

عنوان مقاله:

The effects of co-administration of opium and morphine with nicotine during pregnancy on spatial learning and memory of adult male offspring rats

محل انتشار:

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خلاصه مقاله:

Objective(s): Smoking opium/cigarette is a global health concern. The aim of this study was to examine learning and memory of rat male offsprings whose mothers had been exposed to either opium or morphine with nicotine during pregnancy. Materials and Methods: Wistar rats were used for the experiments. In the female rats, opium, morphine and nicotine dependencies were induced by daily injections of drug solution for ۱۰ days before mating. Spatial memory was tested by Morris water maze test in male pups at the postnatal day ۶۰. The duration that took until the rats found the platform in the maze and also their swimming speed were recorded. Results: An increase in the platform finding duration was observed for the pups of dependent mothers in comparison with the control in the training trial ($P < 0.05$). Prenatal exposure to opium/morphine and nicotine significantly decreased the time spent in the trigger zone to find the

hidden platform ($P < 0.05$) but had no significant effect on the swimming speed in the probe test. However, no significant difference was observed in the learning and memory behavior of offspring whose mothers received morphine, opium, nicotine or the co-administration of either morphine or opium with nicotine. Conclusion: The present study showed that the opium, morphine and nicotine abuse and co-administration of opium/morphine with nicotine during pregnancy may cause deficits in spatial learning of male rat offspring. Based on our data, no synergistic effects of co-drug administration were observed on learning and memory in male rat offspring.

کلمات کلیدی:

Co-administration, Learning, Morphine, Morris Water Maze, Nicotine dependency, Opium

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