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摘要：

目的：研究丹参注射液硬膜外腔注射对髓核移植大鼠痛阈及脊髓背角SP和CGRP表达的影响。方法：选择雄性SD大鼠24只，均硬膜外腔植入尾椎髓核后硬膜外腔植管备用。随机分为4组，每组6只大鼠。术后第6天开始注药治疗，髓核+丹参组（DG组）每日硬膜外腔注入丹参注射液50μl，髓核+地塞米松组（MG组）每日硬膜外腔注入地塞米松注射液25μg/50μl，髓核+生理盐水组（SG）每日硬膜外腔注入生理盐水50μl，未注药组（WG）硬膜外腔无药物注入处理。在术前、术后每天分别测定各组大鼠后爪对机械刺激的反应阈值（PWMT）。连续用药14天后第15天取L4—L6脊髓背角，采用免疫组织化学染色方法观察髓核对脊髓背角细胞肽类神经递质SP和CGRP表达的影响。结果：WG组与SG组、MG组、DG组在术后1-5天内对机械刺激均产生明显的痛觉过敏，与术前比较P<0.05；用药14天后WG组与SG组、MG组、DG组相比脊髓背角神经细胞SP和CGRP表达显著增加(P<0.05)；DG组大鼠与MG组相比，脊髓背角神经细胞SP和CGRP表达没有显著性差异（P>0.05）；SG组大鼠与DG组、MG组相比，脊髓背角神经细胞SP和CGRP表达差异没有显著性意义（P>0.05）。结论：硬膜外腔注射丹参注射液或地塞米松注射液或生理盐水可改善硬膜外腔移植异体髓核大鼠的痛觉过敏；可降低硬膜外腔移植异体髓核大鼠脊髓背角SP和CGRP表达。

关键词：椎间盘突出　髓核　硬膜外腔　丹参　P物质　降钙素基因相关肽　椎间盘性疼痛

The effects of salvia miltiorrhiza injected into epidural space of rats on discogenic pain and expressions of SP and CGRP in dorsal horn of spinal cord

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Abstract:

Objective:To observe the effects of salvia miltiorrhiza injected into epidural space of rats with allografted nucleus pulposus on the discogenic pain threshold and the expressions of SP and CGRP in rat′s L4-5 dorsal horn neurons of spinal cord, so as to provide theoretical evidence for the treatment of discogenic pain.Method: Twenty-four male SD rats were randomly divided into four groups with 6 rats in each. Nature saline（SG）, salvia miltiorrhiza（DG） and dexamethasone（MG） were administered by injecting into epidural space once per day for 14 days according to different(SG, MG, DG) groups, respectively. Before and after drug injection, the posterior paw withdrawal mechanical threshold (PWMT) was measured by Von Frey hair, and the expressions of SP and CGRP in L4-5 dorsal horn neurons of spinal cord were detected with immunohistochemistry technique. Result: After operation in the first 5 days all the rats of 4 groups had significant hyperalgia to mechanical stimulation compared with that before operation(P<0.05); and then hyperalgia were improved in SG, DG and MG groups compared with that in WG group. Fourteen days after drug injection, the expressions of SP and CGRP in dorsal horn of spinal cord reduced in MG group, DG group, SG group, respectively(P<0.05). Conclusion:Salvia miltiorrhiza, dexamethasone or nature saline injected into epidural space can reduce the discogenic hyperalgia and the expressions of SP and CGRP in rat′s L4-5 dorsal horn neurons of spinal cord.

Keywords:lumbar disc herniation　nucleus pulposus　epidural space　salvia miltiorrhiza　substance P　CGRP　discogenic pain

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