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论著

星状神经节阻滞对自发性高血压大鼠左心室重构的影响

陈永权[1], 胡光祥[1,2], 付群[1], 金孝岠[1]

1. 安徽省皖南医学院附属医院麻醉科, 安徽 芜湖 241001;
2. 东莞市中医院麻醉科, 广东 东莞 523000

摘要:

目的:对自发性高血压大鼠(SHR) 行星状神经节阻滞(SGB), 观察星状神经节阻滞对其左心室重构的影响。方法:将32 只10 周龄雄性SHR 随机分为4 组(每组8 只):左侧星状神经节阻滞组(LS 组)、右侧星状神经节阻滞组(RS组)、药物卡托普利组(D 组)、手术对照组(C 组)。用ALC-NIBP 无创血压测量系统测定大鼠血压, 第10 周实验结束后用3% 戊巴比妥钠腹腔注射(45 mg/kg) 麻醉SHR, 迅速取出心脏测左心室质量指数。HE 染色后光镜下观察左心室心肌组织结构, 放射免疫法测定其eNOS 和ET-1 的浓度, 免疫组织化学法检测其I 型、III 型胶原蛋白表达的含量。结果:与C 组和LS 组比较, RS 组可降低左心室质量指数(P<0.05), 改善心肌组织结构, 降低心肌组织中 ET-1 和增加eNOS 的含量(P<0.05), 降低I 型胶原和增加III 型胶原表达(P<0.05)。结论:右侧星状神经节阻滞在治疗自发性高血压大鼠的同时可改善和逆转左心室重构。

关键词: 神经阻滞 星状神经节 大鼠, 自发性高血压 左心室重构

Effect of stellate ganglion block on reconstruction of the left ventricle in spontaneously hypertensive rats

CHEN Yongquan[1], HU Guangxiang[1,2], FU Qun[1], JIN Xiaoju[1]

1. Department of Anesthesiology, Affiliated Hospital, Wannan Medical College, Wuhu Anhui 241001;
2. Department of Anesthesiology, Dongguan Hospital of Chinese Medicine, Dongguan Guangdong 523000, China

Abstract:

Objective: To determine the effect of stellate ganglion block on reconstruction of the left ventricle in spontaneously hypertensive rats (SHRs).
Methods: Thirty-two 10-week-old male SHRs were randomly assigned into 4 groups: a left stellate ganglion block group (group LS), a right stellate ganglion block group (group RS), a captopril group (group D) and a control group (group C). The arterial systolic blood pressure (SBP) was measured by ALC-NIBP measuring system. After 10 weeks, we observed the left ventricular mass index (LVMI), myocardial pathologic changes, and detected the endothelin (ET-1) and endothelial nitric oxide synthase (eNOS) level in the left ventricle by radioimmunoassay and the collagen protein level in the left ventricle by immunohistochemical method.
Results: Compared with group LS and group C, the LVMI in group RS was lowered most notably (P<0.05) and pathological changes were improved obviously. The expression of eNOS in group RS was significantly increased and ET-1 significantly decreased (P<0.05) compared with that in group C and group LS. The expression of type I collagen fibers in group RS was significantly lower and type III collagen fibers significantly higher (P<0.05) when compared with that in group C and LS.
Conclusion: Right stellate ganglion block can not only decrease the arterial pressure but also reverse the reconstruction of the left ventricle.

Keywords: nerve block stellate ganglion rat, spontaneously hypertension reconstruction of left ventricle

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通讯作者: 陈永权, Email: chenyq263@163.com

作者简介: 陈永权, 硕士, 主任医师, 副教授, 主要从事麻醉与应激方向的研究。

作者Email: chenyq263@163.com

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