

论著

Spantide抑制甲醛炎性痛大鼠脊髓一氧化氮合酶表达和一氧化氮含量的增加

李文斌*, 孙晓彩, 李清君, 李淑琴, 陈晓玲

(河北医科大学基础医学研究所病理生理学研究室, 河北 石家庄 050017)

收稿日期 2003-11-18 修回日期 网络版发布日期 2008-9-16 接受日期 2004-3-26

摘要 目的 观察鞘内注射P物质 (SP) 拮抗剂spantide { [D-Arg1, D-Trp7,9, Leu11] - substance P} 对炎性痛大鼠L5节段脊髓后角一氧化氮合酶 (NOS) 表达和腰膨大一氧化氮 (NO) 含量的影响, 以探讨痛及痛过敏时脊髓NOS表达和NO生成增多的机制。方法 大鼠右后掌足底皮下注射5%甲醛0.2 mL诱发炎性痛及痛过敏, NADPH-d组化法观察脊髓后角NOS表达的变化, 硝酸还原酶法测定NO含量的变化。结果 皮下注射甲醛24 h后, 双侧L5节段脊髓后角NOS表达及腰膨大部位NO生成明显增加; 注射甲醛前5 min鞘内注射spantide (5 μg, 10 μL), 则明显抑制甲醛所致的NOS表达及NO生成增加。结论 初级传入末梢释放的SP在甲醛炎性痛及痛过敏时脊髓NOS表达及NO生成增多中发挥作用。

关键词 [疼痛](#) [痛觉过敏](#) [P物质](#) [spantide](#) [一氧化氮合酶](#) [一氧化氮](#) [脊髓](#)

分类号 [R963](#)

Spantide prevents up- regulation of nitric oxide synthase expression and nitric oxide production in the spinal cord induced by fomaldehyde in rats

LI Wen-Bin*, SUN Xiao-Cai, LI Qing-Jun, LI Shu-Qin, CHEN Xiao-Ling

(Department of Pathophysiology, Institute of Basic Medicine, Hebei Medical University, Shijiazhuang 050017, China)

Abstract

AIM To study the effect of spantide { [D-Arg1, D-Trp7,9, Leu11] -substance P}, an antagonist of substance P (SP), on the up- regulation of nitric oxide synthase (NOS) and nitric oxide (NO) in the spinal cord of rat during inflammatory pain and hyperalgesia. **METHODS** The inflammatory pain and hyperalgesia were induced by subcutaneous injection of 5% fomaldehyde 0.2 mL into the right hind paw of the rats. NOS expression level was determined using NADPH-diaphorase histochemistry, and NO production was determined by nitrate reductase method. **RESULTS** The fomaldehyde injection significantly increased NOS expression level and NO production in the dorsal horn of the L₅ segment of the spinal cord following pain and hyperalgesia. The increases reached its peak 24 h after the injection. Intrathecal injection of spantide (5 μg, 10 μL) 5 min prior to the fomaldehyde injection substantially inhibited the increases in NOS expression and NO production. **CONCLUSION** The release of SP resulted from nociceptive afferents plays an important role in the increases in NOS expression and NO production in the spinal cord of rat with pain and hyperalgesia induced by the fomaldehyde injection.

Key words [pain](#) [hyperalgesia](#) [substance P](#) [spantide](#)

DOI:

通讯作者 李文斌 liwbsjz@yahoo.com.cn

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(403KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“疼痛”的 相关文章](#)

▶ 本文作者相关文章

· [李文斌](#)