

论著

嗅球注射甲苯对小鼠嗅觉辨识记忆和嗅球5-羟色胺能神经元的影响

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摘要 目的 观察嗅球注射甲苯对嗅觉功能、嗅球形态及嗅球神经化的影响。方法 甲苯1.0和3.0 μL分别注入小鼠的嗅球, 术后d 3, 5, 7和14进行嗅觉辨识行为测试; 术后d 14免疫组织化学检测嗅球细胞5-羟色胺(5-HT)含量和5-HT能神经元数量; HE染色, 显微镜下进行嗅球形态学观察。结果 嗅球注射甲苯引起小鼠嗅觉记忆明显减弱甚至缺失, 大剂量时难以逆转; 嗅球内5-HT免疫反应阳性细胞减少; 显微镜下见嗅球明显病理改变。结论 甲苯对嗅觉功能产生抑制作用, 嗅球细胞变性及嗅球5-HT明显减少是其原因之一。

关键词 [甲苯](#) [嗅球](#) [嗅觉障碍](#) [神经元](#) [5-羟色胺](#)

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Effects of toluene microinjecting into olfactory bulb on olfactory identification memory and serotonergic neurons of olfactory bulb in mice

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Abstract

AIM To observe the effects of toluene on olfaction, morphology of cells and neurotransmitter in olfactory bulb. **METHODS** Toluene 1.0 and 3.0 μL was microinjected into olfactory bulb of mice. Olfactory identification memory was recorded to examine olfactory sensibility at d 3, 5, 7 and 14 after the treatments. At d 14 olfactory bulb tissues were stained with HE to observe the morphology of cells and immunohistochemistry staining was performed to observe serotonergic neurons in olfactory bulb. **RESULTS** Mice in toluene groups showed decrement, even deletion of olfactory identification memory, which was unreversed in 3.0 μL group. On the d 14 after treatment with toluene, serotonergic neurons of olfactory bulb reduced, and cell apomorphosis in olfactory bulb was observed under microscope. **CONCLUSION** Microinjection of toluene into olfactory bulb inhibits olfaction in mice, which maybe partially due to cell degeneration and the reduction of serotonin in olfactory bulb.

Key words [toluene](#) [olfactory bulb](#) [olfaction disorder](#) [neurons](#) [seroto](#)

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