

Substance Abuse Division

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Overview

Research in this Division, which began in 1992, focuses on antecedents and consequences of substance use and abuse, with particular emphasis on the development and testing of novel approaches to the treatment of substance abuse. Our resources include non-human primate studies; separate human research laboratories for studying heroin and prescription opioid analgesics, methamphetamine, marijuana, nicotine, alcohol, and pain, all located in NYSPI; a cocaine human research laboratory located in the Irving Center GCRC; an outpatient service (STARS) for clinical trials for new medications; a novel residential laboratory for studying a variety of workplace and other drug-related issues; and a regional Node in the NIDA Clinical Trials Network creating research affiliations with four major community-based treatment providers in the New York Metropolitan area. Finally, the Biological Studies Unit (BSU) continues to be part of our Division, while providing infrastructure support (space, technical, clinical, and laboratory support) to investigators throughout NYSPI. Our Division is supported by a number of NIH R01's as well as by a NIDA Medication Development Center that supports research using both laboratory models of substance abuse and traditional clinical trials research. A major strength of our Division is the ability to conduct initial safety and effectiveness studies using our both human laboratory models, with the results obtained then used to design our larger scale clinical trials. Our Division is also engaged in brain imaging research that is

mapping neuroreceptors (particularly of serotonin and dopamine) in response to cocaine and heroin administration. We have recently added a novel clinical cognitive laboratory for the study of cognitive functioning in substance abusers and its relations to treatment outcome within our regional Node in the NIDA Clinical Trials Network.

Overall, the Division has approximately 127 employees including 25 MD or PhD. faculty, 7 faculty with K awards, and over 40 grants (including 1 Center, Postdoctoral Training Grant, and BSU) and contracts.

Current Research

Medications Development Research Center (P.I., Kleber, Co-P.I., Evans)

As part of Dr. Kleber's Medications Development Center grant, we have a mechanism for supporting pilot studies to promote research opportunities for our Research Fellows and junior faculty. Since the inception of this Center grant in 1994, 44 pilot studies have been funded. These pilot studies have been instrumental in obtaining grant funding including 9 R01's, 10 K Awards, 1 NARSAD award, and 1 R-21. These funded pilot studies have also resulted in 21 peer-reviewed publications, and over 50 presentations at scientific conferences, both national and international. Currently, we have 7 ongoing pilot studies.

Project 1 (P.I., Comer) Dr. Comer has developed a laboratory model of heroin abuse to evaluate new medications for opioid abuse and dependence, as well as improving outcome and acceptability of existing medications such as methadone and naltrexone. Her current research focus is to evaluate the relative abuse liability of heroin and prescription opioid medications such as fentanyl, oxycodone, buprenorphine, and morphine. The effectiveness of buprenorphine maintenance in reducing the reinforcing effects of the prescription opioids is also being examined.

Project 2 (P.I., Martinez) Dr. Martinez is using PET to measure mesolimbic dopamine type 1 and 2 receptors in cocaine addiction. The results show that long-term cocaine dependence is associated with a generalized decrease in dopamine type 2 receptors, and a loss of dopamine transmission in the striatum. Furthermore, this work has demonstrated that the loss of dopamine type 2 receptors is not associated with the cocaine taking behavior, whereas the loss of synaptic dopamine appears to confer a vulnerability to the priming effects of cocaine.

Project 3 (P.I., Nunes) Dr. Nunes and Dr. Raby explore pharmacological treatments for depressed cocaine abusers, currently assessing the efficacy of Remeron. Project also includes stress and its relationship to depression and drug use.

Project 4 (P.I., Haney) Dr. Haney et al., have completed a series of controlled laboratory studies on marijuana dependence. As a follow up to their characterization of a marijuana withdrawal syndrome several years ago, in the past year, they have demonstrated that the combination of lofexidine and oral THC significantly decreases both symptoms of marijuana withdrawal and marijuana relapse.

