or manic states (5). *Results:* Significant correlations (.05 – .0001) were observed between plasma cortisols and depression ratings in 10/17 patients, eight of whom were bipolar. The probability of this occurring by chance is $< 2 \times 10^{-8}$. Changes in plasma cortisol occurred several days in advance of mood state switches in one intensively studied patient. CSF cortisol was significantly greater in depressed compared with euthymic patients ($p < 0.05$) with the significant increase seen in the bipolar but not the unipolar patients. These data provide further evidence that changes in HPA axis activity are highly affective state dependent, particularly in bipolar patients, and can be detected even with basal (rather than stimulated or suppressed) measures.

NR681 Thursday, May 27, 12 noon-2:00 p.m.

TRH, DST, and Apomorphine Tests in Psychiatry

Fabrice Duval, M.D., Psychiatry, Centre Hospitalier, 27 Rue Du 4 RSM, Rouffach 68250, France; Marie-Claude Mokrani, Ph.D., Marc-Antoine Crocq, M.D., Francoise Calvi-Gries, Stat., Martine Jautz, Psych., Jean-Paul Macher, M.D.

Summary:

Objective: This study was performed to test the hypothesis that different patterns of neuroendocrine abnormalities could be found in association with psychiatric disorders. *Method:* Hormone responses to the 8 a.m. and 11 p.m. protirelin (TRH) tests, the dexamethasone suppression test (DST), and the apomorphine (APO) test were evaluated in 86 unmedicated inpatients with either DSM-III-R major depressive episode (MDE, n = 46), schizophrenia (SCZ, n = 26), or schizoaffective disorder (SAD, n = 14), and 18 hospitalized control subjects. *Results:* Factorial correspondence analysis separated the endocrine profiles of control, MDE, SCZ, and SAD groups. MDEs were characterized by blunted 11 p.m.-△TSH (maximum increment in TSH above baseline after TRH) (i.e. $< 6\mu$U/ml) and △△TSH (difference between 11 p.m.-△TSH and 8 a.m.-△TSH) (i.e. < 2.5 μU/ml), and normal APO-△GH (maximum increment in growth hormone above baseline after APO) (i.e. > 4 ng/ml) and APO-△cortisol (COR) (i.e. > 0 nmol/1). SCZs were characterized by blunted APO-△GH and APO-prolactin (PRL) suppression (i.e. < 15%) and a normal △△TSH test. SADs were characterized by blunted GH, COR, and PRL responses to APO, a blunted △△PRL (difference between 11 p.m.-△PRL and 8 a.m.-△PRL) (i.e. < 0 ng/ml), and DST nonsuppression (i.e. COR > 120 nmol/l). *Conclusions:* These findings suggest that multihormonal responses to a neuroendocrine test battery may provide important information on pathophysiology and could contribute to diagnostic classification.

NR682 Thursday, May 27, 12 noon-2:00 p.m.

Effects of Lithium Treatment on Protein Kinase C and Gq in Alzheimer's and Control Subjects

Susan E. Molchan, M.D., NIH NIMH Bldg 10 RM 3D41, 9000 Rockville Pike, Bethesda, MD 20892; Husseni Manji, M.D., Guang Chen, M.D., Li Dou, M.D., Trey Sunderland, M.D.

Summary:

Objective: We used treatment with lithium carbonate as a probe of protein kinase C (PKC) and a GTP-binding protein (Gq) in platelets of patients with probable Alzheimer's disease (AD) and age-matched controls, given that some of the effects of lithium are thought to be mediated by the phosphoinositide second messenger system. Also, components of this system have been reported to be altered in AD. *Methods:* AD patients (n = 7) and controls (n = 6) were given lithium and placebo, each for three weeks, administered in a double-blind manner. PKC and Gq were quantitated with the Western blot method and specific antibodies. *Results:* AD patients had less membrane-associated PKC for three of four isozymes examined than normals during the placebo phase, significant statistically for the ξ isozyme ($p < 0.003$). After three weeks of lithium, AD patients had significantly less membrane-associated PKC for the α, ε, and ξ isozymes than normals ($P < 0.003$). Levels of Gq were lower at a trend level in the AD patients as compared with controls. *Conclusions:* This is the first study indicating a difference in PKC in blood cells between AD and control subjects. These findings appear to indicate that some PKC isozymes may be differentially regulated in AD versus controls, at least as evidenced in this peripheral cellular system.

NR683 Thursday, May 27, 12 noon-2:00 p.m.

Distinct Decreases in Brain Serotonin Transporter Binding in Old Versus Young Depressives

Karley Y. Little, M.D., Psychiatry, Univ of North Carolina, CB 7160 Med Sch Wing B. UNC, Chapel Hill, NC 27599; F. Ivy Carroll, Ph.D., Gary E. Duncan, Ph.D.

Summary:

Reports of decreased brain 5-HTT (5-HT transporter) binding in persons committing suicide have been inconsistent, perhaps due to diagnostic heterogeneity and [3H]imipramine nonspecificity (Duncan et al, *Brain Res* 591:181-197, 1992). In the present experiment, brain 5-HTT binding was examined in eight suicides meeting the DSM-III-R criteria for major depression (HAM-D = 20 + 2.2, no antidepressant treatment), and eight healthy controls dying suddenly (matched for age, sex, race, PMI). Initially, kinetic, saturation, and competition experiments were performed characterizing the radioligand [^{125}I]RTI-55. Further experiments were then performed at 1/3 K_D (120 pM concentration) with specific 5-HTT binding defined by citalopram (100 nM). Depressed subjects exhibited slightly decreased binding in several hippocampal and midbrain regions. However, cortical serotonergic binding was markedly decreased in the depressed group: Broadman area 10-medial aspect: .24 + .08 vs .63 + .14 nCi/mg tissue equivalents, p = .01; Broadman area 10-lateral aspect: down 62%, p = .03; Broadman area 11: down 62%, p = .006; temporal cortex-Broadman area 20: down 41%, p = .15. Two older suicides demonstrated low total binding displaced by citalopram comparable to controls. Younger suicides had aver-

age total binding, but little displacement by citalopram. It is hypothesized that there are two pathologies of the 5-HT uptake complex, one involving a regional loss of 5-HT terminals in older subjects, the other a complex dysregulation of the 5-HTT including alterations in conformation.

NR684 Thursday, May 27, 12 noon-2:00 p.m.

Multihormonal Responses to Apomorphine in Psychiatry

Marie-Claude Mokrani, Ph.D., Psychiatry, Center Hospitalier, Forenap 27 Rue Du RSM, Rouffach 68250, France; Fabrice Duval, M.D., Marc-Antoine Crocq, M.D., Son Diep, M.D., Jean-Paul Macher, M.D.

Summary:

Objective and Method: To further evaluate the dopaminergic function in psychiatric disorders, we studied the neuroendocrine responses to a subcutaneous administration of the dopamine (DA) agonist apomorphine (APO) hydrochloride (0.75 mg) in a large group of drug-free inpatients (n = 110) with either DSM-III-R major schizophrenia (SCZ, n = 46), schizoaffective disorder (SAD, n = 14), or depressive episode (MDE, n = 50), and in 18 hospitalized control subjects. *Results:* Compared with a saline test, APO induced an increase of both growth hormone (GH), adrenocorticotropin (ACTH), and cortisol (COR) release and a decrease in prolactin (PRL) secretion. No change in thyrotropin (TSH) levels was observed. ANCOVA (with age and sex as covariates) showed a significant blunting in GH, ACTH, and COR responses in SCZs, and SADs compared with controls and MDEs (all $p < 0.05$). The ACTH and COR stimulations were lower in paranoid SCZs (n = 31) than disorganized SCZs (n = 15) ($p < 0.01$ and $p < 0.05$ respectively). Bipolar MDEs (n = 9) showed less APO-PRL suppression ($p < 0.001$) than recurrent MDEs (n = 41). In the total sample ACTH, COR, and GH responses were correlated (all $p > 0.40$, $p < 0.00001$) suggesting interdependent triggering mechanisms. *Conclusions:* Differences among groups of subjects might involve different localizations, subtypes, and sensitivities of DA receptors. The implications of these results will be discussed in light of current hypotheses concerning the pathophysiology of psychoses.

NR685 Thursday, May 27, 12 noon-2:00 p.m.

Gonadotirelin Responses in Male Inpatients

Cesar Carvajal, M.D., Psychiatry, Center Hospitalier, Forenap 27 Rue Du RSM, Rouffach 68250, France; Fabrice Duval, M.D., Marie-Claude Mokrani, Ph.D., Marc-Antoine Crocq, M.D., Eduardo E. De Andrade, M.D., Jean-Paul Macher, M.D.

Summary:

Objective and Method: So far, both exaggerated and blunted responses to gonadotirelin (synthetic gonadotropin releasing hormone [GnRH] administration have been reported in depressive and schizophrenic patients. Therefore, we compared basal sexual hormones (estradiol and testosterone) and the responses of follicle-stimulating hormone (FSH) and luteinizing hormone (LH) to GnRH (dose 50 μg I.V.) in 47 male inpatients: 19 DSM-III-R schizophrenics; 17 DSM-III-R major depressive patients; and 11 psychiatric controls with personality disorders. All patients met strict criteria for a technically valid GnRH test and had been drug free for a minimum of 10 days. *Results:* There were no differences in basal value of estradiol, testosterone, FSH, and LH across the three groups. Moreover, the FSH and LH peaks after GnRH were similar in these groups. A significant correlation was found in the whole sample between FSH and LH ($p = 0.70$, $p < 0.00001$). An exaggerated response to GnRH administration (exaggerated FSH and/or LH peak) was observed in 71% of depressed patients, 58% of schizophrenics, and 54% of psychiatric controls. *Conclusions:* Our results suggest that the hypothalamo-pituitary function may be impaired in hospitalized psychiatric population. However, no diagnostic specificity was found. These results cast doubt on the utility of the GnRH test as a diagnostic aid in psychiatric disorders.

NR686 Thursday, May 27, 12 noon-2:00 p.m.

Panic Disorder and Reactivity to Lactate During Sleep

Harold W. Koenigsberg, M.D., Psychiatry, NY Hosp Cornell Med Ctr., 21 Bloomingdale Road, White Plains, NY 10605; Charles Pollak, M.D., Jeffrey Fine, M.D.

Summary:

Although panic attacks are characterized by intense physiological symptoms, it remains unclear whether panic disorder (PD) patients are physiologically more reactive than healthy controls, and if so, whether such reactivity reflects primarily an increased biological sensitivity or an exaggerated psychological reaction to small physiological changes. The sleeping state, especially slow-wave sleep, provides an excellent opportunity to examine the physiological responsivity of panic disorder patients, because the level of arousal can be closely tracked used EEG, and because reduced cognitive processing in deep sleep may aid in separating psychic and physiological components. We challenged eight PD patients and 10 healthy controls with infusions of the panicogenic substance, sodium lactate, during stage 3-4 sleep. Heart rate (HR), respiratory rate (RR), end-tidal pCO_2 ($ETpCO_2$) and oxygen saturation (SaO_2) were measured from two minutes before to 20 minutes after each infusion. For each variable we conducted a repeated measures analysis of variance to examine the response over time of each group to the infusions. PD patients showed a significantly more rapid increase in RR and SaO_2 during the infusion than healthy controls ($p < .001$ and $p < .009$, respectively). There was little effect upon $ETpCO_2$. Both groups showed increases in HR, but the cardiovascular response did not distinguish the groups.

NR687 Thursday, May 27, 12 noon-2:00 p.m.

Generalizing the Expressed Emotion Construct to Diabetes

Harold W. Koenigsberg, M.D., Psychiatry, NY Hosp Cornell Med Ctr., 21 Bloomingdale Road, White Plains, NY 10605; Ellen J. Klausner, M.A., Henry Chung, M.D., David Pelino, M.D., Robert Campbell, M.D.

Summary:

Expressed Emotion (EE), a construct that measures the extent to which relatives are critical of or emotionally overinvolved with a psychiatric patient in their household, is a robust predictor of relapse in psychiatric patients. This study examines the extent to which the expressed emotion construct may be generalized beyond psychiatric illness, by determining the degree to which EE is associated with the level of glucose control achieved by diabetic patients living with relatives. The relatives of 87 insulin-dependent diabetes mellitus patients who participated in the Diabetes Control and Complications Trial (DCCT) were interviewed using the Camberwell Family Interview to determine levels of criticism, emotional overinvolvement, and warmth. Diabetes control was assessed by measurement of the patient's glycosylated hemoglobin (HbA1c) level. Patients randomly assigned to intensive diabetes treatment and to standard treatment in the DCCT were analyzed separately. Among patients in the intensive treatment group, glycosylated hemoglobin levels were significantly related to the level of familial criticism (Pearson $r = .44$), $n = 35$, $p < .009$). Among the patients receiving standard diabetic treatment, increased familial warmth was associated with lower levels of glycosylated hemoglobin (Pear-

son r = −.36, n = 31, p < .05). Emotional overinvolvement did not predict glucose level in either group.

NR688 Thursday, May 27, 12 noon-2:00 p.m.

Haloperidol Concentrations in Alzheimer's Patients

Maurice W. Dysken, M.D., Grecc, VA Medical Center, One Veterans Drive, Minneapolis MN 55417; Sue B. Johnson, M.S.W., Lori Holden, M.S., Govind Vatassery, Ph.D., J. Riley McCarten, M.D., Stacy Skare, B.A.

Summary:

Objective: To investigate the relationship between clinical response and haloperidol blood concentrations in Alzheimer patients with behavioral problems.

Method: A total of 18 DSM-III-R primary degenerative dementia inpatients (13 men and 5 women; ages 56 to 91) were evaluated for dysfunctional behaviors (BEHAVE-AD) after at least a three-day neuroleptic-free period. Patients were randomly assigned to one of two fixed oral dosages of haloperidol (0.5 mg or 1.0 mg at 9AM and 9PM) for the first three weeks of drug treatment. Consensus BEHAVE-AD ratings were conducted on days 8, 15, and 22 by two trained raters who were blind to steady-state blood levels. Blood for steady-state concentrations of plasma and RBC haloperidol (H) and reduced haloperidol (RH) was drawn at 9AM on behavior rating days.

Results: BEHAVE-AD subscores indicated that most patients had activity disturbances (44%), aggressiveness (41%), or diurnal rhythm disturbances (31%). Although no significant linear or curvilinear relationships were apparent between clinical response (% change BEHAVE-AD) and plasma or RBC H and RH, a good response (% change ≥ 30) was observed in 67% of the patients who completed the protocol. These patients had day 22 plasma H concentrations ranging from 0.3 to 2.5 ng/ml and RBC H concentrations ranging from 0.3 to 1.9 ng/ml.

Conclusions: Low dosage haloperidol treatment resulted in significant clinical improvement in 67% of Alzheimer disease patients with behavioral problems. Future fixed-dosage studies are needed to define the upper and lower ends of a potential therapeutic haloperidol concentration range in Alzheimer disease patients.

NR689 Thursday, May 27, 12 noon-2:00 p.m.

Personality Disorder in Geriatric Depression

Robert C. Abrams, M.D., Psychiatry, New York Hospital, 21 Bloomingdale Road, White Plains, NY 10604; Eileen Rosendahl, Ph.D., George S. Alexopoulos, M.D.

Summary:

Attention has recently been directed to personality disorders in elderly depressives. The age of the first affective episode is of interest because late-onset depression may develop more in the context of neurological and medical diseases than early-onset depression. We compared personality dysfunction in 27 late and early-onset treated geriatric depressive. Subjects included 16 early-onset depressives (EOD) (aged <60 years at first episode of Major Depression) and 11 late-onset depressives (LOD) (aged >60 years at first episode of Major Depression). There were no significant differences in age (mean age 71.25 ± 6.33 for EOD and 74.91 ± 6.04 for LOD), depression severity (mean 27-item Hamilton Depression Rating Scale score 14.0 ± 9.42 for EOD and 14.3 ± 10.90 for LOD), cognitive functioning (mean Mini-Mental State Examination score 28.18 ± 3.5 for EOD and 27.5 ± 2.7 for LOD), or social support (mean score on Multilevel Assessment Instrument Social Support Subtest 55.6 ± 13.26 for EOD and 49.5 ± 7.43 for LOD). Subjects were given the Personality Disorder Examination, a structured interview for *DSM-III-R* personality disorders. Reliability between two raters was established. EODs received significantly higher dimensional scores than LODs in six personality disorders: Dependent, Avoidant, Antisocial, Schizoid, Schizotypal, and NOS (range p < .06 − p < .006). Greater personality dysfunction in early-onset subjects may reflect post-depressive changes, predisposition, or a low-grade depression subtype.

NR690 Thursday, May 27, 12 noon-2:00 p.m.

Cognitive Dysfunction in Late-Onset Depression

George S. Alexopoulos, M.D., NYH-WD Cornell UMC, 21 Bloomingdale Road, White Plains, NY 10605; Barnett S. Meyers, M.D., Steven Mattis, Ph.D., Robert C. Young, M.D., Rotimi Bajulaiye, M.D., Eileen Rosendahl, Ph.D.

Summary:

We postulated the hypothesis that late-onset depression (LOD) is heterogeneous and includes a larger subgroup of patients with dementing and other organic mental disorders than early-onset geriatric depression (EOD). This hypothesis was supported by our cross-sectional study of 183 consecutively admitted elderly depressives, that showed that depressed-demented subjects had significantly older age of onset than cognitively-unimpaired depressives.

We report here a longitudinal study of another sample (N = 61) of consecutively entered, non-demented, geriatric, depressed patients. The average follow-up period was 10.39 months (SD: 9.04). It was observed that 15% (N = 4) of patients with onset of first depressive episode after 60 years of age (N = 27) developed dementia on follow-up while only 3% (N = 1) of EOD subjects (N = 34) developed dementia (chi square 2.8, one tail P < 0.05).

When subjects who never developed dementia (N = 56) were compared, LOD subjects had more evidence of cognitive dysfunction than EOD subjects, both during the episode and after recovery of depression. ANCOVA with age as the covariate showed significant differences in visual naming (P < 0.04), comprehension (P < 0.03), and the memory subscore (P < 0.05) of the Mattis Dementia Rating Scale.

Both our previous cross-sectional study and the longitudinal study reported here suggest that some late-onset depressives develop dementing disorders. It appears that even the late-onset depressives who do not develop dementia on follow-up have neuropsychological stigmata of brain disease.

NR691 Thursday, May 27, 12 noon-2:00 p.m.

Estrogen Exposure and Hallucinations in Dementia

Eve J. Wiseman, M.D., Psychiatry, McClellan VA Hospital, 4415 North Lookout, Little Rock, AR 72205; Elaine Souder, Ph.D., Pham Liem, M.D., Michael Hazelwood, Ph.D.

Summary:

Objective: The primary question was whether female dementia patients with a history of estrogen replacement therapy (ERT) were less likely to report hallucinations.

Methods: A retrospective and quantitative analysis was conducted at a rural university dementia clinic. The sample (n = 154 consecutive visits) consisted of 18 black and 136 white women with a mean MMSE of 19 (SD = 6.6). Data, collected as part of a comprehensive evaluation, included the MMSE, Memory and Behavior Problem Checklist, NCSE, dementia profile, clinical history, and family report of medications.

