عنوان مقاله:

Paradoxical Regulation of Copper and Zinc and Changes in Neurogenesis, Alcohol Preference and Salt Appetite in Isolated Male Rats

محل انتشار:

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خلاصه مقاله:

Background and Aims: Alcohol abuse is an important concern of many societies. Hippocampal neurogenesis regulates abusing drugs in a positive manner. The aim of this study was to identify factors that regulate neurogenesis in isolation period that increase preference for alcohol and salt. Materials and Methods: In this study sixteen rats were randomly divided into two groups: Pair (social) and isolation. Rats in the isolation group were isolated for ۱۴ days plus one week for acclimatization. Rats in pair group also were kept in the same condition for ۱۴ days. In this period BrdU (۵۰ mg/kg/day/i.p.) was injected. At the end of the experiment, rats examined for copper, zinc, malondialdehyde (MDA), neurogenesis, salt consumption and alcohol preference. Results: Zinc in serum reduced in isolated rats, but copper in serum paradoxically increased in isolated rats. Neurogenesis reduced in isolated rats. Also, MDA in serum, salt consumption, and alcohol consumption increased in the isolated group. Conclusions: Social isolation with reduction of neurogenesis predisposes rats to consume more alcohol and also salt. The reduction in neurogenesis is associated with paradoxical balance of zinc and copper and increase in MDA in serum. So, regulation of copper and zinc may have beneficial effects on neurogenesis, sensitization and alcohol preference.

کلمات کلیدی:

Alcohol, Copper, Neurogenesis, Rat, Zinc