

论著

短期小剂量甲基苯丙胺对大鼠学习记忆与脑电位的影响

王峰¹, 黄宏平², 朱庆春², 张环环², 王邦安², 汪萌芽²

(皖南医学院 1. 医学三系法医毒理和毒物化学教研室, 2. 人文与管理系细胞电生理研究室, 安徽 芜湖 241002)

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摘要 **目的** 观察小剂量短期甲基苯丙胺 (MA) 对学习记忆和脑诱发电位的影响。**方法** 12只成年雄性 Sprague-Dawley大鼠每天ip注射MA 5 mg·kg⁻¹, 连续7 d。主动回避行为测试方法检测大鼠的学习和记忆能力, 用躯体感觉诱发电位检测大鼠脑电生理活动。**结果** 与正常对照组相比, MA 5 mg·kg⁻¹组大鼠在主动回避行为测试的学习阶段, 学会躲避电击前的失败次数明显减少(24±11 vs 171±71, P<0.01); 在记忆阶段失败次数也显著低于正常对照组(41±36 vs 149±79, P<0.05); 另外, MA组大鼠的躯体感觉诱发电位最大正向波的潜伏期与正常对照组相比明显缩短(28±11 vs (47±13)ms, P<0.05)。**结论** 短期小剂量使用MA可增强大鼠某些学习记忆能力, 并与脑体表感觉诱发电位的潜伏期缩短有一定的关系。

关键词 [甲基苯丙胺](#) [主动回避反应](#) [躯体感觉诱发电位](#)

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Effect of short term methamphetamine exposure on memory and somatosensory evoked potential of rats

WANG Feng¹, HUANG Hong-ping², ZHU Qin-chun², ZHANG Huan-huan², WANG Ban-an², WANG Meng-ya²

(1. Department of Forensic Toxicology and Toxicology, the Third Faculty of Medicine, 2. Lab of Cell Electrophysiology, Faculty of Humanities and Management, Wannan Medical College, Wuhu 241002, China)

Abstract

OBJECTIVE To investigate the effect of short-term methamphetamine (MA) exposure on learning and memory behavior and somatosensory evoked potential (SEP) of rats. **METHODS** Adult male Sprague-Dawley rats were ip given MA 5.0 mg·kg⁻¹, for 7 d. Learning and memory abilities were observed with active avoidance test and brain electrophysiology was evaluated by SEP. **RESULTS** Compared with normal control group, during active avoidance test, failure times in MA 5 mg·kg⁻¹ group were decreased in the learning stage (24±11 vs 171±71, n=6, P <0.01) and in the memory stage (41±36 vs 149±79, P<0.05), respectively. The latency of SEP was shortened in MA 5 mg·kg⁻¹ group ((28±11)ms vs (47±13)ms, n=6, P<0.05). **CONCLUSION** Short-term and low dose of MA exposure can enhance learning and memory in rats, related to decreased latency of SEP.

Key words [methamphetamine](#) [active avoidance test](#) [somatosensory evoked potential](#)

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通讯作者 黄宏平 hphuang2007@yahoo.com.cn

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