

基础医学

滋补脾阴方药对大鼠脊髓损伤后脑源性神经营养因子表达的影响

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摘要:

目的 探讨滋补脾阴方药(ZBPYR)对大鼠脊髓损伤(SCI)的治疗效果及对脑源性神经营养因子(BDNF)表达的影响。方法 将清洁级Wistar大鼠90只随机分为假手术组、SCI组、ZBPYR组各30只。于伤后即刻、24、48、72、120h处死动物,处死前采用联合行为评分法(CBS)检查大鼠神经恢复情况,并用免疫组化染色和逆转录聚合酶链反应(RT-PCR)方法,检测BDNF和BDNF mRNA的表达。结果 除假手术组外,其他各组大鼠CBS评分均呈明显下降趋势。SCI、ZBPYR组,自伤后24h起,各时间点间CBS评分差异显著(P<0.05),并且BDNF、BDNF mRNA表达开始升高,于伤后120h达峰值,ZBPYR组的表达量显著高于SCI组(P<0.05)。结论 ZBPYR可通过升高BDNF的表达水平促进大鼠SCI后神经功能的恢复。

关键词: 脊髓损伤; 滋补脾阴方药; 脑源性神经营养因子; 免疫组织化学; 逆转录聚合酶链反应

Influence of zibu piyin recipe on expression of brain-derived neurotrophic factor after spinal cord injury in rats

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Abstract:

Objective To study the effects of zibu piyin recipe (ZBPYR) on the spinal cord injury (SCI) and the influence on the expression of brain-derived neurotrophic factor (BDNF). Methods Ninety adult Wistar rats were randomly divided into three groups: sham operated group, SCI group and ZBPYR group. The rats were killed at 0, 24, 48, 72 and 120h after the surgery. The combine behavioral score(CBS) was used to detect the recovery of the rats nervous system before being killed, and the expressions of BDNF mRNA and BDNF were detected with RT-PCR and immunohistochemistry assay at different time points. Results The CBS presented a remarkable decreasing trend in SCI and ZBPYR groups, and the difference between the two groups after 24h-post injury was statistically significant (P<0.05). BDNF and BDNF mRNA expressions in SCI and ZBPYR groups were up regulated significantly after 24h-postinjury and peaked at 120h-post injury, and the difference between the two groups was statistically significant (P<0.05). Conclusion ZBPYR could improve the neurons function through up regulating the expression of BDNF after SCI.

Keywords: Spinal cord injuries; Zibu Piyin Recipe; Brain-derived neurotrophic factor; Immunohistochemistry; Reversetranscriptase polymerase chain reaction

收稿日期 2012-03-12 修回日期 网络版发布日期

DOI:

基金项目:

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