Project 5 (P.I., Levin) During this ongoing 12-week, double-blind, placebo-controlled treatment trial, participants receive either active medication (dronabinol) or matching placebo in a "fixed flexible" dose schedule with the gradual dose titration. The specific aims of this research are to determine whether dronabinol is superior to placebo in promoting abstinence and reducing marijuana withdrawal symptoms.

Inpatient Laboratory Research With Human Participants

Residential Laboratory (P.I., Hart)

In their on-going characterization of drug use by the workforce, Dr. Hart et al., is examining the effects of marijuana on cognitive/psychomotor performance, mood, and measures of sleep during simulated shift work. Abrupt shift changes produce cognitive performance impairments and mood disruptions during night shift work. Marijuana produced few effects on night shift-associated disruptions. A study investigating the acute and residual effects of the "club drug" 3,4-methylenedioxymethamphetamine (MDMA). Explores workplace-related consequences of acute and repeated dosing of this popular club drug.

Dr. Haney is one of the few researchers in the country to be funded to study the effects of smoked marijuana in HIV+ populations. A recent study has demonstrated that in HIV+ marijuana smokers, smoked marijuana and oral dronabinol (FDA-approved Marinol) significantly increased daily caloric intake and body weight. Marijuana but not dronabinol improved sleep. These data suggest that for marijuana smokers, both dronabinol and marijuana increase food intake and improve mood without producing disruptions in psychomotor functioning. Dronabinol did so at doses approximately 5x what is clinically recommended, suggesting that for marijuana smokers, large doses of dronabinol are both clinically effective and well tolerated.

Marian W. Fischman Cocaine Laboratory

Three NIDA-funded grants support this research: "I.V. Cocaine Abuse Treatment: A Laboratory Analysis"(P.I. Foltin); "Novel Cocaine Pharmacotherapies: Clinic and Lab Studies," (P.I. Haney); and "Laboratory Analysis of Cocaine Abstinence" (P.I. Foltin). The goal is better understanding cocaine abuse and its treatment. We have been evaluating the efficacy of modafinil and aripiprazole to alter the subjective and reinforcing effects of cocaine. We are also continuing our behavioral studies on changes in the motivation to smoke cocaine during a cocaine "binge," and on how environmental conditions affect the development of sensitization to smoke cocaine. We continue to refine new procedures for modeling relapse to cocaine use, and look at the effects of cocaine across the menstrual cycle. We are also continuing a long-term study comparing the subjective and reinforcing effects of cocaine under controlled laboratory conditions, in groups of abstinent cocaine abusers with symptoms (most likely substance-induced) of Major Depression, or no psychiatric comorbidity. We have recently published data demonstrating that the GABAergic agonist, baclofen, produced a small but significant decrease in cocaine self-administration in cocaine-dependent volunteers. It did not decrease cocaine use in methadone-maintained volunteers dependent on cocaine, demonstrating that opioid- and non-opioid dependent cocaine users may require different treatment approaches (Haney et al., 2006).

Cocaine Vaccine Study

Dr. Haney has completed an intensive laboratory study testing the effect of a cocaine vaccine in cocaine-dependent volunteers, Dr. Haney and colleagues demonstrated that individuals who generate sufficient antibody in response to vaccination show a 60-80% decrease in the intoxicating effects of smoked cocaine, greatly strengthening the concept that immunotherapy is a promising approach for the treatment of drug dependence. Dr. Nora Volkow, the Director of NIDA, cited Dr. Haney's study as an exciting advance in the field of drug abuse during her 2006 plenary address the College on Problems of Drug Dependence.

Clinical Trials Network Node

The Long Island Node of the NIDA Clinical Trials Network (Dr. Edward Nunes, PI) has completed 6 clinical trials in which 321 participants were randomized. These clinical trials include a multisite trial of Motivational Enhancement Therapy for Spanish speaking patients, a multisite trial of buprenorphine

for treatment of opiate dependence, and a multisite trial of cognitive behavioral therapy and nicotine replacement for smoking cessation among patients in treatment for drug dependence. The node is currently participating in newly initiated trials on methylphenidate for treatment of nicotine-dependent adults with ADHD, substance-dependent adolescents with ADHD, and a trial of algorithmic treatment with buprenorphine and behavioral interventions for prescription opioid dependence.

