

P01-84

DISRUPTING RECONSOLIDATION OF ALCOHOL MEMORIES REDUCES CUE-INDUCED ALCOHOL SEEKING BEHAVIOR IN RATS

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In humans alcohol seeking behavior is frequently evoked by the retrieval of memories associated with an alcohol experience. Consolidated memories can become labile if reactivated by reexposure. The aim of our study was to examine whether the behavioral impact of previously conditioned alcohol associated cues is significantly reduced by blocking the reconsolidation of the previously learned alcohol associations that are retrieved by reexposure. For this purpose we applied an animal model for cue-induced relapse to alcohol-seeking behavior. We show that post-retrieval i.p.-administration of 0.1 mg/kg of the NMDA antagonist MK-801 (n=8-10 per group) significantly reduced alcohol seeking behavior during the following test day as compared to vehicle treated animals. Similarly, memory reconsolidation was disrupted by ICV administration of 400 µg of the protein synthesis inhibitor anisomycin (n=9-11 per group). Pharmacological disruption of reconsolidation of alcohol-associated memories may thus provide a potential therapeutic strategy for the prevention of relapse in alcohol addiction.