$17 Million to UC San Diego for Methamphetamine/AIDS Research

December 8, 2009

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Igor Grant, MD, professor of psychiatry at the University of California, San Diego School of Medicine, and colleagues have been awarded a $17 million grant from the National Institute on Drug Abuse to establish the Translational Methamphetamine AIDS Research Center (TMARC) at UC San Diego. Grant is director of the HIV Neurobehavioral Research Center (HNRC), a clinical research center designated and funded by the National Institute of Mental Health. HNRC researchers strive for greater understanding of how HIV enters the central nervous system and why it affects some people but does not cause neurological deficits in others.

"The establishment of TMARC will advance our knowledge of the multiple interactions that occur with HIV-induced neurological complications, substance abuse, and other comorbid disorders," noted NIDA Director Dr. Nora Volkow. "This in turn can inform the development of more responsive treatment strategies for both drug abuse and HIV, linked through the risky behaviors like needle sharing and unprotected sex that drug abuse can provoke."

The funding - $3.6 million annually for five years - will allow TMARC to research the combined effects of methamphetamine (meth) and HIV on the central nervous system. This will be the first center in the United States to study the convergent effects of meth and HIV on the brain. Its ultimate goal is to become a national resource for translational multidisciplinary research and training in the neuropathogenesis of HIV and substance abuse.

Over one million people in the USA used meth in the past year, and in communities such as San Diego over one third of people newly infected with HIV had recent meth use.

"Currently, the combined effects of meth and HIV are poorly understood," Grant said. "Although antiviral treatments for HIV have reduced mortality rates, neurological complications remain prevalent, with approximately 40% of persons treated with antivirals still experiencing neurocognitive problems such as memory and attention impairment that can reduce efficiency in everyday life. There is a converging HIV epidemic among young, gay habitual meth users, which suggests meth may be amplifying the effects of HIV."

Meth causes users to be less inhibited, decreases the sensation of pain and increases energy. In chronic meth users, it may also create an inflammatory response in the brain that makes them more susceptible to HIV, according to UC San Diego researchers. Also meth may accelerate the transformation of the virus to a more invasive form.

"A person receiving antiviral treatment is more likely to have detectable HIV if he is also a meth user," said Grant. He added that meth may increase viral replication and alter response to antiviral drugs. Because both meth and HIV affect brain function, their combined impact on neurological processes may lessen the impact of anti-retroviral treatments.

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