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Working with Patients Who Use Stimulants

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Agents Showing Promise in Reduction of Cocaine Addiction

Studies indicate that the cystine/glutamate exchanger in the nucleus accumbens (NAc) is a potential target for pharmacotherapy in treating cocaine addiction. Using laboratory rats, researchers at the Medical University of South Carolina found that use of N-acetylcysteine is effective in treating relapse to cocaine use.

- Through a series of experiments, the extracellular glutamate concentration surrounding the NAc was measured in the absence of cocaine exposure, following repeated self-administration of cocaine, and after 3 weeks withdrawal from cocaine. The research showed that cocaine administration followed by drug withdrawal causes a long lasting deficit in glutamate concentration by ↓ the activity of the cystine/glutamate exchanger thus ↓ the exchange of extracellular cystine for intracellular glutamate.
- Cysteine administered by intracranial perfusion or N-acetylcysteine, a cysteine pro-drug, systemically administered restored normal glutamate levels in cocaine-treated rats.
- A more significant finding showed that **when N-acetylcysteine was administered following repeated cocaine administration and withdrawal, the rats no longer engaged in drug-seeking behaviors. N-acetylcysteine proved effective in blocking cocaine-induced relapse.**

Another study evaluated use of disulfiram to ↓ cocaine dependency in a community-based outpatient substance abuse treatment program for 121 cocaine-dependant subjects.

Randomized, placebo-controlled, double-blinded trial evaluating 4 treatment groups:

- disulfiram (250 mg/day) plus cognitive behavior therapy (CBT)
- placebo plus CBT

- disulfiram (250 mg/day) plus interpersonal psychotherapy (IPT)
- placebo plus IPT

The behavioral therapies were based on a 12-week program modified for cocaine users. Participants were encouraged to not use alcohol (EtOH) during the study. The main outcome measures were self-reported frequency of cocaine use and urine toxicology results.

- **Results showed that cocaine use was significantly ↓ by those administered disulfiram, and those receiving CBT.**
 - The results were most pronounced in those who were non-EtOH dependent at baseline or abstained from EtOH during treatment
 - Adverse effects comparable to those receiving placebo
 - Investigators also concluded that disulfiram has a direct effect on cocaine use rather than through ↓ concurrent EtOH use

Gabapentin has also been shown to ↓ cocaine use. Repeated cocaine use depletes γ -aminobutyric acid (GABA). Although approved as an anticonvulsant, gabapentin has the effect of ↑ brain GABA and enhancing GABA release in a recommended dosage range of 800 to 2400 mg/day. A 24-week open-label trial of **gabapentin** was conducted at a community psychiatric clinic using a titrated **dosage range of 800 to 2400 mg/day.**

- Outcomes were measured by urine toxicology results. Results revealed that **gabapentin reduced cocaine usage** as indicated by a ↓ in the number of cocaine-positive urine screens and the ↑ length of abstinence periods from cocaine.
- No significant side effects resulted from gabapentin co-administered with antipsychotic, antidepressant, or anxiolytic medications. 2 of 9 participants required dosage ↓ due to sedating effects of gabapentin.

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ABOUT US

The Florida/Caribbean AIDS Education and Training Center provides HIV education, consultation, and resource materials to health care providers in Florida, Puerto Rico and the US Virgin Islands.

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Sources

- Baker, D.A.; McFarland, K.; Lake, R.W.; Shen, H.; Tang, X.C.; Toda, S.; and Kalivas, P.W. Neuroadaptations in cystine-glutamate exchange underlie cocaine relapse. *Nature Neuroscience* 6(7): 743-749, 2003.
- Carroll, K.M.; Fenton, L.R.; Ball, S.A.; Nich, C.; Frankforter, T.L.; Shi, J.; and Rounsaville, B.J. Efficacy of Disulfiram and Cognitive Behavior Therapy in Cocaine-Dependent Outpatients. *Arch Gen Psychiatry* 61(3): 264-272.
- Raby, W.N.; and Coomaraswamy, S. Gabapentin Reduces Cocaine Use Among Addicts From a Community Clinic Sample. *J. Clin Psychiatry* 65(1): 84-86, 2004.

Tips for HIV Clinicians Working with Methamphetamine Users

Methamphetamine (a.k.a. meth, tina, crystal, crank, tweak, glass, ice, etc) use has been associated with ↑ risk-taking and other behaviors that may negatively impact a client's HIV/AIDS treatment plan. Below are some tips--and evidence supporting them--for HIV clinicians working with active and recovering meth users.

- **Maintain Calm and Create an Accepting Clinic/Agency Environment**
Meth users are often excitable and can experience delusions and paranoia^{1,2}. Meth users may cite concerns that reflect perceived threats. A calm voice, reassurance of safety, an environment with low sensory stimulation (e.g., lowered lighting, quiet), a calm and non-aggressive body posture, and non-judgmental language can help an active, or abstaining, meth user from reacting negatively to the treatment environment. Reinforce regular prevention messages while reassuring patients that they can always return to the clinic for continued HIV care, even during or after relapses.
- **Write Down Instructions/Explain Instructions Visually**
Research has shown that for meth users, auditory memory is more negatively impacted and returns more slowly than visual memory^{3,4}. This difference may have important implications for HIV clinicians, who often share important information verbally. Write down instructions, HIV treatment plan indications, appointment dates. Visually review medication treatment plans and schedules, placing and reviewing medications in pillboxes with the patient, if possible.
- **Maintain Support and Vigilance for Depression---Even Months After Abstinence**
Research has demonstrated that production of dopamine may reach its nadir several months after abstinence from meth. Dopamine levels may take a year or longer to fully recover to baseline levels. Most substance abuse treatment provides immediate interventions, but appropriate mental health and other support services may be even more important months after abstinence from meth. It is important to explain to patients that this delayed-onset depression may also ↑ risk for relapse. While there is no clinical evidence supporting one depression intervention over others (medication or behavioral), an individual plan for addressing possible depression (support, nutrition, exercise, psychiatric consultation) is encouraged.

- **Know Your Local Referral Resources**
- **Questions to Consider Asking Your Meth-Using HIV Patients**
Begin with an open-ended statement such as "Please describe your meth use." Patients may use words like "recreational" and "occasional" to describe very different using patterns underreporting use and consequences.
 - How often do you use?
 - When was the last time you used?
 - How did (does) using affect your taking your medications (and/or other concerns, such as eating, sleeping, employment, relationships)?
 - Have you tried stopping or reducing your use in the past? How did that go?
 - For those who are concerned about their use: Would you like some information...etc.?
- **Medications and Meth and Other Drug Interactions**
Methamphetamine is metabolized by hydroxylation and deamination via CYP2D6 pathway: CYP2D6 inhibitors may increase amphetamine levels and should be avoided. No known interactions specific to NNRTIs and NRTIs. PIs have potential to increase amphetamine blood levels 2-3 fold.

Source:

The Pacific AETC

http://www.ucsf.edu/paetc/resources/donohoe_methusers.pdf



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