Results: ERT was reported by 30% of the white subjects, but no blacks. A total of 51% of subjects reported hallucinations. Chi-square analysis demonstrated that patients with ERT were less likely to report hallucinations (p = .057). The level of dementia was significantly different (2-tailed t-test: p = .0001) between those with (MMSE = 16.53) and without hallucinations (MMSE = 21.07).

Conclusions: ERT was associated with lower incidence of reported hallucinations. The research regarding hallucinations and severity of dementia has been mixed, and no studies have included ERT as a variable. An estrogen-dopamine relationship may affect psychotic symptomalogy. Prospective studies may indicate whether ERT is of particular benefit to women with dementia-associated hallucinations.

NR692 Thursday, May 27, 12 noon-2:00 p.m.

A Survey of Mental Health Services in Nursing Homes

Blaine S. Greenwald, M.D., Psychiatry, Hillside Hospital, P.O. Bx 38 Lowenstein Res Bldg, Glen Oaks, NY 11004; Donald H. Gemson, M.D., Elisse Kramer-Ginsberg, Ph.D.

Summary:

Although recent epidemiological investigations report prevalance of psychiatric disturbances as high as 94% in nursing homes, little data are available on the provision of mental health services in these facilities. *Objective:* To assess mental health services in proprietary nursing homes in Nassau County, NY. *Methods:* Nursing home administrators completed telephone interviews averaging 23 minutes in length employing a standardized 59-question survey instrument that addressed delivery of mental health services in their facilities. Administrators at 21 out of the 25 total proprietary nursing homes in Nassau County participated (84% response rate). Mean number of beds per facility was 175 (range 100 to 278; 3671 aggregate beds). *Results:* Mean ratio of psychiatric consultant to resident was 1:115. Psychiatrists spent an average of 2.8 hours/week in the nursing home. All psychiatrists directly billed Medicare fee-for-service. There were no paid psychiatric consultants, and only one administrator expressed willingness to subsidize psychiatrists above Medicare reimbursement. A total of 62% of psychiatrists were board certified in general psychiatry, 43% had some geriatric experience, 5% had geriatric training, and 0% had geropsychiatry boards. Only 5% of facilities had psychiatric nurses, 14% had psychiatric social workers, and 33% had psychologist consultants. Although 76% of facilities indicated that staff inservices on mental health took place, seminars occurred only twice per year on average for 50 minutes per seminar. All facilities were aware of and had implemented the OBRA psychotropic regulations. Newer antidepressants were variably prescribed across facilities: fluoxetine 71% of homes; bupropion 14%, sertraline 24%. On average, six psychiatric hospitalizations/facility occurred annually. Administrators reported that 48% (range 15%-85%) of residents had mental disturbances; and 71% felt mental health services were adequate in their facility, *Conclusion:* Specialized geropsychiatric services and expertise appear inadequate in nursing homes surveyed. Staff education and non-psychiatrist mental health professionals are minimal. Government-regulated psychopharmacological practices have uniformly been implemented; however recent advances in geriatric psychopharmacology are inconsistently available. Administrators seem to underestimate mental illness prevalence and overestimate adequacy of services. Improved nursing home mental health awareness and services are a priority.

NR693 Thursday, May 27, 12 noon-2:00 p.m.

Depressive Pseudodementia; Six to Seven Year Outcome

Elisse Kramer-Ginsberg, Ph.D., Psychiatry, Hillside Hospital, P.O. Bx 38 Lowenstein Res Bldg, Glen Oaks, NY 11004; Blaine S. Greenwald, M.D.

Summary:

Longterm implications of reversible cognitive impairment of geriatric depression ("depressive pseudodementia") are unclear. Whether such cognitive changes predict irreversible dementia, death or depressive relapse is controversial, since few long-term follow-up studies are available. *Objective:* To conduct a 6-7 year longitudinal follow-up of elderly depressed patients with and without depression-dependent, reversible cognitive impairment. *Methods:* 62 elderly depressives hospitalized for major depression between 1985 and 1987 were followed after a mean of 77.1 +/− 13.9 months. A total of 18 patients had met criteria for reversible cognitive impairment. 43/62 (69%) of original patients/caregivers were available for telephone interview. Cognitive status was evaluated via standardized phone questionnaire that converted to a dementia diagnosis. Dementia diagnosis was validated by a *DSM-III-R* checklist. Depressive episodes were diagnosed according to *DSM-III-R* criteria. *Results:* Outcome categories (after Post, 1972 and Murphy 1983) for a group as a whole included: lasting recovery (20.8%); further relapses with complete recovery between episodes (14.6%); some residual depressive symptomatology, often with further circumscribed relapses (14.6%); persistently ill with depression (6.3%); dementia (6.3%); and death (27.1%). No significant differences in distribution of outcome categories were seen between depressed patients with and without reversible cognitive impairment. Similar results were obtained at 3-4 year follow-up. *Conclusions:* Results challenge the notions that geriatric depression with reversible cognitive impairment preferentially heralds dementia, and that longer-term follow-up is necessary to demonstrate dementia outcomes.

NR694 Thursday, May 27, 12 noon-2:00 p.m.

Effects of Sertraline, Amitriptyline and Placebo on Cognitive and Motor Functioning in the Elderly: A Double-Blind Cross

David J. Coffey, M.D., Neurology, Dartmouth Hitchcock, One Medical Center Drive, Lebanon, NH 03756; Lawrence R. Jenkyn, M.D., Aline K. Coffey, Ph.D., Brenda Wells, B.A.

Summary:

Depression is common in elderly persons, but often goes untreated or undertreated. Antidepressant side effects such as orthostatic hypotension, fatigue, confusion, constipation, and dry mouth may limit compliance and result in insufficient dosing.

Twelve healthy elderly volunteers (mean age 72 years) completed this double-blind crossover study comparing the effects of single doses of sertraline (50mg), amitriptyline (50mg), and placebo. Each subject received every treatment, in random order. Cognitive and motor functioning were evaluated by a computerized test battery, manual tests, self-ratings, and clinician rating scales. Evaluations were timed to coincide with the peak activity times of the active medications.

Performance on the digit symbol, reaction time, telephone dialing, name-face recognition, and list-learning tasks was significantly worse following amitriptyline compared with sertraline ($p < 0.05$). Performance after sertraline was not significantly different from placebo indicating that sertraline did not adversely affect cognitive or motor function in these elderly volunteers. Adverse events were observed significantly more often following amitriptyline than following either sertraline or placebo ($p < 0.02$).

NR695 Thursday, May 27, 12 noon-2:00 p.m.

Family Care of Depressed Versus Demented Aged

Gregory A. Hinrichsen, Geropsychiatry, Hillside Hospital, P.O. Box 38 Research Bldg, Glen Oaks, NY 11004

Summary:

Objective: It is well-documented that family members caring for elderly patients with dementia must cope with an array of problems that often result in stress-induced psychiatric symptomatology. Lit-

tle is known, however, about family care of depressed elderly. Whether coping or emotional adjustment differ between relatives caring for dementia patients and those caring for elderly with depression—or even from persons coping with general life stresses—is not known. *Method:* This study compared the means by which caregivers to dementia patients (N = 152) and elderly patients with major depressive disorder (N = 150) coped with patient care problems; and how community residing adults (N = 424) and younger depressed patients (N = 424) reported coping with a recent life stressor. Psychiatric symptoms reported by dementia and depression caregivers were also compared with normative samples of non-psychiatrically impaired adults (N = 961) and psychiatric outpatients (N = 1002). *Results/Conclusions:* Coping behaviors did not differ between dementia or depression caregivers. However, both groups of caregivers evidenced very significantly elevated levels of coping behavior compared with either community adults or younger depressed patients. Similarly, dementia and depression caregivers evidenced comparable levels of psychiatric symptoms that were significantly elevated compared with non-psychiatric adults, but which were lower than those evidenced by psychiatric outpatients.

NR696 Thursday, May 27, 12 noon-2:00 p.m.

Treatability of Depression in Dementia

Raymond J. Ancill, M.D., St. Vincent's Hospital, 749 West 33rd Avenue, Vancouver BC V5Z 2K4, Canada; L. James Sheldon, M.D., Robert J. Nielsen, B.Sc., W. Carlyle, M.D.

Summary:

In a retrospective study of 291 consecutive geriatric psychiatry admissions, 151 (52%) patients were diagnosed as being depressed with a mean age of 76 years. A total of 93 (62%) were also demented. Their average age was 78 years. 'Best Choice' initial therapy was commenced and if ineffective or not tolerated, the next indicated treatment was tried, and so on. ECT was included in these protocols.

Chart-based CGI assessments were used to determine treatment outcome. Of the patients with depression alone (N = 58), 90% were classified as improved. In patients with both depression and dementia, where the depression predated the onset of dementia (N = 35), 80% were classified as improved. In the third group where the depression postdated the onset of dementia (N = 58), 77% of the patients were classified as improved. There were no significant differences between the groups.

These data support the observation of the copresentation of depression and dementia in the elderly. Aggressive treatment of the depression, whether with or without dementia, is indicated and likely to result in clinical improvement. Our findings also suggest that the presence of dementia may only marginally lower response to antidepressive treatments even where the depression occurs after the onset of dementia.

NR697 Thursday, May 27, 12 noon-2:00 p.m.

Aggression in Dementia: Gender Differences

Elaine Souder, Ph.D., Psychiatry, Univ of Arkansas Med Sci, 7 Tomahawk Road, Little Rock, AR 77205; Eve J. Wiseman, M.D., Pham Liem, M.D., Michael Hazelwood, Ph.D.

Summary:

Objective: Aggressive behavior has been reported in 25% to 51% of patients with dementia (Ryden, 1988; Teri, et al 1992). The purpose of this study was to determine if there were significant gender differences in reported aggressive behaviors in outpatients with equivalent dementia severity.

Methods: A retrospective quantitative analysis was conducted on records of 224 consecutive patients, 70 males and 154 females, who completed a diagnostic workup at a rural university-based dementia clinic over the last three years. Chi-square analysis revealed no gender differences in age (M = 74.3, SD = 5.5), type of dementia, duration of symptoms, or level of education. Measures of dementia revealed that there were no significant gender differences in disease severity as measured by the MMSE (M = 18.8, SD = 6.5), Memory & Problem Behavior Checklist (M = 14.8), and subscales of the Neurobehavioral Cognitive Status Examination.

Results: Males demonstrated significantly more aggressive behavior on three of four questions assessing aggressive behaviors: "destroying property" ($X^2 = 4.399$, $p = .036$), "currently hostile" ($X^2 = 8.295$, $p = .004$), and "increased sexual drive" ($X^2 = 14.6$. $p = .0001$).

Conclusions: These findings suggest that in outpatients with mild-moderate dementia, males are more aggressive than females. Because this gender difference cannot be attributed to a greater degree of dementia, additional research is warranted to address caregiver reporter bias, endocrine, and social-behavioral factors.

NR698 Thursday, May 27, 12 noon-2:00 p.m.

MRI: Mania and Cognitive Impairment Versus Age

Robert C. Young, M.D., Psychiatry, NY Hosp Cornell Med Ctr, 21 Bloomingdale Road, White Plains, NY 10605; Rotimi Bajulaiye, M.D., George S. Alexopoulos, M.D.

Summary:

Abnormalities in brain morphology have been described in mixed-age bipolar patients and in preliminary studies of elderly manic patients, including greater cortical sulcal widening and third ventricle/brain ratio on CT compared to controls (Young et al 1990). Therefore, brain (MR) images were obtained prospectively in 25 subjects aged 19 to 82 yrs: 18 inpatients meeting Feighner criteria for bipolar disorder, manic, and seven normal controls. Images were assessed by two independent raters using the CERAD method. Manic patients had a mean age of 62.4 yrs ± 15.1 yrs (S.D.) while controls had a mean age of 62.1 yrs ± 13.8 yrs; subjects were predominantly aged > 60 yrs and female. Overall, patients had greater right and left temporal sulcal widening ($p < .001$ and $p < .004$) and right and left lateral ($p < .02$ and $p < .02$) and third ventriculomegaly ($p < .07$); these differences persisted when age was taken into account. Performance on the Dementia Rating Scale after treatment was negatively associated with enlargement of right ($p < .001$) and left ($p < .001$) temporal horns and third ventricle ($p < .006$), and of right ($p < .01$) and left ($p < .03$) lateral ventricles; these associations persisted when age was taken into account.

NR699 Thursday, May 27, 12 noon-2:00 p.m.

Effects of Age of Onset in Post-Mortem Studies in Alzheimer's Disease

Linda M. Bierer, M.D., Psychiatry, Bronx VA Medical Center, 130 West Kingsbridge Road, Bronx, NY 10468; Varham Haroutunian, Ph.D., Philip Kanof, M.D., Lorna Carlin, M.D., Daniel P. Perl, M.D., Kenneth L. Davis, M.D.

Summary:

Relationships with age, as well as with symptom severity, have been described for disease related decrements in cholinegic markers and for the accumulation of neuritic plaques and neurofibrillary tangles in AD. The relative contributions of age of onset and illness duration are obscured by a tendency toward increased duration and severity among early onset cases. The interpretation of post-mortem studies in AD will be advanced by distinguishing these influences. We have examined a sample of AD cases with relatively broad range of illness onset (69.4 ± 13.4 years), derived from

ADRC (N = 30) and nursing home (N = 24) referrals. In this series, age of onset was significantly associated with illness duration (r = -.424, p = .001, N=52) and with dementia severity, measured by the Clinical Dementia Rating scale (r = -.512, p = .000, N=49). Age of onset, but not illness duration, was significantly associated with mean cortical ChAT (r = .708, p = .000, N=32), AChE (r = .650, p = .000, N=30), neuritic plaques (r = -.345, p = .011, N=52), and neurofibrillary tangles (r = .356, p = .010, N=49). All associations with age of onset remained highly significant after controlling for illness duration. Thus, correlations with age in AD principally reflect the contribution of age of onset; age at death, available for all autopsied cases, can be used in correlative analyses as a surrogate for age of onset (r = .974, p = .000, N=52).

NR700 Thursday, May 27, 12 noon-2:00 p.m.

Social and Psychological Predictors of Death After Cardiac Surgery

Thomas E. Oxman, M.D., Psychiatry, Dartmouth Medical School, 1 Medical Center Drive, Lebanon, NH 03301; Daniel H. Freeman, Ph.D., Eric Manheimer, M.D.

Summary:

We are prospectively examining the relationship of psychosocial factors to functional outcome in patients undergoing elective cardiac surgery. Because surgery improves the physiologic basic of function, the role of social support in the subsequent variability of improvement in function can thus be meaningfully examined. In this study we examined the effect of different dimensions of social support on mortality.

Patients 55 and older were interviewed within one month prior to surgery. In addition to social support, we assessed control variables and personal characteristics. We used logistic regression procedures to identify predictors of death.

Of 212 patients interviewed, 19 (8.8%) died within two months of surgery. Among the control variables, three remained significant in several multivariate procedures: age, impairment in basic ADLs, and duration of cardiac symptoms. Among the personal characteristics, one remained significant in several multivariate procedures, strength and comfort from religion (adjusted odds 5.4, p = .004, 95% cl 1.69 -17.3). Among the social support variables, active participation in social or community groups remained significant in several multivariate procedures (adjusted odds 4.1, p = .03, 95% cl 1.15-14.4).

These results suggest that absence of strength and comfort from one's faith and lack of active organized social participation increase a cardiac surgery patient's chance of dying by at least four-fold each.

NR701 Thursday, May 27, 12 noon-2:00 p.m.

Age of Onset in Older Depressed Inpatients

Jeffrey M. Lyness, M.D., Dept. of Psychiatry, Univ. of Rochester MC, 300 Crittenden Blvd., Rochester, NY 14642; Yeates Conwell, M.D., Deborah A. King, Ph.D., Christopher Cox, Ph.D., Eric D. Caine, M.D.

Summary:

Late-onset major depression may have a distinctive pathophysiology. Study of clinical variability as related to age of onset of depression might yield clues to varying pathogeneses, yet published investigations have reported few consistently replicated findings. We prospectively evaluated 110 psychiatric inpatients, age 50 years and over, with *DSM-III-R* major depression. Multiple regression analyses were used to determine the independent association of each clinical variable to age of onset. Older age of onset was associated with: older age, male sex, absence of history of substance abuse, and absence of melancholic subtype. Age of onset was not independently associated with: education, global depressive severity, functional status, medical illness measures, suicidality, cognitive function, weight loss, guilt, somatic worry, or psychotic subtype. Given evidence that medical illness plays an important role in the pathophysiology of late life depression, we further examined the relationship of medical illness measures to age of onset. Older age of onset was significantly correlated with increased organ system burden, but not with functional disability due to medical illness. The association of organ system burden with age of onset was no longer significant when controlled for age (again via multiple regression analysis). The discussion will consider implications for future research.

NR702 Thursday, May 27, 12 noon-2:00 p.m.

Predictors of Well-Being in Alzheimer's Caregivers

Helen H. Kyomen, M.D., Geriatrics, McLean Hospital, 115 Mill Street, Belmont, MA 02178; Andrew Satin, M.D., Anthony Holzgang, M.D., Satoru Izutsu, Ph.D., Bernie Ledesma, M.P.H., Suzanne Yamasaki, R.N.

Summary:

Objective: To develop multivariate linear regression models to predict overall mood states, life satisfaction, and alcohol use in family caregivers of elderly patients with dementia. *Method:* The 50 family caregivers of dementia patients for this open, descriptive pilot study were selected from the McLean Hospital Memory Diagnostic Clinic in Belmont, MA (N=44) and the Aiea Day Care Center in Aiea, HI (N=6) The caregivers were evaluated with semi-structured interviews and take-home questionnaires. The outcomes modeled were overall mood states (total POMS), life satisfaction (LSI-Z) and alcohol use. *Results:* Better overall mood was predicted by fewer years of caregiving and having a grandmother who was born outside of the United States (F score = 4.62, p = 0.015). Higher LSI-Z score was predicted by greater caregiver self-confidence (F score = 8.22, p = 0.0061). Higher caregiver income and individualistic rather than collectivistic self-perception were predictive of greater alcohol use (F score = 12.82, p = 0.0001). *Conclusions:* Although overall mood states, life satisfaction, and alcohol use of family caregivers of dementia patients are influenced by unmodifiable factors such as the number of years of caregiving, this pilot study demonstrates that caregiver well-being also is affected by self-confidence and culturally influenced self-perceptions. These factors are modifiable by culturally sensitive psychotherapy, suggesting that this modality of treatment may help maintain caregiver well-being.

NR703 Thursday, May 27, 12 noon-2:00 p.m.

Prevalence of Psychiatric Disorders in Demented and Non-Demented Older Persons

Teresa A. Rummans, M.D., Psychiatry, Mayo Clinic, 200 First Street Southwest, Rochester, MN 55905; Glen E. Smith, Ph.D., Siong-Chi Lin, M.D., E. Kokmen, M.D.,

Summary:

Introduction: Estimated prevalence of psychiatric disorders in older persons varies widely depending on the source of the sample, diagnostic criteria, assessment method, and qualifications of the diagnostician. Rates are further confounded by the presence of dementia, as the psychiatric disorders may be attributed to the dementing illness.