The Node is also leading 2 nationwide multisite randomized controlled trials (N = 400 each), one of Seeking Safety a cognitive behavioral intervention for drug dependent patients with PTSD (Dr. Denise Hien, Lead Investigator), and one of a skills based HIV risk reduction intervention for women in drug dependence treatment (Dr. Susan Tross, Lead Investigator); both have met their recruitment targets and anticipate completing data collection and locking the databases by mid-June 2007.

Buprenorphine Program

In September 2003, Dr. Kleber founded the Buprenorphine Program, one of the first of its kind in the country. Led by Drs. McDowell, Gunderson, and Manubay its objectives are 3-fold: to develop a model for induction stabilization and maintenance or detoxification via the newly approved partial agonist, buprenorphine; to develop a new model for training physicians about buprenorphine; and as a site for research and training. It has treated over 350 opioid dependent patients to date with most referred to physicians in the community and approximately 55 remaining at the Program for on-going maintenance. Approximately 50% were using primarily prescription opioids, 40% heroin, and 10% methadone at the time of admission.

The Program has continued its commitment to physician training, receiving physicians from the U.S. and abroad to observe its methods. The program has led to research project initiation, including setting up a buprenorphine program in Internal Medicine primary care clinic at Columbia University Medical Center. Internal Medicine faculty and housestaff are able to learn about and participate in buprenorphine treatment at this program as well.

Imaging Studies

Dr. Diana Martinez's research uses Positron Emission Tomography to image dopamine receptors and dopamine transmission in addiction. Her current studies include three studies in human subjects and one in non-human primates. The human studies are: 1) imaging dopamine transmission in heroin addiction and investigating the correlation between neurobiology and heroin self-administration; 2) imaging the effect of a behavioral treatment for cocaine dependence on dopamine transmission; and 3) imaging dopamine depletion in cocaine dependence. Dr. Martinez is also a close collaborator on two other projects: one is the imaging of dopamine transmission in Bulimic patients (conducted with Dr. Allegra Broft in the eating disorders group) and the other is imaging the effects of alcohol on parameters of dopamine transmission (conducted with Dr. Anissa Abi-Dargham in the Division of Functional Brain Mapping). Dr. Martinez is also conducting a study to develop a new radiotracer to label the kappa receptor in non-human primates. Lastly, Dr. Martinez has been conducting fMRI studies in subjects who receive PET scans in order to investigate any correlations between these two modalities in addiction.

Outpatient Laboratory Research with Human Participants

Alcohol and Anxiolytics: Drs. Evans and Bisaga used laboratory procedures to examine the interaction of NMDA antagonists and gabaergic drugs with alcohol. This past year they published an acute interaction study with gabapentin in combination with alcohol. Showing that gabapentin dose-dependently increased the overall subjective effects of alcohol, but did not alter alcohol craving or impair performance. In another completed acute interaction study, baclofen (a GABA B agonist) alone increased ratings of Good drug effect and produced alcohol-like subjective effects, but did not alter

alcohol craving or impair performance. However, when combined with alcohol, some of the effects of alcohol were enhanced or prolonged.

Women's Research: Dr. Evans recently completed a series of studies focusing on several behavioral and electrophysiological markers that may be associated with increased risk for drug or alcohol abuse in women. In collaboration with Dr. Bruder in Biopsychology, she assessed changes across the menstrual cycle in various groups of women. To assess the role of sex differences, she conducted a parallel study in males with and without a family history of alcoholism. During this past year her grant was refunded and her new focus is on stress response and the effects of alcohol and d-amphetamine on measures of impulsivity in various groups of women, including women with childhood sexual abuse and women with bulimia nervosa. She is collaborating with Dr. Walsh, Director of the Eating Disorder Unit on this project and is also collaborating with Dr. Mary Jeanne Kreek, at Rockefeller University, to assess genetic associations in these women.

