Does HIV Make Addiction More Insidious?

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Thanks to a protein integral to HIV's life cycle, cocaine may better ensnare people with HIV into addiction. Called Tat, the protein helps in the transcription process of HIV genes and is toxic to the brain. Researchers gave cocaine to mice that had been genetically engineered to express Tat when given the antibiotic doxycycline. They found that these mice were much more hyperactive when compared with mice without Tat expression.

The mice with Tat expression also spent three to five times longer in the cocaine administration area. While all the mice eventually lost their taste for this area, re-exposing them to cocaine renewed their interest. Tat expression also caused mice to flock to the administration site, even without the booster of cocaine. Scientists believe this finding implies that the Tat in the brains of people with HIV may make them more susceptible to relapse.

The study's lead author Jay McLaughlin, PhD, of the Torrey Pines Institute for Molecular Studies in Port St. Lucie, Florida, reports similar, as-yet-unpublished findings with ethanol and morphine, and says that preliminary studies suggest Tat also may lock people with HIV more tightly into crystal meth addiction. However, the studies should all be taken with a grain of salt, he says, because of the limitations of studying mice and because many more different factors than just a single protein likely play into HIV's role in addiction.

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