Methodology: A population-based, age-stratified sample was drawn from residents of Rochester, Minnesota, age 65 and older, with over-sampling according to age-group risk for dementia. A trained paramedic completed a screening interview, including the Symptom Checklist-90, Mini-Mental State Examination, Auditory-

Verbal Learning Test, and Mayo Sleep Questionnaire. Persons failing the screens were interviewed by a board-certified psychiatrist and neurologist and completed neuropsychological testing. *DSM-III-R* diagnoses were assigned.

Result: Of 200 participants, 16 (8%) received psychiatric diagnoses other than uncomplicated dementia. Thirteen of these 16 (81%) had cognitive impairments. Neurologist-diagnosed dementia was present in 23 people. The psychiatrist determined 14 (61%) of these persons to have non-cognitive psychiatric symptoms with comorbid psychiatric disorders present in nine cases.

Conclusion: Dementia and non-dementia psychiatric syndromes frequently co-occur in older persons. Studies which fail to consider this comorbidity may bias prevalence estimates for both types of disorders.

NR704 Thursday, May 27, 12 noon-2:00 p.m.

High Vitamin C Levels in Elderly Schizophrenics

J. Daniel Kanofsky, M.D., Bronx Psychiatric Center, Albert Einstein Coll Med., 1500 Waters Place, Bronx, NY 10461; Barry Geller, Robert Lowinger, M.D., Edward P. Norkus, Ph.D., Paul B. Kanofsky, Ph.D., Gary J. Kennedy, M.D.

Summary:

There is speculation that antioxidants such as Vitamin C and Vitamin E may play a role in schizophrenia and the dementias. We analyzed the blood of patients with chronic schizophrenia or schizoaffective disorder for these and other nutrients using a hospitalized population of neuroleptic-treated older adults (N = 22, mean age = 64 years). Virtually none were receiving nutritional supplements. Micronutrient levels in serum were obtained using standard reversed-phase chromotography or spectrophotometry. Comparisons were made to an elderly control group (N = 34, mean age = 65 years) comprising nursing home residents, college professors, and pre-operative elective surgery patients. An overall linear regression analysis adjusted for age, gender, smoking history, and nutrient level. It showed that the controls had significantly higher concentrations of vitamin A ($p < .05$), vitamin E ($p < .05$), and beta-carotene (one-tailed $p < .05$). To our surprise, Vitamin C concentrations were higher among patients (1.36mg/dl ± 0.28) than controls (0.81mg/dl ± 0.20). This difference was highly significant ($p < .0001$) and counter to our hypothesis that the schizophrenia group would be less well nourished. The only other study (published in 1971) evaluating blood Vitamin C levels in elderly schizophrenics found similar results. Our data draw attention to the complexity of studying and the need for further investigating nutritional variables in older schizophrenic adults.

NR705 Thursday, May 27, 12 noon-2:00 p.m.

Hierarchic Scale Improves Dementia Screen in Long-Term Care

Stephen L. Read, M.D., John Douglas French Ctr., 3951 Katella Avenue, Los Alamitos, CA 90720; Jennifer Duncan, Ph.D., Maria N. Ybardolaza, R.N.

Summary:

Objective: Is the Hierarchic Dementia Scale (HrDS) reliable and accurate in documenting the impairments of dementia patients?

Method: Comparison of Mini-Mental State (MMS) scores and HrDS scores across a full spectrum of dementia patients in a specialized LTC setting.

Results: Scores on the Mini-Mental State (MMS) examination and an abbreviated form of the Hierarchic Dementia Scale (HrDS) were compared in 36 patients (mean age = 83), mean MMS = 5, range = 0-21). Overall correlation was excellent at 0.93.

Correlation in those patients with MMS < 10 was 0.63. The difference actually appears to be in favor of the HrDS, which was able to discriminate meaningfully among those patients with MMS < 5.

Conclusions: In this group, common if not actually the norm in many LTC settings, the HrDS deserves evaluation as equivalent to the MMS for cognitive screening. Our data indicate the HrDS would be a more useful indicator for defining care capacity and activities in LTC settings. Its increased sensitivity to differences in the more demented patients indicates its possible utility for documenting progression of dementia beyond the range of sensitivity of the MMS.

NR706 Thursday, May 27, 12 noon-2:00 p.m.

Dyskinesias Secondary to Gradual Neuroleptic Drug Withdrawal in Elderly Nursing Home Residents

Salma K. Somani, Pharm.D., Clinical Pharm., St. Paul-Ramsey Med. Ctr., 640 Jackson Street, St. Paul, MN 55101; David R. Guay, Pharm.D., Ken D. Engberg, M.D., James L. Roerig, Pharm.D.

Summary:

Objective: To evaluate the prevalence of tardive dyskinesia (TD) at baseline, incidence, and reversibility of dyskinesias after gradual neuroleptic drug withdrawal in elderly, non-schizophrenic, demented nursing home residents.

Method: Fifty-seven residents in 22 nursing homes were enrolled (mean age 85 years, median baseline dose 50 mg in chlorpromazine equivalents). Forty residents were assigned to receive a stable neuroleptic dose for the study period (control group). However, 18 of these residents were subsequently excluded because of dosage changes. Seventeen residents were tapered off neuroleptic drugs at a rate of 25% per month based on availability of dosage forms (experimental group). Two dyskinesia assessors who were blinded to treatment assignment conducted monthly TD assessments for eight months using the Dyskinesia Identification System: Condensed User Scale (DISCUS).

Results: The Research Diagnoses Intensity Criterion for TD (RDTD) was met in 12% of residents at baseline. Withdrawal dyskinesias (WDD) per defined criteria occurred in seven residents (41%) in the experimental group ($p < 0.01$). Withdrawal dyskinesias first emerged within 10 days to two months of a dosage reduction and persisted for at least three months in three residents (43%). At study termination, two residents with WDD (29%) had persistent TD.

Conclusion: Withdrawal dyskinesias occur commonly with gradual neuroleptic drug withdrawal in this population and may persist for several months.

NR707 Thursday, May 27, 12 noon-2:00 p.m.

Depression in Alzheimer's Disease: Validity of Research Diagnostic Criteria

Stephen Vida, M.D., Psychiatry, Montreal General Hosp., 1650 Cedar Avenue, Montreal Quebec H3G 1A4, Canada; Pascale Des Rosiers, M.D., Louise Carrier, M.D., S. Gauthier, M.D.

Summary:

Twenty-six subjects with probable Alzheimer's disease (AD) of mild to moderate severity were identified from the Montreal General Hospital Alzheimer's Disease and Family Medicine Clinics. Subjects and their caregivers were interviewed to estimate the prevalence of several Research Diagnostic Criteria (RDC) depressive syndromes. A total of 15.4% were found to have major depression, 23.1% minor depression, and 11.5% intermittent depression.

For the evaluation of validity of RDC for major depression in the presence of probable AD, an additional eight probable AD subjects with suspected depression were added to the sample. In this analysis, the criteria for RDC major depression were compared with possible alternative criteria currently used for RDC minor depression. Sensitivity, specificity, and correlation with diagnosis of major

depression were calculated for each diagnostic criterion. Two criteria for major depression were weakly associated with the final diagnosis of major depression because of poor sensitivity or specificity. Self-reproach/guilt showed poor sensitivity, whereas thinking/concentration difficulty showed poor specificity. In contrast, three possible alternative criteria, drawn from existing criteria for RDC minor depression, were significantly associated with the diagnosis of major depression and showed high sensitivity and specificity. These included nonverbal manifestations of depression, irritability/complaining, and demandingness/dependency.

NR708 Thursday, May 27, 12 noon-2:00 p.m.

Longitudinal Study of Nursing Home Activity Programs

Barry W. Rovner, M.D., Psychiatry, Thomas Jefferson Univ., 1025 Walnut Street RM 301 Col., Philadelphia, PA 19107; Pearl S. German, Sc.D., Linda C. Burton, Sc.D., Rebecca Clark, B.A.

Summary:

New federal legislation (OBRA 1987) requires nursing homes to provide residents with psychosocial activities to achieve their highest level of functioning. We evaluated participation rates in activity programs and associated clinical variables in a prospective study of 198 new nursing home admissions.

Both on admission and after a year, approximately 50% of patients were not participating in psychosocial activity programs. Nonparticipation, at both times, was associated with greater cognitive and functional impairments, a tendency toward more severe behavior disorders, and the frequent use of restraints and neuroleptics. However, while the overall rates of participation remained the same over the year, activity participation status changed for 44% of patients in relation to these and other medical variables.

These findings demonstrate that substantial proportions of nursing home patients do not participate in activity programs and that participation is a dynamic process influenced, in part, by cognition, functional disability, behavior disorder, and the use of restraints and neuroleptics. There is a need to broaden the range of psychosocial services for the more disabled patients in nursing homes to meet the new federal legislation and improve the quality of their lives.

NR709 Thursday, May 27, 12 noon-2:00 p.m.

Prescription Drug Abuse in Nursing Home Patients: Risk Factors for Addiction

Kenneth Solomon, M.D., Psychiatry, St. Louis University, 1221 S. Grand Blvd, St. Louis, MO 63104; James Shackson, M.D., Barbara W. Brown, D.O.

Summary:

We examined the records of 251 consecutive nursing home psychiatric consultations. All consultations were performed by the senior author. Eighty-four of the patients (33.4%) were receiving regular doses of a potentially addictive medication. The most predominant drugs were benzodiazepines, but barbiturates and other sedative/hypnotics and oral narcotics were also prescribed. Three factors were associated with the use of potentially addictive drugs: a more likely diagnosis of major depression, more severe psychiatric symptoms, and biologic risk factors for addiction (positive family history of psychiatric disorder or addiction, for example). A diagnosis of dementia was associated with a decreased risk of being prescribed these classes of medications. The data will be reviewed and the clinical and research implications of these findings discussed.

NR710 Thursday, May 27, 12 noon-2:00 p.m.

Visual Processing in Alzheimer's Disease and Other Dementias

Kenneth Solomon, M.D., Psychiatry, St. Louis University, 1221 S. Grand Blvd, St. Louis, MO 63104; Carl J. Bassi, Ph.D., Dwayne Young, O.D.

Summary:

In this study, we attempted to determine what visual changes were observed in patients with Alzheimer's disease (AD), other dementias, and normal controls. We tested 41 subjects (10 with AD, 10 with other dementias, 11 elderly controls, 10 young controls). We compared performance of color vision, stereoacuity, depth perception, visual evoked potentials, and neuroanatomic changes as measured on MRI. There were no significant differences in color vision among any of the older groups. The AD group had significantly poorer monocular and binocular contrast sensitivities than all other groups. (p .01 & .005, respectively). The AD group had significantly poorer stereoacuity than the control groups (p .05). No differences were found among the groups with high or low spatial frequency stimuli among the groups. No differences were found in medication usage or neuroanatomic lesions to explain these findings. Implications for diagnostic evaluations and further research are discussed. The possible neurologic mechanisms of disturbed visual processing in AD patients is also discussed.

Supported by the Missouri Alzheimer's Association.

NR711 Thursday, May 27, 12 noon-2:00 p.m.

Anticholinergic Toxicity in Alzheimer's Disease

Larry E. Tune, M.D., Psychiatry, Johns Hopkins University, 600 N. Wolfe St. Meyer 3-166, Baltimore, MD 21287; Jason Brandt, Ph.D., Tawnya Cooper, B.A., Godfrey D. Pearlson, M.D., Cynthia Steele, R.N.

Summary:

Clinical data from 172 consecutive patients evaluated for dementia and subsequently diagnosed as probable Alzheimer's disease were reviewed. Medication records were abstracted for each patient. Because of the cholinergic abnormality identified in Alzheimer's disease, the number of medications with anticholinergic effects was tabulated. These data were compared to performance on the Minimental State Exam (MMSE) and Boston Naming Test (BNT). Twelve patients were on two or more anticholinergics (Group 1), 37 were on one anticholinergic (Group 2), and 123 were on no known anticholinergic (Group 3). Group 1 patients were older than group 3 ($t=3.41$, $p=.004$). Duration of illness was not different among the three groups (Group1 $=3.2+/-1.97$; Group2 $=4.11+/-2.29$; Group 3 $=3.76+/-2.82$ years). Group 1 patients also had significantly lower scores on the MMSE (score $=11+/-7.2$; $t=-2.28$, $p=.04$) and BNT (score $=8.25+/-5.9$; $t=-2.95$, $p=.02$) with Group 3 (MMSE $=16.14+/-6.7$; BNT $=14.81$), but not when compared with Group 2 (MMSE $=14.97+/-6.5$; $t=1.64$, $p=.12$; BNT $=13.7+/-6.5$; $t=.58$, $p=.58$).

NR712 Thursday, May 27, 12 noon-2:00 p.m.

Early Brain Changes in Healthy Alzheimer's Disease Offspring

Ann E. Jones, M.S., Psychiatry, The Ohio State University, 473 West 12th Avenue, Columbus, OH 43210; Anne M. Obringer, B.A., Robert A. Bornstein, Ph.D., Elizabeth A. Burns, Ph.D., Henry A. Nasrallah, M.D.

Summary:

First-degree relatives of patients with Alzheimer's disease (AD) have an increased risk of developing AD. We studied brain *struc-*

ture and *function* in two groups: healthy offspring of AD patients (n = 60, mean age = 52.3yrs.) and age-matched controls with no family history of dementia (n = 30, mean age = 52.9yrs). Subjects consented to a brain MRI series and an extensive neuropsychological battery. We hypothesized that the at-risk group may show an early pattern of structural atrophy in medial temporal structures and/or subtle memory deficits. Coronal MR slices were measured on cerebral gray and white matter, hippocampal formation (HF), and entorhinal cortex (EC) in the right and left hemispheres. Preliminary data analysis on a subset of females (15 at-risk vs. 15 controls) showed a 7% decrement of the median left entorhinal cortex in the at-risk group when compared to controls ($p = 0.715$, NS). Using regression analysis, a significant relationship was found to exist between left HF and left total gray/white matter (LTG/W) $p = 0.026$), left EC and LTG/W ($p = 0.045$), and right EC and RTC/W ($p = 0.10$) in controls, while in the at-risk only the relationship between the left EC and LTG/W ($p = 0.019$) and right EC and RTG/W (0.038) were found to be significant. These data may reflect a pattern of early gray matter loss in those at-risk for AD up to two decades before parental age at clinical diagnosis. Further analysis with the full sample and neuropsychological data will be presented and discussed.

NR713 Thursday, May 27, 12 noon-2:00 p.m.

A Fixed-Dose, Placebo-Controlled Trial of Fluoxetine in OCD

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Summary:

Objective: Obsessive compulsive disorder (OCD) is a common, often chronic and disabling neuropsychiatric disorder. Symptomatic exacerbation by the 5-HT agonist MCPP and the reported therapeutic efficacy of certain 5-HT-selective compounds lead us to evaluate the safety and efficacy of fluoxetine (F).

Method: Two double-blind, placebo-controlled trials of 355 DSM-III-R OCD patients were conducted. After a one-week placebo lead-in, patients were randomized to placebo or fixed dosages of F 20 mg, 40 mg, or 60 mg for 13 weeks.

Results: In both studies, all three F arms separated from placebo ($p < .001$) on baseline to endpoint Yale-Brown Obsessive Compulsive Scale (Y-BOCS) improvement. Response rates ($\geq$ 35% improvement baseline to last visit) among subjects completing at least seven weeks, demonstrated a superior outcome ($p < .05$) with F 20 mg 32% (25/78), 40 mg 32% (24/74), or 60 mg 35% (27/77) relative to placebo 8.5% (7/82). F, at each dosage, was also significantly more effective on the CGI, PGI, and the CPRS OCD subscale. Significant improvement was observed in subjects with a HAMD $\geq$ 17 (n = 102) and those < 17 (n = 247). Plasma F + NF exhibited a weak linear relation to change in Y-BOCS. The majority of trial participants (79%) completed the entire study. Early discontinuation, attributable to lack of efficacy, was more common with placebo (8%) than any F dose (0%) ($p < .001$). Discontinuations due to an adverse event did not significantly differ between placebo (2%) and F 20 mg (3%); however, both 40 mg (13%) and 60 mg (19%) exhibited significantly higher frequencies. Common adverse events seen significantly more often than placebo included nausea, somnolence, and anorexia.

Conclusion: This trial demonstrated that F was both safe and effective in the treatment of OCD. A 20 mg once daily dose showed greater efficacy than placebo and was similarly effective for either obsessions or compulsions. This investigation adds further support to the involvement (either direct or indirect) of 5-HT systems in the pathogenesis of OCD.

NR714 Thursday, May 27, 12 noon-2:00 p.m.

Nimodipine in Affective Illness

Peggy J. Pazzaglia, M.D., NIMH Bldg 10 RM 3N212, 9000 Rockville Pike, Bethesda, MD 20892; Robert M. Post, M.D., Terence A. Ketter, M.D., Mark S. George, M.D., Lauren B. Marangell, M.D.

Summary:

Objective: Perturbation of calcium homeostasis has been linked to mood dysregulation and to lithium's and carbamazepine's actions. The limited success of the calcium channel blocker, verapamil, had led to exploration of other agents. We investigated the efficacy of nimodipine in the acute and prophylactic treatment of affective disorders.

Methods: 12 medically healthy patients admitted to 3-West Clinical Research Unit of NIMH (11 bipolar, one recurrent brief depression) were studied in a double-blind fashion, with nine patients completing an (B) off- (A) on- (B) off trial. In ultradian cycling patients self and nursing ratings were performed on a two-hourly basis and daily functional incapacity ratings were completed.

Results: Three bipolar patients (two with ultradian cycling) and the patient with recurrent brief depression showed dramatic response (in three instances confirmed in a B-A-B-A). One patient partially responsive to carbamazepine and nimodipine alone, showed marked improvement on the combination.

Conclusions: Bipolar patients with ultra-rapid cycling patterns and those with recurrent brief depression may be among those who show an excellent response to the calcium channel blocker, nimodipine. These preliminary observations require more extensive study, but suggest a role for calcium channel blockade alone or in combination with other agents in the therapeutics of some types of affective dysregulation.

NR715 Thursday, May 27, 12 noon-2:00 p.m.

Bupropion Versus Desipramine for Bipolar Depression

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Summary:

Objective: To compare the outcome of treatment with bupropion or desipramine in bipolar patients who become depressed during the course of prophylactic treatment with lithium or an anticonvulsant.

Methods: Under double-blind conditions patients received bupropion or desipramine. Doses were gradually increased to bupropion 450 mg or despiramine 250 mg (or maximum tolerated) over two to three weeks. Patients returned for follow-up at weeks 1-8, then monthly for one year or until they met *DSM-III-R* criteria for hypomania, mania, or depression. Outcome measures included Hamilton Rating Scale for Depression and Young Mania Rating Scale. Patients failing to meet criteria for recovery after the initial eight-week trial were offered blind switch to a second acute trial with the other agent.

Results: Over 18 months, 15 patients were randomized in 19 acute trials (bupropion N = 9: desipramine N = 10). The treatments were not significantly different for acute efficacy ($p = 0.73$) or treatment emergent mood elevation (Chi Square = 2.039, $p < 0.15$). Mania or hypomania occurred in 40% receiving desipramine (n = 4) and 11% receiving bupropion (n = 1).

Conclusion: Although statistically nonsignificant due to small sample size, the findings are clinically important to suggest bupropion precipitates mania less frequently than desipramine.