Opiates: Although buprenorphine is clearly effective in the treatment of opioid dependence, several epidemiological and clinical case studies have reported that buprenorphine itself may have abuse liability. The goal of this study by Drs. Comer and Collins was to compare the reinforcing effects of intravenously delivered buprenorphine and the buprenorphine/naloxone combination. The results demonstrated that the reinforcing effects did not differ for buprenorphine alone, compared to the combination. However, the subjective effects of the combination were less robust, suggesting that both buprenorphine alone and the combination have moderate abuse liability in non-opioid-dependent individuals. A subsequent study compared the relative abuse liability of intravenously delivered buprenorphine, a partial mu opioid agonist, and methadone, a full mu opioid agonist. There were no significant differences in the reinforcing and subjective effects of buprenorphine and methadone, suggesting that in non-opioid-dependent individuals, the abuse liability of the two drugs are equivalent.

Marijuana: A recently published study has investigated the role of endogenous opioid peptides in mediating cannabinoids effects in humans. Earlier data from our laboratory showed that naltrexone (50 mg) enhanced the reinforcing and subjective effects of THC. The objective of this study was to test a lower, more opioid-selective dose of naltrexone (12 mg) in combination with THC in both current marijuana smokers and in non-marijuana smokers. The results show that in marijuana smokers, low-dose naltrexone blunted the intoxicating effects of a low THC dose (20 mg), while increasing ratings of anxiety at a higher THC dose (40 mg). In non-marijuana smokers, low-dose naltrexone shifted THC's effects in the opposite direction, enhancing the intoxicating effects of a low THC dose (2.5 mg) and decreasing anxiety ratings following a high dose of THC (10 mg). These data demonstrate that the interaction between opioid antagonists and cannabinoid agonists varies as a function of marijuana use history.

Pain: Dr. Sullivan and Dr. Comer are carrying out a combined laboratory study and clinical trial to examine the growing problem of prescription opioid abuse among chronic pain patients. Participants diagnosed with moderate pain initially are admitted to the hospital and transitioned from their baseline prescription opioid to a standing daily dose of buprenorphine/naloxone. In the human subjects laboratory, participants have the opportunity to self-administer oxycodone and subjective, analgesic, physiologic, and performance effects are measured. Subsequently, patients are followed on an outpatient basis while maintained on Bup/Nx. A major goal of this study is to determine which variables collected in the laboratory most reliably predict subsequent relapse to opioid abuse. In addition, the utility of Bup/Nx in treating patients diagnosed with both chronic pain and substance abuse will be assessed. This is the first study to date examining opioid self-administration in persons with pain who have a history of opioid abuse and could provide important information about

prescription opioid abuse liability in pain patients and a laboratory model for predicting likelihood to relapse. These questions are of immediate clinical relevance to the treatment of chronic pain with opioid therapy.

Nicotine: Dr. Bisaga is conducting several studies to elucidate the neurobiology of nicotine dependence in humans and to develop new pharmacotherapies. Laboratory models of smoking cessation and relapse to smoking have been developed. Bupropion, an effective smoking cessation medication reduced smoking behavior in the laboratory model confirming its predictive validity. Continuing work explores the role of NMDA receptor neurotransmission in effects of nicotine and is assessing therapeutic potential on NMDA receptor antagonist memantine.

Research with Non-human Primates: Under the direction of Drs. Foltin and Evans, the Division's pre-clinical studies in non-human primates continue with funding supplied by three grants from NIDA. One set of studies is examining variables affecting food seeking and food taking using pharmacological manipulations to determine mechanisms that underlay feeding behavior. Separate studies and grants (P.I. Evans) focus on the effects of cocaine and heroin across the menstrual cycle.

Clinical Treatment Studies: Our primary clinical research program Substance Treatment and Research Service (STARS) for most of the year was located at both our 168th Street Site and our satellite site at 58th street in midtown Manhattan. Dr. Mariani became the Medical Director of STARS. STARS downtown was opened this year and we began to run our clinical trials in the 14th floor of 1775 Broadway.

