

عنوان مقاله:

Effects of Magnesium Sulfate on the Acquisition and Reinstatement of Morphine-Induced Conditioned Place Preference in Mice

محل انتشار:

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خلاصه مقاله:

Context: Relapse to opioid dependence, even long time after withdrawal, is one of the most important problems of opiate withdrawal programs for addicted people. Magnesium has been shown that inhibit glutamate release and induce N-Methyl-D-aspartate (NMDA) antagonistic effects; moreover, glutamate NMDA antagonists contribute to the reinforcement of morphine. Objectives: In the current study, the effects of magnesium sulfate on the acquisition and reinstatement of morphine-induced conditioned place preference (CPP) were investigated in an animal model Materials& Methods: A three-compartment apparatus was used in two stages of the experiment. During the first stage, CPP acquisition was established, using morphine for 4 days (40 mg/kg daily via injection). In the second stage, the mice underwent the same procedure, followed by extinction training on day 16 of CPP reinstatement, using the remaining 10mg/kg morphine. Results: Three doses of magnesium sulfate (150, 300, and 600 mg/kg) were used in this study. Our results showed that the intraperitoneal injection of magnesium sulfate 300 and 600 mg/kg (not 150mg/kg) reduced morphine dependence. Additionally, in the second stage, after day 16 (after reminding 10mg/kg morphine), tendency of animals to the white compartment of CPP chamber significantly decreased. Discussion: Magnesium sulfate inhibit morphine tendency and reinstatement probably via NMDA antagonistic effects. Conclusion: The results showed that magnesium sulfate decreased the acquisition and reinstatement of morphine-induced CPP in an animal model

کلمات کلیدی:

Magnesium Sulfate, Morphine, Conditioned Place Preference

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