NR716 Thursday, May 27, 12 noon-2:00 p.m.

Cardiovascular Morbidity in High-Risk Patients During ECT

Eve H. Rice, M.D., Dept. of Psychiatry, N.Y. Hosp/Westchester Div, 21 Bloomingdale Rd., New York, NY 10605; Lisa B. Sombrotto, M.D., John C. Markowitz, M.D., Andrew C. Leon, Ph.D.

Summary:

Ojbective: Cardiovascular events are the principle cause of medical morbidity in ECT. To assess the risks of ECT for patients with cardiovascular disease, we examined complications in patients treated with ECT during a one year period. *Method:* Using a case control design, the charts of 80 consecutive patients who received ECT at Payne Whitney Clinic from 8/15/90-8/15/91 were reviewed. Based on accepted clinical criteria, patients over 50 years old were divided into one group at standard cardiac risk (N = 27) and one at increased cardiac risk (N = 26). Outcome was scored on a scale designed to assess clinically relevant medical complications. *Results:* The risk group was older ($p < .001$) and received more medical consultations before ECT than controls ($p < .001$). Although risk patients developed more minor complications during ECT ($p = .021$), they did not differ significantly from controls in the rate of major complications. No patient in the study died and none sustained any permanent cardiac morbidity (e.g. MI).

Conclusion: In contrast to a similar study at this site 15 years ago, we found ECT to be an effective and relatively safe treatment in an unselected group of elderly patients with pre-existing cardiac risk factors. Findings underscore the importance of identification and careful management of cardiac patients before and during ECT.

NR717 Thursday, May 27, 12 noon-2:00 p.m.

CSF HVA: 5H1AA Ratios and Clozapine Efficacy

S.S Craig Risch, M.D., Psychiatry, Emory Univ Sch of Med., P.O. Drawer AF, Atlanta, GA 30322; Richard J. Lewine, Ph.D.

Summary:

Meltzer suggests that atypical antipsychotics, including clozapine, may exert their neurobiological mechanisms of action via interactive effects on both central dopaminergic and serotinergic neurotransmission. In support of this hypothesis, Pickar et al., report that a low CSF HVA:5H1AA ratio is associated with superior clozapine efficacy in treatment refractory schizophrenic patients.

Our group has also been prospectively studying a possible relationship between CSF neurotransmitter metabolites prior to the initiation of clozapine therapy and subsequent clozapine response.

Ten patients meeting RDC criteria for schizophrenia received lumbar punctures in a medication-free state prior to the initiation of clozapine treatment. Patients were rated with the BPRS by an experienced trained clinician blind to CSF neurotransmitter concentrations both during the baseline state and after 42 weeks of clozapine therapy. Neither CSF HVA, 5H1AA, or MHPG concentrations prior to the initiation of clozapine treatment correlated with subsequent clozapine antipsychotic efficacy. However, the CSF HVA: 5H1AA ratio prior to beginning treatment was highly correlated with subsequent clozapine antipsychotic response, including total score $r = .67$, $p = .03$ and both "positive" and "negative" symptoms subscales.

Our preliminary data replicate the report of Pickar et al., of low CSF HVA:5H1AA ratios being associated with clozapine efficacy.

NR718 Thursday, May 27, 12 noon-2:00 p.m.

Neuroleptic-Induced Akathisia in the Elderly Taking Antipsychotic Medication for the First Time

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Summary:

Akathisia, a Greek term meaning "inability to remain seated" is a common and distressing side effect of neuroleptic medication. Little is known, however, about the frequency, nature and clinical consequence of akathisia in older patients. We studied 38 consecutive patients over the age of 55 who were exposed to neuroleptics for the first time. Primary diagnosis according to DSM-III-R criteria included major depression (70%) mania (15%) adjustment disorder (6%) paranoid disorder (3%) atypical psychosis (3%) delirium (3%). 57% of these patients developed akathisia that was of clinical consequence and required intervention, despite the use of low-dose neuroleptic (x daily dose of Haldol = 2.5 mg). The part of the body primarily affected by the subjective discomfort included legs (66%), entire body (17%), hands and feet (17%), and face (8%).

Clinical consequences for those who developed akathisia included (1) worsening agitation (100%), (2) insomnia (60%) (3) dysphoria that patients were able to identify as qualitatively distinct from their presenting symptomatology (17%), (4) aggression (17%) and (5) worsening psychosis (9%).

We compared patients who developed akathisia with those who did not. There was no difference between the 2 groups in terms of age, sex, use of concurrent medications, presence of cognitive impairment or mean neuroleptic dose. There were significant differences between the 2 groups in that akathisic patients were more likely to have a diagnosis of mania, a history of alcohol use and more severe agitation pre-neuroleptic.

NR719 Thursday, May 27, 12 noon-2:00 p.m.

Fluoxetine Versus Imipramine: Suicidal Ideation Changes

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Summary:

Recent case reports suggest that suicidal ideation may be a potential side effect associated with fluoxetine treatment (Teicher, et al., 1990). However, experimental studies find improvement in suicidality with fluoxetine (Mann & Kapur, 1991). *Objective:* This study examined changes in suicidal ideation in a double-blind trial of fluoxetine (FLX) and imipramine (IMI) in outpatients with *DSM-III-R* diagnoses of major depressive disorder, agitated subtype (RDC). *Method:* A one-week placebo washout was used prior to random assignment at visit 2. Subjects were 91 adults who completed at least four weeks of the 8-week trial (76 subjects completed the 8-week protocol). Subjects completed the Adult Suicidal Ideation Questionnaire (ASIQ; Reynolds, 1991) on their initial visit (placebo washout) and visits 2 (post-washout baseline), six (after 4 weeks of treatment), and ten (completion of eight weeks of treatment). *Results:* Significant reductions from visit 2 ASIQ scores were found for both groups at visit 6 ($n = 91$, FLX, $M_{diff} = 5.62$, $p < .05$; IMI. $M_{diff} = 12.26$, $p < .001$) and 10 ($n = 76$, FLX M_{diff}, $p < .001$ M_{diff} 11.61, $p < .001$). Differences in ASIQ scores between groups on visits 6 and 10 (ANCOVA with visit 2 scores as covariate) were nonsignificant. Increases in ASIQ scores of 5 to 14 points between visits 2 and 10 were found in fluoxetine ($n = 3$) and imipramine ($n = 2$) groups. *Conclusions:* Fluoxetine and imipramine were equally effective in reducing suicidal ideation in subjects with MDD agitated subtype.

NR720 Thursday, May 27, 12 noon-2:00 p.m.

Treatment of Major Depression With Ipsapirone

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Summary:

Ipsapirone is a serotonin 1A(5-HT-1A) partial agonist with putative anxiolytic and antidepressant properties. This randomized, double-blind, placebo-controlled trial evaluated the efficacy and tolerability of ipsapirone for Major Depression. *Method:* 373 patients meeting *DSM-III-R* criteria for Major Depressive Disorder participated in a nine-week study (one week placebo; eight weeks double-blind treatment) receiving ipsapirone 5 mg (111), ipsapirone 7.5 mg (112), ipsapirone 10 mg (39), or placebo (111) three times daily (TID). Outcome measures included Hamilton Depression Rating Scale (HAM-D) (21-item), Clinical Global Impressions (CGI) severity of Illness, CGI Global Improvement, Montgomery Asberg Depression Rating Scale (MADRS), Symptom Checklist-76, and Hamilton Anxiety Scale. *Results:* Improvement in depressive symptoms occurred in the ipsapirone 7.5 mg group relative to placebo as indicated by change in HAM-D ($p = 0.010$), MADRS ($p = 0.009$) and CGI improvement ($p = 0.011$). Adverse events occurred in 76% of the placebo group and 92% of the ipsapirone 5mg, 7.5mg and 10mg groups ($p = 0.001$). Dose-related increased incidence and severity of dizziness, headache, nausea, paresthesia, and sweating was observed, resulting in discontinuation of the ipsapirone 10mg group. No significant safety problems as determined by vital signs, laboratory indices, ECG and physical examination were identified. *Conclusions:* Ipsapirone 7.5 mg TID is an effective antidepressant, but tolerability was a problem at higher doses.

NR721 Thursday, May 27, 12 noon-2:00 p.m.

Clinical Trial of Haloperidol Threshold Doses

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Summary:

Minimal effective doses of antipsychotics are recommended; however, the magnitude of these is unknown. To explore if haloperidol (HLP) threshold doses (minimal EPS; TD) are as effective as standard ones (SD) we are performing a double-blind trial.

Acute schizophrenic patients who had been NLP free for the previous four weeks were included. Individual threshold dose was determined starting with 1 mg/day of HLP and increasing the dose 1 mg every four days until parkinsonism was detected (DiMascio's scale). Patients were randomized to receive TD plus two capsules containing 20 mg of HLP (SD) or TD plus placebo. Double-blind phase was six weeks long, during which biperiden was prescribed as needed. Twenty patients received placebo and 20 SD; there were no differences between the groups in age (mean +/− sd; 30.4 +/− 9.4 years vs. 29.8 +/− 8.1), baseline BPRS scores (31.0 +/− 5.8 vs. 33.6 +/− 6.5), or TD (3.9 +/− 2.5 mg/day vs. 3.4 +/− 1.7). For comparisons, ANOVA for repeated measures and Student's "t" with Bonferroni's correction were performed.

At the end of the six weeks the groups were as follows: BPRS, 16.5 +/− 8.4 vs. 20.9 +/− 10.5; DiMascio's score, 2.3 +/− 2.0 vs. 4.6 +/− 2.1 (p 0.05); and biperiden doses, 3.3 +/− 2.6 mg/day vs. 5.2 +/− 3.9 ($p < 0.05$). Results indicate that HLP TD are as effective as SD, but EPS are less severe and the needed doses of antiparkinsonic drugs are lower.

NR722 Thursday, May 27, 12 noon-2:00 p.m.

Negative Symptoms, Risperidone and Dose

Nina R. Schooler, Ph.D., Psychiatry, University of Pittsburgh, 3811 O'Hara Street, Pittsburgh, PA 15213

Summary:

Improvement in negative symptoms with typical antipsychotic medications may occur in tandem with improvement in the florid symptoms of psychosis that define a diagnosis of schizophrenia, but negative symptoms often remain following remission of psychosis. Further, negative symptoms may be difficult to discriminate from the extrapyramidal side effects (EPS) caused by these drugs. A multicenter trial comparing four doses of risperidone, a novel antipsychotic, with haloperidol and a placebo in symptomatic schizophrenic patients provided the opportunity to evaluate the efficacy of these treatments for negative symptoms. Negative symptoms were assessed using the Positive and Negative Symptoms Scale (PANSS), an instrument that gives equal weight to negative and positive symptoms.

Risperidone at a dose of 6, 10, and 16 mg a day was significantly better than placebo for the Negative Symptom subscale; risperidone at 2 mg a day and haloperidol at 20 mg a day were not. EPS and need for antiparkinsonian medication increased linearly with risperidone dose, thus 6 mg may be the optimal dose of negative symptoms. It is the lowest dose that differs significantly from placebo in reduction of negative symptoms, but does not differ from placebo in EPS.

NR723 Thursday, May 27, 12 noon-2:00 p.m.

Response to Three Randomly Assigned Haloperidol Doses

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Summary:

There has been controversy in the literature as to the ideal minimum therapeutic neuroleptic dose. While there is evidence that standard neuroleptic doses are equal to higher doses, there is lack of controlled data clarifying the lowest dose required to achieve the therapeutic threshold. To address this question, we examined three different haloperidol (HPDL) dose ranges in a random-assignment, prospective, double-blind design. Our hypothesis is that while higher HPDL doses might induce a faster rate of response, low to moderate doses would produce a comparable overall response. After an average in-hospital washout of 12.7 (± 5.9) days, 71 primarily schizophrenic, acutely psychotic inpatients entered an ongoing targeted HPDL plasma level project. They were then randomly assigned to < 5 mg/day (Low [L] group), 8-18 mg/day (Medium [M] group) or > 25 mg/day (High [H] group). After three weeks of treatment, an ANCOVA, with the baseline BPRS scores as covariate, demonstrated no significant difference (i.e., $F = 0.43$; $df = 2,67$; $p < 0.65$) in change scores among the three groups at weeks 1, 2, and 3. An ANCOVA for side effects (Simpson-Angus) also demonstrated no significant difference (i.e., $F = 1.44$; $df = 2,68$; $p < 0.25$) among the three dose groups at any time point. We concluded that clinical efficacy did not differ whether patients received an average HPDL dose of 3.5, 13, or 47 mg/day. We agree with McEvoy that doses some consider very low may be adequate for most acutely psychotic patients.

NR724 Thursday, May 27, 12 noon-2:00 p.m.

Risperidone Versus Clozapine in Resistant Schizophrenia

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Summary:

Twenty hospitalized patients with long-standing chronic schizophrenia had been treated with numerous conventional and experimental antipsychotic drugs with little or no sustained benefit. They participated in open trials of both risperidone and clozapine, the order of which was determined by whether or not the most recent previous treatment was investigational. Dosages were titrated to optimal levels, and patients were maintained on each agent a minimum of six weeks unless there were severe side effects. Six patients on clozapine and four on risperidone improved to the extent that they could be discharged to the community, although two risperidone patients decompensated shortly afterwards. Six other patients on clozapine and nine on risperidone improved to the point where less restrictive institutional management was feasible. The remainder failed to benefit. Two patients were discontinued from clozapine because of leukopenia or syncope. Both subsequently responded to risperidone. No significant side effects were encountered with risperidone although anti-Parkinson agents were needed at higher dosage levels.

We conclude that both of these atypical neuroleptics offer advantages in treatment refractory schizophrenic patients. In this selected subgroup clozapine had somewhat greater efficacy, whereas risperidone had a better safety margin.

N725 Thursday, May 27, 12 noon-2:00 p.m.

A Double-Blind Comparison of Paroxetine Versus Fluoxetine in the Treatment of Depression

Geoffrey C. Dunbar, M.D., CNS, Smith Kline Beecham, 47-49 London Road, Reigate SY RH32YF, England

Summary:

Objective: We performed a randomized, double-blind, multicenter study to compare safety and efficacy of paroxetine and fluoxetine in the treatment of major depression.

Method: One hundred seventy-eight inpatients aged 18-65 years, fulfilling DSM-III-R criteria for a major depressive episode and with a MADRS score of 24 or more were included in the study. After a three to seven day placebo run-in/washout period, eligible patients were randomized to receive either paroxetine or fluoxetine for six weeks. A 20 mg fixed dose, given once daily in the morning, was used for both drugs. After baseline, regular assessments were made at the end of weeks 1, 2, 3, 4, and 6.

Efficacy was assessed using the Montgomery-Asberg Depression Rating Scale, Clinical Global Improvement, and Hamilton Depression Rating Scale for Depression and Hamilton Anxiety Rating Scale, Hospital Anxiety and Depression scale, and Visual Analogue Scale for anxiety. Safety and tolerability were assessed using the adverse experiences reports, clinical examination, vital signs, and laboratory data.

Results: A marked antidepressant response was seen with the two drugs. Tolerability was good for both medications. Slight trends in the efficacy and safety assessments were seen in favor of paroxetine.

Conclusion: These results further support the usefulness of paroxetine in the treatment of depressive illness.

NR726 Thursday, May 27, 12 noon-2:00 p.m.

Objectivation of Light Exposition in SAD

Dr. Stephan Ruhrmann, Psychiatry, University of Bonn, Sigmund Freud Str. 25, Bonn 5300, Germany; Siegfried Kasper, Ph.D., Dr. Gereon Hoflich, Dr. Barbara Hawellek, Dr. Peter Danos, Prof. Hans-Jurgen Moller

Summary:

Objective: The antidepressive efficacy of light therapy in seasonal affective disorder (SAD) has been shown in numerous studies. The amount of light as a function of light intensity and duration of light exposition seems to account for the most important part of the treatment effects. However, it has not been proven until now whether the amount of light applied during light therapy is significantly different from the normal environmental lighting during the day.

Method: In order to investigate this question we used a portable photometer especially designed for this purpose. Light intensity was recorded every two minutes over three weeks. The patients were told to wear the sensor near their head from waking up until bedtime. As an example we present the case of a 32-year-old woman suffering from SAD for 12 years. We treated her for one week with dim light (100 lux, 2 hours) and afterwards for two weeks with bright light (3000 lux, 2 hours). *Results:* The average amount of light per day (7 a.m. to 7 p.m.) was in the first week between 24.1 lux ± 49.2 (day with lowest exposition—DLE -, mean ± sd) and 143.3 lux ± 645.3 (day with highest exposition -DHE). During the period containing bright light treatment the equivalent values were 135.1 lux ± 294.0 for DLE and 400.5 lux ± 856.2 SD for DHE. Equivalent results were obtained from several other patients. *Conclusions:* Our method provides a quantitative recording of individual lighting conditions. In addition it turned out to be a useful instrument for more objective control of compliance in light therapy. This is important for treatment as well as for scientific investigations.

NR727 Thursday, May 27, 12 noon-2:00 p.m.

Clozapine Response in New-Onset Schizophrenia

Sally R. Szymanski, D.O., Psychiatry, Hillside Hospital, P.O. Box 38, Glen Oaks, NY 11004; Jeffrey A. Lieberman, M.D., John M. Kane, M.D., Steven Geisler, M.D., Simcha Pollack, Ph.D., A. Loebel, M.D.

Summary:

Clozapine is an atypical antipsychotic drug with superior efficacy over standard neuroleptics for chronic, treatment-refractory schizophrenia. In this study clozapine was given to new-onset schizophrenics to determine if an increased percentage of patients would respond to the medication if they were treated earlier in their course of illness.

Schizophrenic patients who were refractory to three neuroleptic trials were begun on clozapine. A two-week titration to 500 mg/d was performed, with dosage adjustment up to 900 mg/d done as clinically indicated. Pretreatment and serial behavioral assessments were performed at regular intervals. Clozapine response was defined as 20% drop in the BPRS ratings and a CGI (severity of illness) of moderate (3) or less after 12 weeks of treatment.

Ten RDC schizophrenics, 90% male, with an age range of 18 to 39, completed the study. The median duration of illness prior to clozapine initiation was 131 weeks, with a range of 96 to 620 weeks. The mean dose of clozapine was 687.5 ± 214.8 mg/d. Three of the 10 patients met response criteria after 12 weeks of clozapine treatment.

The response to clozapine (30% after 12 weeks) was similar to that of chronic schizophrenics (30% after six weeks of treatment). These findings suggest that the use of clozapine earlier in the course of illness does not markedly increase the percentage of patients responding to the drug.

NR728 Thursday, May 27, 12 noon-2:00 p.m.

Optimal Dose Conversion for Haloperidol Decanoate

Gregory B. Toney, Pharm.D., UTHSCSA, 7703 Floyd Curl Drive, San Antonio, TX 78284-6220; Larry Ereshefsky, Pharm.D., Linda Funderburg, M.D.

Summary:

Objective: We evaluated the efficacy and safety of differing oral:depot conversion ratios for haloperidol decanoate (HLD) in a prospective study.

