

论著

中药复方SM I 对拟老年痴呆小鼠学习记忆能力及海马BDNF表达的影响

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摘要 目的: 探讨中药复方SM I 对拟老年性痴呆(AD)小鼠学习记忆能力的影响及其机制。方法: 用D-半乳糖腹腔注射62 d和三氯化铝灌胃106 d联合用药制备拟AD动物模型。从造模的第67 d开始, 中药组灌胃给中药SM I, 连续40 d。给药结束后, 通过方形水迷宫、逆转录聚合酶链反应来观察SM I 对拟AD模型小鼠学习记忆和脑内脑源性神经营养因子(BDNF)基因表达的影响。结果: SM I 可以缩短拟AD模型小鼠水迷宫测试的潜伏期($P<0.01$), 减少其错误次数($P<0.05$), 同时促进海马BDNF mRNA的表达($P<0.01$)。结论: 中药复方SM I 能提高D-半乳糖和AICI3拟老年性痴呆小鼠学习记忆能力, 其效果优于脑复康。SM I 促进学习记忆能力的作用可能与促进BDNF mRNA的表达有关。

关键词 [学习](#); [记忆](#); [海马](#); [脑源性神经营养因子](#); [阿尔茨海默病](#)

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Effects of Chinese medicine SM I on learning and memory ability and hippocampal BDNF expression in mice with Alzheimer's disease

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Abstract

AIM: The goal of this study was to investigate the effect of a traditional Chinese medicine SM I on learning and memory ability in mice with Alzheimer's disease (AD) and its possible mechanisms. METHODS: The mice were treated with D-galactose and AICI3 to establish the AD animal model. D-galactose was given through intraperitoneal route for 62 days and AICI3 was given through intragastric route for 106 days. Since the 67th day, the mice in SM I group were treated with SM I. The SM I treatment continued for 40 days. Subsequently, the water maze test was applied to evaluate the effect of SM I on the AD model mice. At the last test day, the animals were killed and brain tissues were separated, and the expression of brain-derived neurotrophic factor (BDNF) in mice hippocampus was observed by reverse transcription polymerase chain reaction (RT-PCR). RESULTS: By intragastric administration with SM I, mice had shorter latency ($P<0.01$) and less error times ($P<0.05$) in water maze test compared with those in AD model group, the effect of SM I was better than piracetam. Furthermore, SM I upregulated the expression of BDNF mRNA ($P<0.01$). CONCLUSION: SM I improves the learning and memory ability of AD model mice, the mechanism may be related to the upregulated expression of BDNF.

Key words [Learning](#) [Memory](#) [Hippocampus](#) [Brain-derived neurotrophic factor](#) [Alzheimer disease](#)

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