Diabetes drug lessens cocaine reward

Exendin-4 (Ex-4), a drug used to treat type 2 diabetes mellitus, is shown to lessen the rewarding effects of cocaine in mice in a Letter to the Editor published online this week in Molecular Psychiatry. These findings highlight the therapeutic potential of this drug for the treatment of psychostimulant addiction.

Recent studies suggest that hormones and peptides associated with feeding behaviour are linked to drug reward, due to overlapping brain circuitry and mechanisms. Gregg Stanwood and colleagues explored whether Ex-4, which is thought to alter feeding behaviour, would reduce the
hedonic effects of cocaine in mice. Ex-4-pretreated mice seemed to enjoy cocaine less, spending less time in the treatment chamber following cocaine introduction than mice without the Ex-4 pre-treatment. These findings remained consistent, regardless of the Ex-4 dose administered.

How Ex-4 exerts this decrease in cocaine reward is currently unknown. The study reports no evidence of negative side-effects or addiction to Ex-4 treatment. The authors caution that additional research is needed to verify dosing structure and whether these findings extend to psychostimulants other than cocaine.

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