Methodology: Eight inpatients with psychotic disorders receiving differing stable oral haloperidol (HL) doses were converted to a fixed 250 mg dose of HLD without oral overlap and followed for one month. Intensive serial HL plasma concentrations (Cps) were obtained during each treatment phase and analyzed by validated HPLC assay. Trained raters performed BPRS, CGI, and modified Simpson Angus Rating Scale (SARS) weekly. Oral:depot ratio categories: < 16 times daily oral dose (n=2), 16-25 times (n=5), >25 times (n=1).

Results: Percent change in oral vs. depot phase was evaluated for BPRS, CGI, and SARS. In the <16 times group, significant worsening was observed during depot phase in BPRS and CGI scores ($p < 0.001$). In the 16-25 times group, improvement on BPRS and CGI were observed. No increase in SARS was observed. Average HL Cps were significantly lower during depot phase in < 16 times group vs. 16-26 times group ($p<0.001$). The subject receiving 40 times oral:depot ratio showed only transient worsening in BPRS and SARS.

Conclusion: Preliminary data suggest a 16-25 times oral:depot ratio appears optimal for initiation of HLD therapy.

NR729 Thursday, May 27, 12 noon-2:00 p.m.

Efficacy Trial: Paroxetine and Fluoxetine in Depression

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Summary:

Paroxetine is a potent and selective serotonin (5HT) uptake inhibitor that has recently been approved as an antidepressant. Previous studies suggest that paroxetine may have earlier onset of action than fluoxetine and has a low incidence of side effects. A randomized, double-blind, flexible-dose, placebo-controlled study to compare the efficacy and side effect profiles of paroxetine 10mg-50mg) and fluoxetine (20mg-80mg) was conducted. Following a one-week placebo washout period, 47 patients suffering from major depression (DSM-III-R) and with a score of at least 18 on a 21-item Hamilton Scale for Depression (HAMD) entered the double-blind phase of the study. Twenty patients received fluoxetine, 19 paroxetine, and eight placebo. Efficacy was assessed using the HAMD and Clinical Global Impressions for Severity and Improvement.

Results show that both treatments were superior to placebo in relieving depression. Paroxetine and fluoxetine showed equivalent efficacy on all rating scales from week 6 through week 12. Trends noted in favor of paroxetine were earlier onset of action and more rapid reduction on the HAMD anxiety item at weeks 1,2, and 3. Higher incidence of nausea, loss of appetite, and tiredness were reported on fluoxetine. Mild headache and insomnia were reported on paroxetine. This study suggests that paroxetine is an effective and safe antidepressant.

NR730 Thursday, May 27, 12 noon-2:00 p.m.

Muscarinic Blockade May Impair ECT Efficacy

Gary Hasey, M.D., Clarke Institute, 250 College Street, Toronto Ontario M5T 1R8, Canada; Robert C. Cooke, M.D., Jerry Warsh, M.D., Isaac Smith, M.A., Barry Martin, M.D., David S. Goldbloom, M.D.

Summary:

Evidence that depressed patients show cholinergic supersensitivity and that atropine (AT) blocks decreases in rat cholinergic receptor density produced by electroconvulsive shock suggest that AT, commonly given with the ECT anesthetic, may partially block the antidepressant effects of ECT in man. Patients with major depression received AT or saline (SAL) double blind 90 seconds prior to ECT. Psychotropic drugs were limited to benzodiazepines for at least seven days prior to and during the course of ECT. Age, sex, benzodiazepine use, and number of ECT were the same in AT (N=9) and SAL (N=11) groups. Improvement in Montgomery Asberg (MA) depression scores one week and one month post ECT, when adjusted for differences in electrical charge, which was positively correlated with MA change at these times, was significantly less in AT compared with SAL treated patients (ANCOVA 1 week: group, $F=8.006$, $df=1,16$, $p<.01$; charge, $F=7.252$, $df=1,16$, $p<.02$; group X charge, $F=4.841$, $df=1,16$, $p<.04$; 1 month: group, $F=4.796$, $df=1,15$, $p<.04$; charge, $F=4.839$, $df=1,15$, $p<.044$; group X charge, $F=4.197$, $df=1,15$, $p<.06$). These data indicate that muscarinic cholinergic events may be involved in the mechanism of action of ECT.

NR731 Thursday, May 27, 12 noon-2:00 p.m.

Response of Negative Symptom Subtypes to Remoxipride

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Summary:

Negative symptoms of schizophrenia are generally regarded as resistant to treatment with antipsychotic drugs. However, several factor-analytic studies conducted at our center have suggested that traits of schizophrenia generally regarded as "negative" may constitute several independent symptom domains. We were interested in determining whether specific assessment of these domains permits recognition of changes not observable when using a single, more general measure of negative symptoms. We report treatment response in 216 patients meeting DSM-III-R criteria for schizophrenia. Patients received either remoxipride, haloperidol, or placebo during a six-week, multicenter, double-blind, parallel groups trial. Negative symptoms were assessed on the Negative Symptom Assessment (NSA), using six factor scores (communication, affect, social involvement, motivation, cognition, and retardation) and a total score of 26 items. We found that both remoxipride and haloperidol induced significant improvement in the factors for communication, social involvement, motivation, and cognition as compared with placebo. On the other hand, no change in the factors for affect or retardation or for the total score was observed. These data indicate that factors that constitute the currently defined syndrome of negative symptoms may be differentially responsive to antipsychotic treatment. Furthermore, both traditional and novel antipsychotics produced treatment responses in these symptom domains that were not detected by the total score alone.

NR732 Thursday, May 27, 12 noon-2:00 p.m.

Tardive Dyskinesia: Prevalence by Body Region

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Summary:

Objective: To calculate sex- and age-specific prevalence rates of tardive dyskinesia (TD) by body region in a large sample of neuroleptic-treated schizophrenic outpatients.

Method: Over 300 neuroleptic-treated schizophrenic outpatients were assessed for extrapyramidal symptoms by an experienced neurologist using the Extrapyramidal Symptom Rating Scale (ESRS). The ESRS has been shown to be a valid and reliable instrument for the assessment of neuroleptic-induced parkinsonism, akathisia, dystonia, and TD. Factor analysis of the ESRS has revealed three factors for TD: oro-facial, limb, and truncal dyskinesias. We calculated the sex- and age-specific prevalence rates of dyskinetic movements in each of these three body regions, and of a positive overall diagnosis of TD according to the Schooler and Kane research criteria.

Results: The lowest rates of TD were in young female patients, and the highest rates in elderly patients of either sex. The rates for the oro-facial region were higher than for the other regions.

Conclusions: The results confirm the importance of adjusting for sex and age in the estimation of prevalence rates of TD. Differences in the adjusted prevalence rates by body region are of particular interest as several authors have proposed that oro-facial and trunk and limb dyskinesias may be pathophysiologically distinct subsyndromes of the disorder.

NR733 Thursday, May 27, 12 noon-2:00 p.m.

Fluoxetine Versus Placebo in Patients With Short REM Latency

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Summary:

Objectives: The objective of this study was to test the hypothesis that outpatients with DSM-III-R major depression (MDD) and a short REM latency (SREML) would be less likely to respond to placebo than their non-short REM latency (N-SREML) counterparts.

Method: A two-week, single-blind, placebo lead-in period to eliminate placebo responders was followed by an eight-week, double-blind study period. Placebo nonresponders had sleep staging polysommography (PSG) on two consecutive nights, and were stratified and randomly assigned to fluoxetine or placebo. An adaptive feature was included to minimize patient exposure to ineffective therapy. A total of 164 outpatients were entered; 89 were randomized. Eighty-three (83) patients completed three or more weeks of treatment.

Results: As predicted, placebo response was greater in the N-SREML patients than in SREML patients. Treatment response to fluoxetine was comparable in both strata, but was statistically superior to placebo in the SREML stratum and in the strata combined. Beginning at week one and continuing through the study, a robust and statistically significant separation of fluoxetine compared with placebo was demonstrated in the SREML stratum as well as in the strata combined.

Conclusions: The results suggest that SREML is useful as a tool to predict who may or may not respond to placebo.

NR734 Thursday, May 27, 12 noon-2:00 p.m.

Chronic Lithium-Haloperidol Fails to Alter Number and Volume of Neocortical Neurons in Rats

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Summary:

Objective: Lithium may cause severe and occasionally irreversible neurotoxicity, especially when serum levels exceed the therapeutic range. In addition, the combined treatment of lithium and neuroleptics has been suspected to enhance the likelihood of neurotoxicity. Only a few reports have dealt with morphological changes that may occur in the central nervous system during long-term administration of lithium, and the impact of combined administration of lithium and neuroleptics has not been studied in experimental animals. The present study was carried out in order to determine whether long-term administration of lithium, with or without haloperidol, affects morphological parameters in the neocortex in rats. *Methods:* Twenty-five rats were divided into three groups and were given either no treatment, lithium, or lithium combined with haloperidol. Serum lithium levels ranged from 0.5 to 0.8 mmol/l. Haloperidol was given intraperitonelly at a daily dose of 1 mg/kg. After 30 weeks of treatment the rats were killed and brains were prepared. Density, total number, and mean volume of neocortical neurons were estimated using modern and unbiased stereological methods. *Results:* No differences were found between groups. The power to detect a difference of more than 20% was 80%, with a 5% confidence limit.

NR735 Thursday, May 27, 12 noon-2:00 p.m.

Diazepam Increases the Serum Level of Free Valproate

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Summary:

Objective: There is some evidence that valproate has a wide range of psychotropic effects. The prescription of valproate by psychiatrists could increase alone, or in combination with benzodiazepines. Whereas the effects of valproate on diazepam concentrations have been described, the effect of diazepam on valproate concentrations remains quite unknown. The present study was undertaken in order to document the pharmacokinetic effect of diazepam on valproate concentrations.

Methodology: Nine patients with generalized anxiety disorder were treated at one time with diazepam and at another time with valproate-diazepam comedication. Blood samples were taken at the steady state. Total and free valproate levels were determined by an homogeneous immuno-assay method.

Results: We found that when diazepam was used in combination with valproate, despite a lower-than-normal dose of the latter, there was a 1.4-fold higher serum concentration of free valproate.

Conclusion: Like lithium, valproate has a low therapeutic index. Thus, in order to avoid valproate toxicity in patients treated with benzodiazepines, we recommend a dose of valproate lower than the standard 1500 mg monotherapy daily dosage. In case of clinical toxicity, the most pertinent parameter to measure is free VPA concentration.

NR736 Thursday, May 27, 12 noon-2:00 p.m.

Post ECT Relapse of Depression: Maintenance ECT Versus Drug Treatment

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Summary:

Maintenance ECT is an effective treatment to prevent the relapse of depression. We compared the rate of relapse in patients receiving maintenance ECT (M-ECT) vs. drug treatment after an index course of ECT, over a two-year period.

Twenty-three patients (18 female, age range 23-82 and five male, age range 33-86) received an index course of ECT (10 right unilateral and 13 bilateral ECT). Patients were clinically assessed prior to, during, and after ECT with a HAM-D and Folstein MMSE. Patients received an average of nine treatments for the course. A

score of 10 or less on the HAM-D was considered an adequate treatment response.

Eleven patients continued in M-ECT using the same index ECT parameters, and 12 were treated with drugs post ECT. Within six months, two out of 11 (18%) patients receiving M-ECT had a relapse of depression (DSM-III-R criteria) and three out of 11 (27%) relapsed after discontinuing M-ECT. Eight out of 12 (67%) receiving drug treatment relapsed (two had partial relapse).

We conclude that M-ECT may be more effective in preventing relapse of depression compared with drug treatment post ECT. Future studies are needed to assess the efficacy of M-ECT vs. drug treatment in the prevention of relapse of depression.

NR737 Thursday, May 27, 12 noon-2:00 p.m.

Effects of Pimozide on Cerebellar Granule Cells

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Summary:

Objective: This work aims at assessing the subacute effects of the diphenylbutylpiperidine (DPBP) neuroleptic pimozide on parameters thought to be relevant to neuronal function, namely [^{125}I]-ω-conotoxin GVIA([^{125}I]-ω-CgTx) binding and [^{3}H] glutamate release, in cultured cerebellar granule cells.

Methods: Cell culture, [^{125}I]-ω-CgTx binding and [^{3}H] glutamate release were performed according to published procedures. Pimozide and other drugs were added at eight days *in vitro* (DIV) for binding studies or 15 DIV for release studies and incubation was allowed to proceed for 48 h.

Results: Pimozide induced a dose-dependent decrease in [^{125}I]-ω-CgTx site density, up to 50% of control, with half maximal effect occurring near 3. 10^{-8} M. This effect could be ascribed to the voltage dependent calcium channel (VDCC) blocking activity of pimozide, as it was readily antagonized by the dihydropyridine agonist Bay K 8644 (IC_{50} *ca* 10^{-8} M). Subacute incubation with the DPBP fluspirilene gave similar results. Preliminary results do not support a parallel decrease in [^{3}H] glutamate release.

Conclusions: We show here that pimozide, an L type VDCC ligand, down regulates [^{125}I]-ω-CgTx binding sites, i.e. N type VDCC. This is partly reminiscent of a previous report (Ramkumar & El-Fakahany, 1988) on "homologous" down-regulation of [^{3}H]Nimodipine binding sites in rat brain by chronic pimozide. In our model, N-type VDCC appears to support trophic functions rather than neurotransmitter release. However, inhibition of neurosecretion by ω-CgTx has been demonstrated at numerous synapses. Thus, unexpected functional or trophic effects of pimozide might result from the elementary mechanism described here.

NR738 Thursday, May 27, 12 noon-2:00 p.m.

Calcium in the Treatment of Neuroleptic-Induced Extrapyramidal Symptoms

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Summary:

A case study of two patients by Fernando and Manchanda (1988) suggested that neuroleptic-induced EPS decreases with the administration of calcium. The present investigation is an extended pilot study of six other inpatients with the following DSM-III-R diagnoses: four schizophrenics, one schizoaffective, and one paranoid disorder. Their neuroleptic-induced EPS was assessed by means of the Simpson and Angus scale (1970) at nine time points: on cogentin, free of cogentin (baseline), on calcium carbonate 500 mg b.i.d. (day 1, 2, 3, 5, 7, 14), and three days after calcium was discontinued. Using each patient's scores on each of the 10 subscales of this instrument (each subscale measures a different symptom), we obtained up to 60 scores for each of the nine assessment time points. This was the basis for statistical analyses. Upon discontinuing the cogentin, there was a statistically significant increase in EPS levels. Then, the EPS levels significantly decreased during the first two days on calcium and subsequently remained significantly below the baseline and were comparable to EPS levels initially observed under cogentin.

NR739 Thursday, May 27, 12 noon-2:00 p.m.

Imipramine Levels in Fast and Slow Metabolizers

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Summary:

Patients with alterations in metabolism of tricyclic antidepressants (TCA) benefit from early serum concentration (Cp) determinations. We use a Bayesian pharmacokinetic method to predict maintenance doses based on (Cp) obtained early in therapy. This study was performed to evaluate the effect of metabolic rate on the performance of this method.

In phase I, 12 depressed patients treated with imipramine were begun on 50-75 mg/d. A Cp obtained on day 3 was used to determine drug clearance (Cl) and volume of distribution (Vd). Patients were then titrated to maintenance doses. The values for Cl and Vd were used to predict the resulting Cp and a second Cp was drawn for comparison. Phase II was performed to determine the effect of fast and slow metabolism on method performance. Three sets of stimulated patients were created with normal clearance (0.9 L/Kg/Hr), slow clearance (0.66 L/kg/Hr), and fast clearance (1.14 L/Kg/Hr). Dosing was 100 mg/d. Cp calculated after the second dose were calculated by standard equations. These were then analyzed using the Bayesian method to estimate Cl and Vd. Again, steady-state Cp were calculated and compared to what the Bayesian method predicted. Prediction error (PE = $Cp_{measured} - Cp_{predicted}$) and absolute PE (APE) were used as measures of method bias and precision.

In phase I, PE was found to be -15.5 ± 27.3 ng/mL and APE was 18.5 ± 25.1 ng/mL. There was no correlation between drug Cl and either PE or APE. The % APE was significantly correlated with body weight ($r = 0.77$, $p < 0.05$). In phase II PE differed ($p < 0.05$) between slow Cl (-6.13 ± 1.0 ng/mL) and normal Cl (0.84 ± 0.98 ng/mL) and fast Cl (3.2 ± 0.93 ng/mL). Likewise, APE differed with drug C1 with the largest error in patients with slow Cl.

The Bayesian method performs well clinically to predict maintenance doses. However, the results of this study indicate that obesity may contribute to PE. In addition, slow metabolizers tend to have Cp underpredicted by this method. Clinicians should be alert to these two conditions when monitoring TCA serum concentrations.

NR740 Thursday, May 27, 12 noon-2:00 p.m.

A Comparison of Withdrawal Effects Following Discontinuation of Paroxetine and Imipramine

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Summary:

A double-blind, parallel group, comparative study of withdrawal effects following abrupt discontinuation of paroxetine (20/40 mg) or imipramine (150 mg) was carried out in patients with major depression (DSM-III-R criteria). Patients received six to 12 weeks active treatment with paroxetine low dose (20 mg), paroxetine high dose (40 mg), or imipramine (150 mg). A single-blind placebo run-in and

run-out phase lasted one and two weeks, respectively. The primary objective of the study was to compare the incidence of withdrawal effects between the groups during the placebo run-out phase. A total of 186 patients were considered. At least one adverse event was experienced during the run-out period for 27/64 (42%) of the paroxetine 20 mg group, for 23/60 (38%) of the 40 mg group, and 21/62 (34%) for the imipramine group. There was no significant difference between either low-dose or high-dose paroxetine or imipramine. Adverse events emergent during placebo run-out were grouped into categories, including sleep disturbance and CNS activation. For these categories the incidence by treatment group was: sleep disturbance–low-dose paroxetine, 23%; high-dose paroxetine, 11%; imipramine 21%. CNS activation–low dose paroxetine, 11%; high-dose paroxetine, 13%; imipramine 19%. There were no significant differences between treatments for any category of adverse event.

NR741 Thursday, May 27, 12 noon-2:00 p.m.

Methylphenidate for Poststroke Depression

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Summary:

Objective: Depression following stroke occurs in 25%-60% of patients, impedes the rehabilitation process, and causes suffering to patient and family. Few studies have systematically examined pharmacological treatments of poststroke depression. The use of the stimulant methylphenidate was studied prospectively in a depressed elderly stroke population. *Method:* Ten subjects (mean age 73.2 years) meeting DSM-III-R criteria for major depression were followed on the rehabilitation unit at Rush-Presbyterian St. Luke's Medical Center during a three-week efficacy and side effect trial involving methylphenidate. Subjects were selected from rehabilitation patients referred for psychiatric consultation. *Results:* A total of 80% (eight of 10) of the subjects showed either a full or partial response as measured by Hamilton depression scores. The incidence of problematic side effects was very low, and no subjects had to be discontinued from the study. *Conclusions:* Results of this methylphenidate trial in elderly patients suggest that it is a safe, rapid, and effective treatment for poststroke depression. Future studies are called for in which methylphenidate is compared with placebo controls and antidepressant medication.

NR742 Thursday, May 27, 12 noon-2:00 p.m.

