

Influence of luteinizing hormone releasing hormone (LHRH) on the behavioral effects of amphetamine in rats

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The influence of luteinizing hormone releasing hormone (LHRH) on the behavioral effects induced by several doses of D-amphetamine (0.25, 0.5, 1.0 and 2.0 mg/kg IP) was studied. A dose response relation was previously established for the effects of LHRH (50, 100 and 200 μ g/kg SC) on acquisition and retention of conditioned avoidance responses (CARs). The neuropeptide impaired acquisition and improved retention of CARs, without modifying spontaneous motor activity.

Pretreatment with 100 μ g/kg of LHRH antagonizes the enhancement in acquisition of CARs due to D-amphetamine 0.5, 1.0 and 2.0 mg/kg, the impairment in retention induced by amphetamine 1.0 and 2.0 mg/kg, and the hypermotility and the increased rearing behavior induced by amphetamine 1.0 and 2.0 mg/kg. These results suggest that brain catecholamines, particularly dopamine, could play a role in the behavioral effects of LHRH. Interactions between LHRH and central dopaminergic mechanisms are discussed. © 1983.