Current protocols and treatment studies taking place at STARS involve problems with cocaine, marijuana, opiates, and alcohol, as well as cognitive studies. STARS continues to be the main site for training of psychiatry residents in substance abuse, including the involvement of faculty in the supervision of residents on substance abuse cases. STARS also continues to provide a training opportunity for clinical psychology graduate students as part of their pre-doctoral internship experience at the NYSPI.

Cocaine Treatment Studies: Drs. Bisaga and Nunes have been conducting studies that test new medications' for cocaine dependence. A recently published controlled study of gabapentin showed that when combined with weekly individual relapse-prevention therapy, gabapentin 1600 mg bid was no more effective than placebo in the treatment of cocaine dependence.

In addition to the studies reported here, the Division has numerous other human laboratory and clinical trials involving the various drugs of abuse, which are not described because they are ongoing. In addition to training medical students, psychiatry residents and fellows, the Division has continued to expand its substance abuse training for medical residents. Each month, four medical residents are spending two days at the substance abuse treatment program at which didactic and experiential learning is provided. After this experience, the medical housestaff spend an afternoon with several faculty members from the Substance Abuse Division and learn about additional pharmacologic and nonpharmacologic treatment strategies for their addicted patients.

Dr. Frances Levin, as the P.I. of the Research Fellowship in Substance Abuse Disorders, organizes the training for the research fellowship and as well, along with Drs. Kleber and Collins provide substance abuse curriculum for medical students. Drs. Levin and McDowell coordinate a course for second and third year psychiatric residents. In addition, Drs. Levin and Gunderson have a program to teach house staff at Columbia-Presbyterian Medical Center key aspects of the diagnosis and treatment of substance

abuse. Dr. Levin continues to serve as the substance abuse course director for the Clinical Practice Course for the first and second year medical students and coordinates the substance abuse section of the pharmacology course for the second year medical students.

The purpose of this fellowship is to train candidates for careers in clinical research in substance abuse and dependence. This past year we had four Fellows: Jeanne Manubay, MD, Stephanie Collins, PhD., Benjamin Nordstrom, MD, and Shabnam Shakibaie, MD In July 2006, two fellows will be joining our group: Jennifer Hanner, MD, Stanislav Vorel, MD In August 2006 one fellow will be joining our group: Storei Polydorou, MD Dr. Jeanne Manubay will be graduating from the Fellowship June 30, 2006. Dr. Collins will also be graduating from the Fellowship July 31, 2006. Both will join our faculty.

Awards/Honors

Stephanie Collins received the 2005 College on Problems of Drug Dependency Early Career Investigator Travel Award.

Suzette Evans was named President-elect of Division 28 (Psychopharmacology and Substance Abuse) in the American Psychological Association.

Herbert Kleber received several honors: 1) Burlingame Award; 2) NIDA National Advisory Council, 3) Board of Directors: The Partnership for a Drug Free America, College on Problems of Drug Dependence, and Phoenix House.

Frances Levin received two noteworthy honors: 1) National Institute on Drug Abuse Initial Review Group, Training and Career Development Subcommittee (reappointment for 4 years);. 2) Appointed to Board of Directors, Group for the Advancement of Psychiatry.

John Mariani was a recipient of the 2005 College on Problems of Drug Dependency Early Career Investigator Travel Award.

Nehal Vadhan received the 2005 College on Problems of Drug Dependency Early Career Investigator Travel Award.

Grants

Name	Title	Sponsor
Aharonovich E.	Cognitive Deficits: Treatment Outcome In Cocaine Abusers	DA14091-03
Aharonovich E.	Cognition In Cocaine Dependence: Assessment & Therapy	I K23 DA 016743
*Bisaga A.	Memantine Naltrexone Treatment for Opioid Dependence	1 R01 DA15822
Bisaga A.	Developing Medication For Tobacco Addiction: NMDA Agents	DA017572-02
Comer, S.	Sustained-release Naltrexone for Opioid Dependence: Longitudinal Study in Humans	DA022222-01
Comer, S.	Relationship between Infusion Duration and Reinforcing Effects of Intravenous Oxycodone in	Grunenthal GmbH