Placebo Controlled Trial of Lithium Augmentation of Fluoxetine and Lofepramine

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Summary:

Objective: To assess, in a sample size providing adequate statistical power, the efficacy and safety of lithium (LI) augmentation (IA) against continued antidepressant alone in depressed patients failing to respond to fluoxetine (FL) or lofepramine (IO) under controlled conditions.

Method: LI or placebo (PLA) was added for a further six weeks to the drug regime of 62 psychiatric hospital outpatients with DSM-III-R major depression who had failed to respond to a six-week trial of FL or LO. Primary outcome measure: HDRS (final score < 10 regarded as therapeutic response).

Results: Therapeutic response was seen more frequently in patients taking LI (15/29) than in those remaining on antidepressant alone (8/24; $p<.05$). Final HDRS was significantly lower ($p<.01$) in the LI group after excluding those whose LI levels were below the therapeutic range (0.4 mmol/1 on at least two occasions). No differences in either efficacy of LA or the emergence of adverse effects were apparent between FL and LO.

Conclusions: LA is a useful and safe strategy in the treatment of antidepressant-resistant depression; its efficacy appears to depend on achieving adequate serum LI levels.

NR743 Thursday, May 27, 12 noon-2:00 p.m.

A Serotonin 3 Antagonist in Benzodiazepine Discontinuation

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Summary:

Serotonin is implicated in the etiology of anxiety disorders and in the anxiolytic actions of benzodiazepines (BZ). Preclinical studies with 5-HT_3 receptor antagonists, including ondansetron, show they have anxiolytic properties in the elevated plus maze and social interaction tests and that ondansetron suppresses withdrawal anxiety after abrupt discontinuation of chronic BZ treatment. We evaluated the efficacy of ondansetron as an adjunct in the discontinuation of BZ in long-term users. A total of 108 patients who had used alprazolam or lorazepam for $>$ 3 months entered, and 97 completed, a randomized double-blind discontinuation treatment program (baseline two weeks; medication period ondansetron [OND; N = 47] 2.0 mg b.i.d. or placebo [P; N = 50) b.i.d. for six weeks; follow-up over one year). During the medication period BZ was flexibly tapered. Patient characteristics at intake ($\bar{x} \pm$ SD): age = 47 ± 13 yrs; months of BZ use = 68 ± 60; BZ dose = 13 ± 11 diazepam equivalent mg. Unfortunately, patients randomized to OND were taking higher doses of BZ than were the P group and had greater symptom severity. One week postmedication, 46% of patients had discontinued BZ. The percent reduction of BZ daily dose at all time points was similar for OND and P. Short- and long-term success at discontinuation was influenced by age, sex, presence of an anxiety disorder symptom severity (e.g., HSCL-90, GAF) at baseline, and past alcoholism. OND facilitated tapering in females more than in males as evidenced by a [sex x treatment] interaction ($p = 0.023$). No significant effects of OND on severity of withdrawal symptoms were noted. Patient characteristics are more important than OND in tapered BZ discontinuation. If future studies show 5-HT_3 antagonists to be an effective treatment for specific anxiety disorders, their use may need to be started prior to BZ tapering to permit better transition to alternate medication.

NR744 Thursday, May 27, 12 noon-2:00 p.m.

Treatment of Clozapine-Induced Enuresis With Desmopressin

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Summary:

Urogenital side effects associated with clozapine occur with an estimated frequency of 6%. The treatment of clozapine-induced enuresis with desmopressin (DDAVP) has not been reported in the literature. DDAVP is a synthetic analogue of the antidiuretic hormone vasopressin and it is primarily indicated in the treatment of cranial diabetes insipidus. A relatively new indication for DDAVP is nocturnal enuresis in patients with normal renal function. Presented is the case of a 47-year-old schizophrenic male patient who devel-

oped nocturnal enuresis during a trial of clozapine. The persistence of this embarrassing side effect prompted the patient to request the withdrawal of the drug despite significant improvement in his psychopathology. Following a suggestion by Dr. Jeffrey Lieberman (Glen Oaks, N.Y.), the enuresis quickly resolved with the use of intranasal desmopressin at a dose of 10 micrograms daily at bedtime. In the following months two attempts were made to withdraw DDAVP, which resulted both times in a prompt return of the enuresis. Eighteen months later, as the dose of clozapine was progressively decreased, the enuresis resolved despite the withdrawal of DDAVP. This suggests that drug tolerance to urogenital side effects of clozapine can occur with time or that the use of DDAVP, by reducing urine formation and delaying the micturition reflex, can have a reinforcing effect on bladder control.

NR745 Thursday, May 27, 12 noon-2:00 p.m.

Blood Pressure and Heart Rate Response of Panic Disorder Patients Receiving Imipramine in a Dose-Response Treatment Para

Christopher M. de Groot, M.D., Dept of Psychiatry, Ohio State Univ., 473 West 12th Ave., Columbus, OH 43210; Matig R. Mavissakalian, M.D.

Summary:

This paper reports the effects of imipramine on heart rate and blood pressure in panic disorder patients who participated in a dosage-response treatment protocol. Patients were randomly assigned to placebo or one of three weight-adjusted imipramine dosages: low (0.5 mg/kg/d), medium (1.5 mg/kg/d), or high (3.0 mg/kg/d). It was demonstrated that imipramine had no significant effect on sitting or standing diastolic or systolic blood pressure. There were no significant changes in blood pressure with postural change. Imipramine did increase sitting and standing heart rate without revealing a clear dosage correlation. In contrast to the pretreated state, heart rate response to postural change was significantly increased in the postreatment state, also in a dosage independent manner. Finally, it was of interest to note that within the high-dose imipramine group, baseline sitting-to-standing heart rate increase was significantly greater in those who dropped out secondary to drug side effects compared with those who remained. These findings suggests that in panic disorder patients, imipramine has a drug effect, but no dosage effect, on resting and reflex heart rate. In addition, future studies should consider postural heart rate reactivity as a potential measure of imipramine intolerance.

NR746 Thursday, May 27, 12 noon-2:00 p.m.

The Combined Use of Fluoxetine and Bupropion

William F. Boyer, M.D., Feighner Research, 1759 Alta Vista Drive, Vista, CA 92084; John P. Feighner, M.D.

Summary:

There are considerable data concerning the use of fluoxetine and bupropion individually, but only a single case report concerning their combined use. This is an important subject for two reasons: first, fluoxetine and norfluoxetine have very long half-lives. Therefore, clinicians may be unwittingly prescribing combined treatment when patients are switched within a few weeks from fluoxetine to bupropion. Second, the combined use of fluoxetine and bupropion may have value in treatment-resistant depression because they act through different mechanisms.

Twenty-three patients were treated with a combination of fluoxetine and bupropion. Improvement was rated on the Clinical Global Impressions Scale. Each patient had had a significant but partial initial response to either fluoxetine (20-60 mg/day) or bupropion (150-450 mg/day), which did not improve with continued treatment. Fluoxetine or bupropion was continued at the most effective dose while the second treatment was added. Eight patients (35%) had a moderate or marked response to the combination and six (26%) a minimal response. Nine patients (39%) had combination therapy discontinued because of side effects. The side effects were the same type as those seen with either drug alone, such as anxiety, agitation, headaches, and insomnia. No seizures or other serious side effects were seen.

NR747 Thursday, May 27, 12 noon-2:00 p.m.

Effects of Clozapine on Aggressive Inpatients

John J. Ratey, M.D., Research, Medfield State Hospital, 45 Hospital Road, Medfield, MA 02052; Catherine L. Leveroni, B.A., David Kilmer, R.N., Caitlin M. Gutheil, B.A., Bruce Swartz, Ph.D.

Summary:

After noting a dramatic reduction in aggression and agitation in five psychotic inpatients residing on a specialized unit for the severely aggressive, the authors conducted a retrospective chart review to assess the possible role of clozapine treatment in this change. The authors culled 12 months of nursing data, including progress notes, orders for seclusion, mechanical, and chemical restraint to tabulate the frequency of aggression before and after the initiation of clozapine treatment, and looked at ratings on the Brief Psychiatric Rating Scale and periodic review reports to assess overall clinical change.

The results of the review indicate that although psychotic symptoms were not greatly affected by the drug, the overall frequency of assaults, self abuse, and the use of seclusion, mechanical restraint, and chemical restraint was reduced in the subjects.

The authors conclude that because the reduction of aggression and agitation coincided with clozapine treatment, it is likely that clozapine was responsible for the change. The authors propose possible reasons for this effect, and suggest that controlled studies are needed to substantiate these preliminary results.

NR748 Thursday, May 27, 12 noon-2:00 p.m.

Prolactin and Prostaglandin-E Responses to ECT

Mihaly Arato, M.D., Psychiatry, OPNI-OTE, Pf1, Budapest 27 1281, Hungary; Bo Aperia, M.D., Arpad Bela, M.D., Aleksander A. Mathe

Summary:

Neuroendocrine investigations of electroconvulsive therapy (ECT) can provide information about the mechanisms of action of ECT and, by implication, the underlying pathophysiology of mental disorders. A robust, transient prolactin (PRL) release is a reliable marker of generalized seizures (regardless of how induced: electrically, chemically, or epileptic). Metabolic products of arachidonic acid (AA), e.g., PGE are also consistently released following grand mal. In order to further investigate ECT's mechanisms of action and possible interaction of convulsions with the disorder being treated, we measured plasma PRL, cortisol (CS), and PGE (determined as its main metabolite, PGEM) responses to seizures (a) induced by ECT in 14 schizophrenics and 11 depressed patients, (b) in eight idiopathic epileptics. *Results:* Pattern of PRL, PGEM, and CS changes (time course and peak time) was similar in all three groups. However, significant differences in the magnitude of responses were found. Thus, schizophrenics had higher PRL and PGEM and lower CS plasma levels following ECT than the depressed patients. This dissociation between the PRL, PGEM, and CS responses may indicate the altered metabolism of unsaturated fatty acids (e.g. AA) in schizophrenia.

NR749 Thursday, May 27, 12 noon-2:00 p.m.

Selective Serotonin Reuptake Inhibitors in Treatment of Skin Picking in Prader-Willi Syndrome

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Summary:

Objective: Prader-Willi Syndrome (PWS) is characterized by hypotonia at birth, hypogonadism, early childhood obesity, and mental deficiency. Behavioral problems that become evident during adolescence and young adulthood include temper and aggressive outbursts, stealing and hoarding food, and self-excoriating skin picking. The skin picking behavior in these patients appears to have a compulsive-like quality. Symptoms of obsessive-compulsive disorder are known to respond to selective serotonin reuptake inhibitors (SSRIs). Thus, the goal of the study was to determine whether selective serotonin reuptake inhibitors (SSRIs) are useful in the treatment of skin picking behavior in individuals with PWS.

Method: A consecutive series of three patients with PWS who had problems with skin picking in the outpatient psychiatry service were selected to be treated in an open-label fashion with SSRIs. Therapeutic response to the SSRI drug regimen was documented by a series of photographs demonstrating the changes noted on the actual skin.

Results: The photographs demonstrate notable improvement of the skin of these patients over time.

Conclusions: The SSRIs may be considered an option in the management of skin picking behavior in patients with PWS.

NR750 Thursday, May 27, 12 noon-2:00 p.m.

A Comparison of the Hamilton Depression Scale and Cornell Dysthymia Rating Scale in Dysthymics

Camille Hemlock, M.D., Psychiatry, Beth Israel Medical Ctr., First Avenue at 16th Street, New York, NY 10003; Noel Taylor, M.D., Hayley Cohen, M.D., Arnold Winston, M.D.

Summary:

The objective assessment of chronic depressive symptoms in dysthymic patients remains problematic. The existing scales for rating depressive symptoms are primarily designed for the assessment of episodic severe depressive disorders, not chronic, milder, insidious symptomatology.

We administered the Cornell Dysthymia Rating Scale and the 21-item Hamilton Depression Rating Scale to 20 pure DSM-III-R dysthymics uncomplicated by other comorbid Axis I disorders. The Cornell Dysthymia Rating Scale proved to be the more sensitive measure to assess the subtler symptomatology, particularly the cognitive and behavioral aspects of dysthymia.

The Cornell Dysthymia Rating Scale may prove to be a superior rating scale for assessing chronic, low-grade, insidious depressive symptomatology in outpatients.

NR751 Thursday, May 27, 12 noon-2:00 p.m.

Lithium, Sleep Deprivation and Depression Recovery

Martin P. Szuba, M.D., Psychiatry, UCLA, 760 Westwood Plaza, Los Angeles, CA 90024; Lewis R. Baxter, M.D., Lori L. Altshuler, M.D., Jeffrey M. Schwartz, M.D., Barry H. Guze, M.D., Eva M. Allen, B.A.

Summary:

Partial sleep deprivation (patient awake from 0200 to 2200 (PSD)) produces a same-day antidepressant effect in most depressed patients, though effects rarely persist beyond 48 hours. Sham sleep deprivation (patient awake from 2000 to 0200 (SPSD)) is not antidepressant. Previous work suggests lithium sustains the acute PSD effects for five days.

Sixteen healthy, medication-free subjects, 18-47 years old, with RDC major depression were assigned to lithium plus PSD (PL, n=6), lithium plus SPSD (SL, n=4), or desipramine plus PSD, or SPSD (PD, n=3, SD, n-3) for a 30-day antidepressant trial. Bias was minimized as blinded subjects and raters were able to guess sleep assignment only 43% and medication 61% of the time.

PSD proved superior to SPSD (PSD△Hamilton depression rating (HD) = 47.3 ± 27.8 percent vs. SD△HD = 12.8 ± 28.5 percent; one-tailed t = 2.8, p = .01, d.f. = 15). Treatment response, defined as 50% reduction in HD, occurred sooner in PL (9.3 ± 5.4 days) and SD (7.7 ± 2.1) than SL subjects (24 ± 5.6).

All PL subjects responded before day 30, and four maintained response through day 30. The other two maintained improvements 40%. No SL subjects had a response at day 30. Two-thirds of desipramine subjects responded through 30 days.

NR752 Thursday, May 27, 12 noon-2:00 p.m.

A Comparison of Obsessive Compulsive Instruments

Margaret A. Richter, M.D., Anxiety Disorder, Clarke Institute, 250 College Street, Toronto ON M5R 1T8, Canada; Brian J. Cox, Ph.D., David M. Direnfeld, B.A.

Summary:

Objectives: The psychometric characteristics of and relationships among the Leyton Obsessional Inventory, Maudsley Obsessional-Compulsive Inventory, and Yale-Brown Obsessive-Compulsive Scale were examined. *Method:* The measures investigated were administered to 30 consecutive outpatients with obsessive-compulsive disorder (OCD) diagnosed by structured interview. *Results:* The majority of the subscales of the various measures were found to have good internal consistency across gender, and the mean scores were similar to those reported in other studies. Male patients were found to report more severe symptomatology in general compared with females. Most of the measures were significantly intercorrelated, but this pattern was less evident in males. There were also moderate correlations between several of the measures and clinician ratings of depression. *Conclusion:* The results suggest that 1) possible gender differences should be further explored in future research, 2) caution should be used when extrapolating the results of treatment studies that used different OCD measures, and 3) a measure of depression should be included in OCD studies to control for the possible effects of depressed mood.

NR753 Thursday, May 27, 12 noon-2:00 p.m.

Parkinson's Disease in Families of Shy Elderly

Iris R. Bell, M.D., Psychiatry, AHSC Univ of Arizona, 1501 N. Campbell Avenue, Tucson, AZ 85724; Diane Amend, M.S., Gary E. Schwartz, Ph.D., Julie M. Peterson, B.S., William A. Stini, Ph.D., Alfred W. Kaszniak, Ph.D.

Summary:

Objective: This study tested the hypothesis that extremely shy older adults would have higher rates of Parkinson's disease (PD) diagnoses in family members than would their nonshy peers. Previous research suggests that premorbid histories of any anxiety, depressive, or somatoform disorder (e.g., irritable bowel) more than double the relative risk of PD. Shyness or behavioral inhibition is an inborn temperamental trait of heightened reactivity to environmental novelty associated with increased prevalence of childhood anxiety disorders and increased shyness in first- and second-degree relatives. *Method:* 190 older adult volunteers (age 73 SD 8, 72%F/28%M), living in an active retirement community and participating in a longitudinal study of bone density, were given the Cheek-Buss Shyness Scale (CB) and Symptom Checklist-90R

(SCL-90R) and surveyed for personal and family health histories. *Results:* The top 25% (SHY, CB score $\geq$ 22, n=38) and bottom 26% (NONSHY, CB score $\leq$ 13, n=41) of the sample on the Cheek-Buss Scale were selected for comparison. Eighteen percent of the SHY group versus 3% of NONSHY group reported PD diagnoses in their families ($p < 0.05$). The SHY also reported a trend toward increased personal prevalence of low thyroid (28% vs. 14%, $p<0.10$) and breast cysts (32% vs. 16%, $p<0.08$). On the SCL-90R, SHY were significantly more depressed ($p<0.05$) and anxious ($p<0.001$). *Conclusions:* The findings support the original hypothesis and suggest that further study of inborn shyness as a risk factor for PD may be worthwhile. The neurobiology of shyness, including the possibility of partial limbic kindling and/or striatal sensitization, may offer clues to predisposing factors in the neurodegenerative processes of PD.

NR754 Thursday, May 27, 12 noon-2:00 p.m.

Quantification of RNA in Astrocytes With Reverse Transcription and Polymerase Chain Reaction

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Summary:

Astrocytic gliosis is seen in a variety of neuropsychiatric illnesses, including Alzheimer's disease (AD) and other neurodegenerative conditions, multiple sclerosis (MS), HIV encephalitis, and traumatic brain injury. However, the regulation of astrocyte hypertrophy and proliferation is not well understood. Glial fibrillary acidic protein (GFAP) is the key biochemical market for astrocytic gliosis. We used reverse transcription and polymerase chain reaction (RT-PCR) to quantify the induction of GFAP messenger RNA (mRNA) in astrocyte cultures by dibutyryl cyclic AMP (dBcAMP), which mimics activation of the cyclic AMP second messenger system. A two-fold increase in GFAP mRNA was detected with chronic dBcAMP treatment relative to control cultures. Many neuropsychiatric conditions such as MS, HIV encephalitis, and possibly AD show activation of the cerebral immune system. Interleukin (IL-6) belongs to a family of cytokines with a number of neuromodulatory properties. We demonstrated that astrocytic expression of mRNA for IL-6 is increased 1,000-fold by treatment with tumor necrosis factor-α and interleukin-1, two other cytokines which are abnormally expressed in MS, HIV encephalitis, and possibly AD. The implications of these findings, and the advantages and disadvantages of RT-PCR in quantifying mRNA in astrocytes will be discussed.

NR755 Thursday, May 27, 12 noon-2:00 p.m.

Dose Response for Atropine Rat Model of Delirium

Paula T. Trzepacz, M.D., Psychiatry, WPIC, 3811 O'Hara Street, Pittsburgh, PA 15213; Marc Leavitt, Ph.D., Kimberly Ciongoli, B.S.

Summary:

We previously published a rat model for delirium using atropine as the deliriogenic agent. Male Wistar rats underwent maze training and surgery for placement of a surface skull EEG electrode, as well as motor activity monitoring. EEGs showed significantly slowed frequency and increased amplitude after atropine as compared to saline controls, inability to solve the previously-learned maze, and behavioral changes. These atropine-induced changes appeared consistent with EEG and attentional/memory changes seen in human delirium and were reversible over a 24-hour period. Inability to solve the maze was not due to motoric inactivity.

