

عنوان مقاله:

Memory and Motor Coordination Improvement by Folic Acid Supplementation in Healthy Adult Male Rats

محل انتشار:

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خلاصه مقاله:

Objective(s) Previous studies have shown that vitamin B as well as folate supplementation has been implicated in cognitive and neurodegenerative disorders including Alzheimer's and Parkinson's diseases. The aim of present study was to evaluate the effects of folic acid on passive avoidance task and motor coordination in healthy adult male rats. **Materials and Methods** Animals were randomly divided into five groups with 10 in each. 1) Sham treated (Veh); received same volume of normal saline as folate vehicle, 2-5) Test groups; each received a single dose of folate (5, 10 and 15 mg/ml/kg, IP daily for one week). At the end of the treatment with folic acid or vehicle, motor coordination in rotarod (after 24 hr) and passive avoidance memory in shuttle box (after 2 and 30 days) were evaluated, respectively. **Results** The results showed that folic acid (5, 10, and 15 mg/kg) increased short-term ($P<0.05$, $P<0.001$) memory while, long term memory affected significantly with doses 10 and 15 mg/kg ($P<0.01$, $P<0.001$). On the other hand, folic acid (5 and 10 mg/kg) had significant improving effect on motor coordination ($P<0.001$, $P<0.01$) but with 15 mg/kg dose didn't have any effect on motor coordination. **Conclusion** Our results suggest that folic acid may improve both short- and long-term memories, dose dependently, although it affects motor balance at lower dose. The mechanism of folic acid effects on cognition and motor coordination is unknown and needs more investigations.

کلمات کلیدی:

folic acid, Memory, Motor coordination, Rat

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