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论文

蛇床子素对学习记忆的影响及其机制分析

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摘要:

观察蛇床子素对小鼠学习记忆的影响并探讨其作用机制。方法：采用避暗实验、跳台实验、 Y型水迷路实验观察蛇床子素对小鼠学习记忆的影响，并通过测定脂质过氧化物含量，胆碱酯酶活性分析其作用机制。结果：蛇床子素可显著改善小鼠记忆获得、 巩固及方向辨别障碍，但对小鼠记忆再现障碍无明显改善。并能显著延长小鼠断头耐缺氧时间，抑制大鼠肝、脑组织中脂质过氧化物的生成，降低小鼠全血、脑内胆碱酯酶活性。结论：蛇床子素有促进小鼠学习记忆的作用，其机制可能与影响脑内胆碱酯酶活性及延缓细胞老化等因素有关。

关键词： 蛇床子素 学习记忆 过氧化脂质 胆碱酯酶

ACTION OF OSTHOL ON LEARNING AND MEMORY AND ITS MECHANISM ANALYSIS

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Abstract:

AIM: To study the action of osthol(a constituent isolated from Fructus *Cnidii*) on learning and memory and its mechanism.METHODS: Step through test, step down test and Y-maze method were used to observe the effect of osthol on learning and memory. The duration of breath in beheaded mice, the content of the lipoperoxide(LPO) in the liver and brain of rats and the activity of acetylcholinesterase (AchE) were determined to analyze the mechanisms of action of osthol.RESULTS: Osthol was shown to improve impairment of memory acquistion, consolidation and direction discrimination. However, osthol did not show significant effect on impairment of memory retrieval. Osthol was found to prolong the duration of breath in beheaded mice, inhibit malondialdehyde(MDA)formation in the liver and brain of rats and decrease the AchE activity. Osthol was shown not to affect the sleep induced by sodium pentobarbital and the spontaneous activity of mice.CONCLUSION: Osthol can improve the leaning and memory of mice. The mechanism of action of osthol is considered to be related to inhibition of AchE activity and delay of cell ageing.

Keywords: learning and memory lipoperoxide(LPO) acetylcholinesterase(AchE) osthol

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