We now present dose-response data for five doses (range from 55mg/kg to 3.44 mg/kg) of atropine and saline for EEG and maze variables. Lower doses of atropine approached frequency values for saline, in contrast to values for amplitude and maze performances. Even at low doses, atropinized rats could not solve the maze during the period of repeated evaluations (320 minutes). We will present these data that further characterize our rat model for anticholinergic delirium. Future studies include assessment of neurotransmitter levels in atropinized and control rats as a clue to neurochemical changes in delirium.

NR756 Thursday, May 27, 12 noon-2:00 p.m.

A Retrospective Review of Psychiatric Consultations in Stiff-Man Syndrome

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Summary:

Stiff-man syndrome is a rare central nervous system disease characterized by continuous muscle rigidity and painful spasms. Until recently, there has been a debate within the literature as to whether stiff-man syndrome is a psychiatric disorder (e.g. conversion disorder) or a true organic neurological illness. Recently, stiff-man syndrome has been shown to be associated with antibodies to glutamic acid decarboxylase (GAD). This is interesting because this enzyme is responsible for producing gamma aminobutaric acid (GABA) from glutamic acid and because GABA agonists have been found to be effective in controlling the muscle rigidity and spasms associated with stiff-man syndrome.

Thirty-nine patients have been diagnosed with stiff-man syndrome at the Mayo Clinic. Twenty-four meet modern criteria for this condition. Of the 24, 12 have been seen by Mayo Clinic psychiatrists. We reviewed the psychiatric history of each of these patients. Stiff-man patients rarely show psychiatric symptoms before the beginning of their neurological illness. However, they are at high risk for being misdiagnosed with conversion disorder, anxiety, or depression. Many of these patients have abused or been dependent upon alcohol or have developed phobic-like symptoms.

Stiff-man syndrome serves as a warning that psychiatrists must be careful in considering all organic diagnoses in patients with presumed conversion disorder. Furthermore, stiff-man syndrome may serve as a model for the development of alcoholism and some phobias.

NR757 Thursday, May 27, 12 noon-2:00 p.m.

ECT Treatment for Depression in Huntington's Disease

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Summary:

We reviewed the hospital records of six patients with Huntington's disease (HD) who received ECT for depression at the Johns Hopkins Hospital, and reported the cases in detail. Five of the patients met criteria for major depression, and one for bipolar disorder, depressed. All patients had previously failed pharmacologic intervention. Five of six patients showed improvement after at least one course of ECT treatment (two patients received ECT on more than one occasion). Two of the six patients had prominent delusions; these patients showed the greatest improvement after ECT. Apathy, and to some extent irritability, responded less well. Two patients remained on antidepressant medication during treatment, one of whom was the only patient to develop delirium. The movement disorder worsened after ECT in one patient. We will discuss these findings in light of the reported clinical outcome and underlying mechanisms of response to ECT in Parkinson's disease and in elderly patients with lesions of the basal ganglia. Overall, ECT

appears to be a safe and effective treatment in the management of depression in Huntington's disease. As with idiopathic depression, the presence of delusions seems to predict a favorable response.

NR758 Thursday, May 27, 12 noon-2:00 p.m.

Neuropsychiatric Screening Following Head Injury

Robert B. Fields, Ph.D., Psychiatry, A.N.I, 7777 St. Eubenville Pike, Oakdale, PA 15071; Craig Taylor, M.D., Gerene Starratt, B.A.

Summary:

Neurobehavioral disturbance is relatively common following traumatic brain injury. Individuals who display obvious cognitive, mood, and behavioral changes frequently come to the attention of psychiatrists and neuropsychologists. However, the need for neuropsychiatric intervention among brain injured patients who do not seek treatment is less well known. This study sought to validate a new instrument which was designed to screen for neurobehavioral difficulties following brain injury. The Post Traumatic Neurobehavioral Screening Inventory (PTNSI) is a 29-item self-report questionnaire which assesses symptoms in six domains that are commonly reported following traumatic brain injury: cognition, mood, behavior, psychosis, post-concussive, and post-traumatic stress disorder (PTSD). In this study, the PTNSI was administered to 44 patients one month following a mild to moderate head injury (mean Gaslgow Coma Score = 13.5). These patients were contacted by phone three months later. Group 1 (n = 13) was comprised of patients who entered neuropsychiatric treatment at that time. Group 2 (n = 31) was comprised of patients who expressed no need for treatment. Matched controls (Group 3, n = 40) were asked to complete the PTNSI regarding changes in themselves over the previous month. No age or sex differences were noted between groups. Five out of six PTNSI subscale scores significantly differentiated patients who eventually sought treatment (Group 1) from the other two groups. Although scores on the PTSD subscale reflected the same trend, this difference was not significant. No significant subscale differences were noted between Groups 2 and 3; however, as expected, there was a trend toward increased post-concussive symptoms in Group 2. The present study supports the use of the PTNSI as a screening instrument for neurobehavioral dysfunction following traumatic brain injury.

NR759 Thursday, May 27, 12 noon-2:00 p.m.

Cognitive Screening and QEEG

Christopher Starratt, Ph.D., Psychiatry, Allegheny General Hosp, 320 E. North Avenue, Pittsburgh, PA 15212; H. Jordon Garber, M.D., Eric Fishman, Ph.D., Trevor R.P. Price, M.D.

Summary:

To explore relationships between methods of regional brain assessment, results of the Neurobehavioral Cognitive Screening Exam (NCSE) for 26 neuropsychiatric inpatients (ages 19-39; mean 29.2 +/− 6.8; 13 male/13 female; 22 right-handed with *DSM-III-R* organic (n=20: 12 mood, 3 personality, 5 other, 0 delirium) and nonorganic (n=6: all mood, 3 bipolar) disorders (no moderate/severe MR) were compared to quantitative and routine EEG, MRI, or CT, and Tc-99m-HmPAO SPECT. The NCSE samples seven aspects of cognitive functioning; for this study, results were categorized for regional dysfunction using scores on visuoconstructional (right hemisphere), language (left hemisphere), memory (temporal cortex), or diffuse (when all tasks scored as impaired). A Biologic Brain Atlas was used to obtain QEEG studies: artifact-free epochs were compiled and transformed to power spectra; each patient was compared to age-appropriate normal groups (n ≥ 25) by topographic z-score maps of frequency bands. Cognitive dysfunction by NCSE was present in 19/26; QEEC abnormality (< 3 sd increased delta power in 25/26; routine EEG abnormality in 7/26; MRI(n=23) or CT(n=3) structural brain abnormality in 15/26; SPECT abnormality (area of decreased uptake) in 19/24. QEEG was most sensitive to impairment of temporal lobe by NCSE (QEEG 8/11; EEG 2/11; MRI/CT 0/11; SPECT 5/11) and to right-lateralized impairment by NCSE (QEEG 5/8; EEG 0/8; MRI/CT 1/8; SPECT 2/8).

NR760 Thursday, May 27, 12 noon-2:00 p.m.

Traumatic Brain Injury and Schizophrenia

Jonathan M. Silver, M.D. Psychiatry, The Allen Pavilion, 5141 Broadway, New York, NY 10034; Carol L.M. Caton, Ph.D., Patrick E. Shrout, Ph.D., Boanerges Dominguez, M.S.

Summary:

To examine the relationship of traumatic brain injury (TBI) to schizophrenia and homelessness, we conducted a case-control study of 100 literally homeless and 100 never homeless indigent schizophrenic men in New York City. Of the total group, 71 patients had a prior TBI (Never Homeless 29%, Homeless 42%; $p<0.10$). Most common causes of TBI were being hit (42.6%), falls (31.2%), and motor vehicle accidents (26.2%). In 87% of cases, there was a loss of consciousness, and 44.3% had been hospitalized. Typically, TBI preceded the onset of psychosis and occurred earlier in the never homeless (12.3 years vs 17.8 years; $p<0.05$). Premorbid adjustment was significantly better in patients in the TBI group. However, there was no difference between those with and without TBI regarding age of onset of psychosis. Patients with TBI had higher ratings for the positive syndrome of schizophrenia ($p<0.05$) (specifically excitement, hostility, and grandiosity), but there was no difference in rating of negative symptoms.

These data suggest that TBI occurs at a higher rate than would be expected for this socioeconomic group. Findings from our study of 200 men meeting *DSM-III-R* criteria for schizophrenia suggest that TBI may either result in schizophrenia or influence the symptom picture in patients who are predisposed to the development of this disorder. The higher prevalence of TBI among homeless schizophrenic men underscores the vulnerability of this patient group and their need for treatment and support services.

NR761 Thursday, May 27, 12 noon-2:00 p.m.

Olfaction in Schizophrenia: Association With Smooth Pursuit Eye Movements

Dolores Malaspina, M.D., Psychiatry, Columbia University, 722 West 168th Street Box 2, New York, NY 10032; Anita Wray, M.D., Xaivier Amador, Ph.D., Jill Harkavy Friedman, Ph.D., Charles Kaufmann, M.D., Jack M. Gorman, M.D.

Summary:

We examined odor identification in schizophrenia patients with the University of Pennsylvania Smell Identification Test (UPSIT) in comparison with age- and sex-matched normal controls; examined the reliability of the UPSIT; and evaluated associations to several clinical measures and eye movement dysfunction. A test-retest design was utilized to determine reliability of the UPSIT. Smooth pursuit eye movements were recorded by EOG in a subset of the patients. Eighty percent of the patients and none of the normals had olfactory dysfunction: patient UPSIT score was 29.7 (SD=5.9) and for controls 38.0 (SD=1.9); $p<.0001$. The measure of olfaction was highly reliable in the schizophrenia patients, despite a slight but consistent improvement on the second trial. There was no apparent effect of gender, age, smoking, positive and negative symptoms, medication status, or duration of illness on olfactory discrimination ability. We did, however, identify a number of odors that were significantly misidentified and found a high correlation of eye movement abnormalities with the UPSIT scores (Correlation

= .86, p<.001). The high correlation of SPEM and UPSIT may provide clues to the neurobiological abnormality relevant to schizophrenia.

NR762 Thursday, May 27, 12 noon-2:00 p.m.

The Interface Between Tourette's Syndrome and Bipolar Affective Disorder

Gary R. Gaffney, M.D., Psychiatry, University of Kansas, 39th at Rainbow, Kansas City, KS 66160; Diane Buckingham, M.D., Jessica A. Hellings, M.D.

Summary:

Objectives: Literature reports indicate that bipolar disorder and Tourettes syndrome can be co-morbid conditions. These patients exhibit the motor and vocal tics that define Tourettes syndrome, concomitant with the episodes of mania and depression. Therefore, we studied patients with Tourettes syndrome, and bipolar affective disorder to ascertain similarities and differences. *Method:* We studied patients from three groups: A.) Tourettes syndrome and bipolar affective disorder TS/BAD;B.) Tourettes syndrome alone (TS); and C.) bipolar alone. (BAD) Diagnoses were made on the basis of *DSM-III-R.* We then recorded data on several variables: age of onset, severity, family history, medication, and others. We analyzed the continuous variables by ANOVA; $p<0.05$ was the criterion of significance. *Results:* The TS/BAD group resembled both TS and BAD groups, but likewise differed too. The TS/BAD group required medication for the management of both syndromes, thus placing them at risk of more serious side effects. However, the disabilities suffered from the concomitant manifestations of both syndromes were less severe than bipolar disorder alone (GAF $p<0.05$). Although family histories for the TS and TS/BAD group demonstrated both tic and mood disorders, no relatives in the TS group had BAD. *Conclusions:* We found several similarities and differences between groups of patients with BAD alone, TS alone, and AD and TS. Although the TS/BAD combination is not common, it is not rare among tic disorder patients. Further delineation of symptoms, treatment, and prognosis is warranted.

NR763 Thursday, May 27, 12 noon-2:00 p.m.

Basic Cognitive Deficits in Back Ward Patients

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Summary:

Objective: Recent research has focused on cognitive deficits in chronic psychiatric populations as well as the high incidence of cognitive impairment in general among the institutionalized. The present investigation further delineated this domain among chronic state hospital inpatients by assessing specific cognitive skill areas pertinent to daily functioning.

Method: Four basic cognitive skill areas were assessed among a group of 38 chronic psychiatric patients: left-right orientation, spatial orientation, time-telling (analog vs. digital), and visual recognition of staff members. Practical measures of these domains were designed with direct relevance to the daily demands of the patients' unit.

Results: Of those patients assessed, 50% demonstrated impairment of left-right orientation while 30% had difficulty with consistently telling time. More patients had problems with analog time presentation than with digital. Facial recognition of staff members was impaired among 50% of the assessed patients; 46% displayed difficulty with spatial orientation.

Conclusion: Preliminary data analysis indicates that even the most basic of cognitive skills can not be assumed with chronic psychiatric inpatients. Cognitive rehabilitation strategies should focus on these deficits to enhance in-hospital functioning and eventual community placement.

NR764 Thursday, May 27, 12 noon-2:00 p.m.

Twelve-Month Follow-Up on Cognitive Performance of Common Whiplash Patients

Giuseppe Di Stefano, M.A., Klink Bethesda, Tschugg CH 3233, Switzerland; Bogdan P. Radanov, M.D., Ayesha Schnidrig, M.A.

Summary:

Objective: Injury-related cognitive impairment may account for reduced work capacity of patients and is relevant from a socio-economic and medico-legal point of view. The present study investigated cognitive performance of whiplash patients during the first year after experiencing injury.

Method: Employing a clear definition of the syndrome, 97 randomly selected whiplash patients were investigated early after trauma (mean = 7.3 ± 3.9 days) and again at 3, 6, and 12 month intervals. All patients were injured in automobile accidents and were fully covered by insurance plans. Investigations included self-rating scales, (i.e., well-being, cognitive ability, and personality traits), and testing of various aspects of attentional functioning.

Results: No signs of major disfunctions were found in test scores of attentional functioning, but patients who remained still-symptomatic during follow-up showed a delayed recovery of cognitive functions. However, age and medication significantly contributed to the worse attentional performance of still-symptomatic patients. Accordingly, patients who suffered from symptoms 12 months after injury indicated greater impairment with regard to self-rating scales when compared with recovered patients.

Conclusion: Common whiplash does not lead to a major attentional impairment, but some of these patients may suffer cognitive disbalance. Age and medication can at least in part account for the cognitive disbalance. These findings deserve consideration when assessing patients' work capacity.

NR765 Thursday, May 27, 12 noon-2:00 p.m.

Catatonia: Symptomatology, Diagnosis and Response to Treatment

Allan George Bush, M.D., Psychiatry, University Hospital, T-10 HSC, Stony Brook, NY 11794; Andrew J. Francis, M.D., Max Fink, M.D., George Petrides, M.D., Frank G. Dowling, M.D.

Summary:

Objectives: Catatonia is a motor syndrome which occurs in psychiatric, neurologic, and systemic disorders. In this study we define a systematic catatonia examination, develop a rating scale, and test the efficacy of a prospective treatment protocol.

Methods: All patients admitted to our university inpatient adult psychiatry unit were screened in a six-month period. Subjects include patients with two or more primary symptoms of catatonia. Patients are monitored with a novel 23-item rating scale, and treatment includes parenteral and/or oral lorazepam, with referral for ECT if lorazepam fails.

Results: Of 22 cases of catatonia, five resolved spontaneously and 17 received lorazepam (nine with initial IV challenge). Catatonic signs in 12 patients resolved with lorazepam. These patients failed lorazepam and quickly responded to ECT, with total resolution of catatonic symptoms after one or two treatments. The rating scale showed a high degree of inter-rater reliability on 22 cases ($r = 0.86$). Clinical characteristics including symptom pattern and co-morbid *DSM-III-R* diagnoses will be presented.

Conclusions: Catatonia is more prevalent than heretofore recognized; it can be reliably detected, quantified, and subjected to systematic study. Lorazepam and ECT both have a place in its management.

NR766 Thursday, May 27, 12 noon-2:00 p.m.

Relationship of Seizure Focus to Psychiatric Morbidity

Rahul Manchanda, Psychiatry, University Hospital, 339 Windermere Road, London Ontario N6A 5A5, Canada; Betsy Schaefer, B.A., Richard McLachlan, M.D., Warren T. Blume, M.D.

Summary:

Eighty-seven consecutive adult patients with a medically refractory seizure disorder were assessed. A definite focus of seizure onset was determined by electroencephalographic recording with telemetry and subdural electrode placement wherever necessary. Fifty patients with a temporal lobe focus of seizures, 25 left and 25 right temporal, were matched with 25 patients with a non-temporal lobe focus and 12 with an indeterminate focus. The mean age of onset of epilepsy was 12 years with a mean duration of 18 years. The mean number of seizures per week was six. Using *DSM-III-R* criteria, 50 (57.5%) patients were identified as psychiatric cases. When *DSM-III-R* case status was used for comparison, no significant differences were evident between temporal, non-temporal, and non-focal epilepsy patients. Patients with right hemisphere foci were more likely to have evidence of psychiatric morbidity than those with left-sided foci. The prevalence of interictal psychiatric morbidity is in keeping with other studies, but this study fails to support a specific relationship of psychiatric morbidity to the site or laterality of seizure focus.

NR767 Thursday, May 27, 12 noon-2:00 p.m.

Olfactory Deficit in Alzheimer's Relatives

Michael J. Serby, M.D., Psychiatry, Mount Sinai Hospital, One Gustave L Levy Pl Bx 1230, New York, NY 10029; Chander Mohan, M.D., Donald Johannessen, M.D., Lisette Williams, B.A., Mohsen Aryan, M.A., Richard Mohs, Ph.D., Kenneth L. Davis, M.D.

Summary:

An olfactory identification deficit is well established in early Alzheimer's disease (AD). Because of a possible familial nature of this disorder, it may be fruitful to seek early markers in first-degree relatives (FDRs) of AD patients. We therefore looked at olfactory identification function in a group (n = 29) of FDRs of patients with a clear-cut diagnosis of probable AD (NINCDS Criteria). (Group 1)

Methods: Group 1 subjects were matched by age and Mini Mental State (MMS) score to normal control subjects whose relationship to any AD patient was unknown (Group 2). All subjects were tested with the University of Pennsylvania Smell Identification Test (UPSIT), a 40-point microencapsulated scratch and sniff task. Group means were compared by t-test.

Results: The mean age of Group 1 subjects was 64.3 years and of Group 2 was 64.2 years. The mean MMS of Group 1 was 28.4 and of Group 2 was 29.1. The UPSIT score of Group One, 31.97 $\pm$ 5.8, was significantly lower than the mean score for Group Two, 35.41 $\pm$ 3.9 ($p < .01$).

Discussion: FDRs of AD patients may manifest an olfactory identification deficit as the earliest manifestation of disease. This must be confirmed by longitudinal studies of FDRs.

NR768 Thursday, May 27, 12 noon-2:00 p.m.