Heroin-Dependent Individuals

Comer, S.	Effect of Tablet Mechanical Stability on Drug Preference and Relative Street Value of Oxycodone Controlled-release (CR) Tablets in Experienced Oxycodone CR Abusers	Grunenthal GmbH
Evans S.	Effects Of Smoked Heroin Across The Menstrual Cycle	DA016762-03
Evans S.	Cocaine's Effects Across The Menstrual Cycle	DA12675-05
*Evans S.	Vulnerability to Anxiolytic Abuse in Women	DA009114-11
Foltin R.	IV Cocaine Abuse Treatment: A Laboratory Model	DA06234-14
Foltin R.	Laboratory Analysis Of Cocaine Abstinence	DA008105-11
Foltin R.	Anorectic Drugs: Abuse & Behavioral Mechanisms Of Action	DA04130-18
Gunderson E.	Buprenorphine for Opioid Dependence in Primary Care	2 K23 DA20000
Haney M.	Medication Development For Marijuana Relapse	R01 DA019239-01
*Hart C.	Intranasal Methamphetamine: A Pharmacotherapy Model	1 R01 DA019559
Kleber H.	Novel Medication Approaches For Substance Abuse	DA09236-11
Kleber H.	Improving Drug Abuse Treatment By Research & Training	K05 DA14284-04
Levin F.	Treatment of Substance Abuse & Psychiatric Comorbidity	5 K02 DA000465
*Levin F.	Atomoxetine for Marijuana-Abusing ADHD Adolescents	1 R01 DA019233
*Levin F.	A Multi-center, Randomized, Double-blind, Phase IV Comparison of the Efficacy and Safety of Quetiapine Fumarate to Placebo as Adjunct Therapy to Mood Stabilizers in the Treatment of Bipolar I Disorder and Alcohol Dependence	Astra Zeneca Pharmaceuticals
*Levin F.	Combined Pharmacotherapies for Cocaine Dependence	R01 DA022217
*Levin F.	A Multi-center, Randomized, Double-blind, Phase IV Comparison of the Efficacy and Safety of Quetiapine Fumarate to Placebo as Adjunct Therapy to Mood Stabilizers in the Treatment of Bipolar I Disorder and Alcohol Dependence	Astra Zeneca Pharmaceuticals
Levin F.	Treatment of Substance Abuse & Psychiatric Comorbidity	5 K02 DA000465
Levin F.	Atomoxetine for Marijuana-Abusing ADHD Adolescents	1 R01 DA019233
Levin F.	Atomoxetine Treatment for Cocaine Abuse and Adult ADHD	Eli Lilly

Levin F.	Marijuana Dependence & Depression: Venlafaxine Treatment	DA15451-02
*Mariani, J.	Anticonvulsant Pharmacotherapy for Sedative-Hypnotic Use Disorders	K23 DA021209
Nunes E.	Opiate Dependence: Combined Naltrexone/Behavior Therapy	DA10746-10
Nunes E.	Drug Abuse Treatment Development and Research Mentoring	K24 DA022412-01
Nunes E.	Mi Training: Live Supervision By Tele-Conference	DA016950-04
Papp L.	Effects Of L-830982 Immediate Release Formulation And Lorazepam On CO2 Induced Anxiety In Healthy Males	L-830982
Papp L.	Effexor XR In Late Life Anxiety	TH0600B2-922
Papp L.	Keppra (Levetiracetam) And Co2 Induced Anxiety In Patients With Panic Disorder	UCB Pharma, Inc.
Sullivan M.	Opiate & Nicotine Dependence - Medications & Therapy	DA00433-05
Sullivan M.	Subcontract W/St. Luke's Roosevelt: Adherence Therapy For Opioid Abusing Pain Patients	St Luke's
*Vadhan N.	Neuropsychological Effects of Binge-Smoked Cocaine	1 K01 DA019933-01A1

* New Grants

Significant Contributions

Efrat Aharonovich: In collaboration with Dr. Hasin and colleagues, Dr. Aharonovich has shown that marijuana use during post-treatment discharge is a gateway to relapse to the previously used primary substance such as alcohol or cocaine. Aharonovich, E., et al., American Journal of Psychiatry, 2005.