Characterizing Organic Mood Syndrome, Manic Type

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Summary:

No empirical information concerning patients with organic mood syndrome, manic type, (OMS-M) have been published since this diagnostic category was first introduced. Consequently, available descriptions of this syndrome do not include such basic information as the prevalence, average age, gender distribution, specific symptomatology, level of functioning, or associated general medical diagnoses. We present a first empirically based description of this syndrome, based on a total of 12 OMS-M cases who presented at our institution, out of a total of 14,889 patients evaluated between January 1, 1983, and December 31, 1987. They represented 0.08% of all cases and 2.3% of cases with organic brain syndromes. The mean age was 44.8 years, and included six men and six women. The five most common symptoms listed on the Initial Evaluation Form (1981) included increased motor activity, lack of insight, hyposomnia, poor concentration, and elated mood. They demonstrated moderate to marked impairment in functioning in all areas measured. The severity of six symptoms was significantly different between OMS-M patients and a "functional" manic comparison group. The distribution of comorbid diagnoses and EEG and CT abnormalities was determined. The most common group of medical diagnoses associated with this syndrome consisted of neurological disorders of which grand mal and complex partial seizures were by far the most common. The prevalence of seizures is of particular interest because of reports of efficacy for anticonvulsants in "functional" manic patients.

NR769 Thursday, May 27, 12 noon-2:00 p.m.

Clinical Features of Lewy Body Dementia

Ian G. McKeith, M.D., Psychiatry, Brighton Clinic, Newcastle General Hospital, Newcastle on Tyne NE4 6RE, England; Robert H. Perry, M.D., Elaine K. Perry, Ph.D., A.F. Fairbarn, M.D.

Summary:

Several recent autopsy surveys of elderly patients who died with dementia suggest that 15% to 20% have neuropathological features distinguishable from Alzheimer's disease and characterized by subcortical and cortical Lewy body formation. Analysis of case notes of 21 such patients with autopsy confirmed Lewy body dementia showed a clinical syndrome of fluctuating cognitive impairment, visual and auditory hallucinations, delusions, depressed mood, repeated falls, transient disturbances of consciousness, and mild spontaneous extrapyramidal features. Clinical operational criteria for the lifetime diagnosis of Lewy body dementia derived from this study were examined for inter-rater reliability and predictive validity in a second independent sample (n = 20) of autopsy confirmed Lewy body cases.

Adverse reactions were seen in 81% of neuroleptic-treated Lewy body patients. In 54% of such cases the reactions were severe, with acute extrapyramidial symptoms and features reminiscent of neuroleptic malignant syndrome. Patients with severe neuroleptic sensitivity had a shorter mean survival time from presentation, 9.6 months (2.6-16.5) compared with the rest of the group, 25.8 months (11.5 – 40.0), and survival analysis showed them to have a significantly increased hazard ratio of 2.70, ($chi^2 = 2.68$).

NR770 Thursday, May 27, 12 noon-2:00 p.m.

Psychosis After Temporal Lobectomy for Epilepsy

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Summary:

This study addresses the risk for development of psychosis following anterior temporal lobectomy for intractable seizures. The

clinic charts of 361 patients who had undergone unilateral anterior temporal lobectomy were reviewed. Once indication for the presence of psychotic symptoms in a particular patient was found, a more detailed search was started followed by an interview of patient and/or family member.

Excluding those with clearly postictal psychotic episodes, 28 patients had psychotic symptoms of sufficient severity to warrant the diagnosis of psychosis. All had developed their psychosis after the onset of seizures, and all but one had experienced significant affective symptoms before surgery. Ten of the 28 had become psychotic only after the operation (six right, four left lobectomies). The average onset of de novo psychosis was 20.9 months after the operation; average onset of postoperative intensification of preexisting psychosis, noted in five patients, was nine months.

The postoperative ratio of patients with none or rare seizures to those with more frequent seizures was 9 to 1 among those with de novo psychosis, but was nearly even among the 18 others. There appears to be a small risk for the development of psychosis in successfully treated patients.

NR771 Thursday, May 27, 12 noon-2:00 p.m.

M-RNA Changes in a Rat Model of Tardive Dyskinesia

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Summary:

Rats treated chronically with neuroleptics develop vacuous chewing movements (VCMs) reminiscent of tardive dyskinesia (TD) in man. This syndrome was used as a model of TD to study changes in the two major outflow pathways of the striatum, the direct (striatonigral) and indirect (striatopallidal) loops. These pathways appear to be mediated differentially by D1 and D2 dopamine receptors, respectively. Previous studies have suggested that abnormal function of these pathways underlies many movement disorders. Rats were treated for 36 weeks with haloperidol and then withdrawn for 28 weeks. In one group that developed VCMs, elevations were seen in striatal mRNA for enkephalin, dynorphin, and D2 dopamine receptors compared to vehicle-treated animals. D2 receptor mRNA levels were also elevated in rats that did not develop the VCM syndrome. These data suggest that the VCM syndrome is mediated by increased activity in both the direct and indirect pathways. This pattern is consistent with reduced D2 and increased D1 function.

NR772 Thursday, May 27, 12 noon-2:00 p.m.

The Effects of Mecamylamine in Alzheimer's Disease

Paul A. Newhouse, M.D., Psychiatry, University of Vermont, 1 South Prospect Street, Burlington, VT 05401; Alexandra Potter, B.A., Robert Lenox, M.D.

Summary:

Studies of the neurochemical pathology of Alzheimer's disease (AD) and Parkinson's disease (PD) reveal a severe and specific loss of central nicotinic cholinergic receptors. We have been investigating the functional significance of this finding for cognitive functioning by studying the effects of the centrally-active nicotinic antagonist mecamylamine (MECA). We have previously shown that MECA produces dose-related changes in cognitive functioning in young normal subjects, with impairment of learning, recognition, and slowed reaction time. We have now extended this work to patients with AD and normal elderly. Fifteen elderly (64.9 ± 7.0) healthy volunteers and six AD patients (77.2 ± 6.1) have been studied to date. Subjects were administered oral MECA at doses of 5, 10, and 20 mg and placebo in a double-blind, constrained random order on different study days. At baseline, 60, and 120 minutes post drug administration, subjects performed a cognitive battery consisting of measures of acquisition and retrieval, recall and recognition memory, attention and reaction time. Elderly normals showed a significant ($p<.05$) dose-related impairment in new learning on the repeated acquisition task (RAT), and increased recall failure on the selective-reminding task, which was not seen in young normals. Preliminary results from the AD patient group show significant ($p<.05$) dose-related impairment of acquisition of new information and increased forgetting, both on the RAT and a recognition memory task. Further, there is evidence in AD that MECA produces impairment of retrieval of old information, an effect not seen in young or old normals. The pattern of deficits produced by MECA in the AD group was more global and more severe. Our preliminary conclusion is that AD patients show increased sensitivity to the cognitive impairing effects of nicotinic blockade, suggesting that loss of central nicotinic receptors is relevant for the cognitive pathology seen in this disorder. Supported by NIMH R29-46625 and GCRC M01-00109.

NR773 Thursday, May 27, 12 noon-2:00 p.m.

CSF Markers of Psychotic Symptoms in Dementia

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Summary:

Objective: To define CSF neurotransmitter marker correlates of psychotic symptoms in Alzheimer's disease (AD) and other dementias.

Background: Psychotic symptoms (delusions and hallucinations) complicate the clinical management of demented patients. CSF markers of altered CNS cholinergic and monoaminergic neurotransmission in AD and other dementias may define symptom-specific neurochemical correlates which direct rational pharmacotherapy.

Design/Methods: Lumbar CSF levels of acetylcholinesterase (AChE), homovanillic acid (HVA) and 5-hydroxy-indole acetic acid (5-HIAA) were measured in standardized, sequential aliquots from 16 psychotropic drug-free demented subjects (12 Alzheimer's disease, two vascular dementia, one striato-nigral degeneration, one ALS-dementia) and 12 age-matched controls. Five demented subjects had delusions and four had hallucinations.

Results: Among demented subjects, there were no significant differences between those with and those without psychosis, or between those with and those without delusions. However, demented subjects with hallucinations had significantly lower levels of AChE and a trend toward higher levels of 5-HIAA than those without psychotic symptoms.

Conclusions: The preliminary data demonstrate a relative loss of cholinergic and suggest a relative sparing of serotonin markers in the CSF of demented patients with hallucinations. Confirmation of these findings would implicate the clinical relevance of an imbalance between these two neurotransmitter systems.

NR774 Thursday, May 27, 12 noon-2:00 p.m.

First Quarter Births in Alzheimer's Disease

Brian A. Lawlor, M.D., Old Age Psychiatry, St. James's Hospital, P.O. Box 580, Dublin 8, Ireland; Theresa M. Ryan, B.S., James Schmeidler, Ph.D., Richard C. Mohs, Ph.D.

Summary:

Introduction: A seasonal pattern of births, with a significant first-quarter excess has been reported in Alzheimer's disease (AD) (Philpot et al, 1989). Two subsequent studies, using either birth rates from a census sample (Dysken et al, 1991) or age-matched control subjects (Vitiello et al, 1991) have failed to reproduce this

earlier finding. The purpose of this study was to determine whether there was a significant increase in first-quarter births in a large cohort of AD subjects compared to both age-matched controls and a census-derived sample.

Methods: Dates of birth were obtained on 215 patients meeting NINCDS criteria for probable AD (McKhann et al, 1984) and 91 age-matched healthy controls with no family history of dementia. The number of births per month from a census-derived population was also available for comparison. The group data were analyzed by Chi-square.

Results: Chi-square contingency analysis revealed no significant difference in the number of first-quarter births between AD and controls, or between AD and census-derived data.

Conclusions: This study represents a further non-replication of the Philpot et al report, and confirms that an excess of first-quarter births does not occur in AD.

NR775 Thursday, May 27, 12 noon-2:00 p.m.

Factors Influencing Admission From a Day Hospital

Brian A. Lawlor, M.D., Old Age Psychiatry, St. James's Hospital, James's Street, Dublin 8, Ireland; Heidi Lee, M.D., Geraldine Hickey, R.N., Paula Walsh, R.N.

Summary:

Patients needing admission to an acute care setting from a psychiatric day hospital for the elderly were compared to those who were successfully managed as outpatients by diagnosis, age, gender, cognitive impairment [MMSE], medical co-morbidity [CIRS], functional level [ADL/IADL], depression [HDRS], and caregiver support, all rated at the time of initial evaluation. Attenders who could not be managed as outpatients were more likely to have a diagnosis of dementia (13/30 vs 13/58; $p = 0.04$), and had significantly lower MMSE (20.7 ± 6.5 vs 24.9 ± 5.2; $p = 0.002$) and IADL scores (6.9 ± 4.9 vs 9.6 ± 4.2; $p = 0.01$). Non-demented patients who required admission had significantly greater cognitive impairment (MMSE:23.7 ± 4.5 vs 26.9 ± 3.0; $p = 0.003$), and more functional impairment (IADL:9.0 ± 4.3 vs 10.8 ± 3.1; $p = 0.09$), than those not needing hospitalization. Comparison of depressed patients requiring admission to those managed in the day hospital revealed significantly lower MMSE scores in the hospitalized group (22.5 ± 4.2 vs 26.9 ± 2.5; $p = 0.001$), in spite of similar HDRS scores (16.9 ± 8.8 vs 16.3 ± 6.6; p = ns). This study suggests that the degree of cognitive and functional impairment in non-demented day hospital attenders at initial presentation may predict increased risk of subsequent hospitalization.

NR776 Thursday, May 27, 12 noon-2:00 p.m.

Support Groups for Early Stage Alzheimer's Patients

Andrew Satlin, M.D., Psychiatry, McLean Hospital, 115 Mill Street, Belmont, MA 02178; Paul A. Raia, Ph.D., Sandra Cole, M.Ed., David Harper, B.S.

Summary:

Objective: Support groups for caregivers of patients with Alzheimer's disease (AD) are common, but groups for patients traditionally have not existed. The present research was designed to test the efficacy of concurrent support groups for patients with early-stage AD and their caregivers. *Method:* Twenty AD patients and their caregivers were randomly assigned to a caregiver-only group or to separate but concurrent caregiver and patient support groups. All groups met twice a month for eight months. *Results:* Patients in the support group and controls suffered mild but significant declines in overall cognition and in functional ability that were equal in the two groups. Despite these declines, patients improved in their mood (decline in Total Mood Disturbance on the POMS, $p = 0.05$). Both patient groups improved, but the change in the treatment group was roughly twice that in the control group (45% v. 23%). Patients in both groups had a significant improvement in their knowledge about AD ($p = 0.02$). Caregivers in both groups improved in mood, but those in the treatment condition had twice the gain in self-esteem. *Conclusion:* Early-stage AD patients may benefit from a support group, and concurrent groups for their caregivers may result in added benefits for both.

NR777 Thursday, May 27, 12 noon-2:00 p.m.

Sleep Disorders and Circadian Phase Shifts in Alzheimer's Disease

Andrew Satlin, M.D., Psychiatry, McLean Hospital, 115 Mill Street, Belmont, MA 02178; Edward G. Stopa, M.D., Ladislav Volcier, M.D., David Harper, B.S.

Summary:

Objective: Sleep disorders in Alzheimer's disease (AD) are a frequent cause of institutionalization. The present study sought to test the hypothesis that these sleep disturbances are associated with altered phase relationships of circadian rhythms in AD. *Method:* Continuous activity and core-body temperature measurements were obtained for 72 hours from 22 ambulatory AD patients living on a research unit, and from ten age-matched healthy controls. Data were subjected to cosinor analysis. *Results:* Patients had impaired sleep as measured by increased percent nocturnal activity (PNA; $p = 0.002$), and impaired coupling of the rest-activity cycle to the environment as measured by decreased interdaily stability (IS; $p = 0.0005$). Patients also had delayed activity ($p = 0.01$) and temperature ($p = 0.001$) acrophases (peaks). Larger phase-angles (difference in timing of the activity and temperature acrophases) were strongly associated with increased PNA ($r = 0.60$; $p = 0.003$) and with decreased IS ($r = -0.53$; $p = 0.01$).

Conclusion: An altered phase relationship of the activity and temperature rhythms in AD patients is associated with poorer sleep and with impaired entrainment to the environment, suggesting that treatments that adjust circadian phase may result in behavioral improvement.

NR778 Thursday, May 27, 12 noon-2:00 p.m.

Clinical and Spect Findings in Psychosis in Alzheimer's Disease

Kathryn J. Kotria, M.D., Psychiatry, Baylor College Med., One Baylor Plaza, Houston, TX 77030; R.C. Chacko, M.D., S.G. Jhingran, M.D., R.D. Doody, M.D.

Summary:

Psychosis is a substantial problem in Alzhiemer's disease (AD), affecting from 10% to 73% of patients at some stage in their illness. What is unclear is why such a large portion of premorbidly well functioning patients develop psychosis and the remainder do not. We designed a study to assess AD patients with and without psychosis to ask what clinical factors were associated with psychosis, and if a particular pattern of cerebral dysfunction in psychosis could be seen with SPECT imaging. Patients' psychiatric symptoms were assessed using the BEHAVE-AD, SANS, and Hamilton Depression Scale. Past psychiatric history was assessed using the SCID; family history by the family history method SPECT scans were performed in a resting state; a subgroup of patients also received an MRI. A pattern of clinical variables was associated with psychosis even when cognitive (MMSE score) and functional (CDR score) impairment was controlled. These variables included affective flattening, asociality, inappropriate and purposeless behavior, and agitation. Patterns of cerebral hypoperfusion, as seen with SPECT, were correlated with some of these variables. These findings will be discussed in the context of cerebral networks associated with psychosis and other clinical variables.

NR779 Thursday, May 27, 12 noon-2:00 p.m.

Pilot Study: Hospice Care for End-Stage Dementia

Patricia L. Hanrahan, Ph.D., Psychiatry, University of Chicago, 5841 S. Maryland Ave MC 3077, Chicago, IL 60637; Daniel J. Luchins, M.D.

Summary:

Hospice care is considered appropriate for end-stage dementia patients, yet less than 1% of hospice patients have a primary diagnosis of dementia (Luchins & Hanrahan, 1993). This pilot study tested the feasibility of providing palliative care for dementia patients. A common eligibility requirement for admission to hospice is that the patient is likely to die within six to seven months. The uncertain survival time of dementia patients thus prevents access to hospice programs. Therefore, enrollment criteria were developed based on the characteristics of advanced dementia and a history of medical complications. With these criteria established, it was then possible to enroll 12 patients over a 22-month period. The enrollment criteria proved successful in that the average survival time was 6.6 months. Eight of the 12 patients have died. The average survival time among the deceased patients was a little over three months with a range of two days to a year. Among the four surviving patients, the average length of stay has been 13.5 months. Further information describing the enrollment criteria, service characteristics, and costs will be presented.

NR780 Thursday, May 27, 12 noon-2:00 p.m.

Possible Pathogenesis of Alzheimer's Disease

Jack de la Torre, M.D., Neurosurgery, University of Ottawa, 451 Smyth Road, Ottawa Ontario K1H 8M5, Canada

Summary:

Based on recent experimental and clinical findings, a working hypothesis on the pathogenesis of Alzheimer's disease (AD) is presented which appears to reconcile the major findings reported for this dementia. AD may be triggered by chronic and progressive microcirculatory deficiency in the delivery of energy substrates to the brain tissue. The offspring of this neuronal energy crisis is created by structurally deformed cerebral microvessels whose blood flow will change intermittently from a *laminar* to a *turbulent* or *disturbed* flow pattern. Disturbed flow in brain microvessels tends to dissipate energy substrates such as glucose and oxygen from optimal delivery to the CNS. According to fluid dynamics' laws, the impairment of energy substrate delivery to brain neurons results from an exponential increase in vessel resistance and an inverse lowering of cerebral blood flow. This negative activity will eventually compromise cerebral neurono-glial interaction in AD patients. Neurons unable to meet their energy requirements can release diffusible glial mitogens that signal reactive astrocytes to begin proliferating in a way that will damage more neurons. Impairment of the brain microcirculation will also delay metabolic waste disposal, thus allowing accumulation of various neurotoxins within the CNS. Over the course of many years, neuronal homeostasis in specifically sensitive hippocampal neurons is lost, and with it, the pathologic cascade that characterizes the morphologic and cognitive decline observed in AD patients is manifested.

NR781 Thursday, May 27, 12 noon-2:00 p.m.

Differential Induction of Early Genes in the CNS by Clozapine and Dopamine D2 Receptors Antagonists

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Summary:

Dopamine D_2 receptors regulate the expression of a specific set of immediate early genes (IEG) in the rat striatum. A single injection I.P. of haloperidol (2 mg/kg) or sulpiride (100 mg/kg) produces a rapid and transient increase in c-*fos, c-jun, jun* B and zif268 mRNA, but has no influence on the expression of ETR1 or *jun* D. These inductions are specifically blocked by pretreatment with a D_2 agonist (1 mg/kg quinelorane). We have further studied the effect of clozapine and dopamine D_2 receptor antagonists on IEG expression in different regions of the CNS by northern analysis and ISH. Both clozapine (20 mg/kg) and haloperidol (2 mg/kg) induce zif268, *c-fos*, and *jun* B in the nucleus accumbens. However, only haloperidol induces all of these protooncogenes in the striatum, whereas in the frontal cortex clozapine induces c-fos but not zif268. The effects of the prolonged administration of these compounds will also be presented. The significance of these specific IEG activation patterns will be discussed with respect to the anatomy and mechanism of antipsychotic action.

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