Adam Bisaga: Dr. Bisaga has developed a laboratory model of smoking cessation and validated it using bupropion, an effective smoking cessation medication. It can be used to conduct quick and inexpensive screening for new smoking cessation medications.

Ken Carpenter: Demonstrated an attentional bias to cocaine stimuli predicts treatment outcome for cocaine dependence, the first to demonstrate a relationship between drug Stroop performance and treatment outcome.

Sandy Comer: First to demonstrate that an injectable, sustained-release naltrexone can be effective treatment of opioid dependence. Arch. Gen. Psychiatry, 2006.

Suzette Evans : Double-blind treatment trial for alcohol dependence did not support the use of memantine for the treatment of actively drinking alcohol-dependent patients, but voucher incentives resulted in 80% of patients completing the trial.

Richard Foltin: 1) Developed a model of disordered eating behavior in non-human primates that can be used for medication development. 2) Exogenous progesterone attenuated the effects of smoked cocaine in females but not males demonstrating a role for progesterone in modulating the response to stimulants in females.

Erik Gunderson: 1) Began a buprenorphine treatment of opioid dependence in a primary care clinic. 2) Developed with Drs. Kleber and McDowell a novel buprenorphine training program for physicians that incorporated both on-line and in person curricular components, which received favorable national attention.

Meg Haney: Demonstrated that individuals who generate sufficient antibody in response to a new cocaine vaccine show a 60-80% decrease in the intoxicating effects of smoked cocaine, suggesting that immunotherapy is a promising approach for the treatment of drug dependence.

Frances Levin: 1) In a double-blind study comparing sustained-release methylphenidate (MPH) to placebo (PBO) for the treatment of ADHD and cocaine dependence, sustained-release MPH did not show superiority over PBO in treating ADHD symptoms. However, there was some evidence that improvement in ADHD symptoms (clinician rated) among those patients receiving MPH, but not placebo, was associated with a reduction in cocaine use. Drug and Alc Dep, In press. 2) The likelihood of recovery from drug dependence did not differ between patients who did or did not attempt suicide. Among suicide attempters who recovered from substance dependence, the frequency of Major Depression Disorder was significantly lower compared to admission, but its prevalence was nearly three times higher than that found in the general community. Am J Addict 15:293-296, 2006.

John Mariani: 1) Administratively, at STARS, we undertook a reorganization of our screening procedures and an expansion to a location in midtown. The net effect of these changes is a 55% increase in study enrollments and an almost 50% drop in our per patient enrollment costs. 2) Co-authored, with Dr. Levin, a chapter on ADHD and Co-Occurring Substances Use Disorders in a new textbook, "Substance Dependence and Co-Occurring Psychiatric Disorders: Best Practices for Diagnosis and Treatment," edited by Nunes, E., Selzer, J., Levounis, P.

Edward Nunes: Dr. Nunes and his team published a Stage 1B Trial supporting the effectiveness of behavioral therapy for improving adherence to naltrexone in treatment of opioid dependence.

Wilfrid Raby: 1) Temperament characteristics of individuals with addictive disorders can influence the outcome in clinical trials. A report on this was published in Drug and Alcohol Dependence in January 2006. 2) A preliminary observation that cannabinoids and the level of their use effects retention in opiate treatment trials. 3) The use of venlafaxine can reduce cocaine consumption in depressed cocaine abusers for whom depression improves on medication. This intervention results in a more rapid improvement of mood symptoms compared to mood responders on placebo.

Suzanne Vosburg: Poster presented at APS entitled, "Acute marijuana administration has limited effects on creative problem solving performance," Vosburg, S., Hart, C.L., Haney, M., Foltin, R.W.

Publications

Agosti V., Levin F.R. The effect of alcohol and drug dependence on the course of depression. Am J Addictions 15: 71-75, 2006.

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