[1]伍芳,龚标,李学智,等.电针对局灶性脑梗死大鼠Nogo-A及其受体NgR和运动诱发电位的影响[J].第三军医大学学报,2013,35(03):228-232.
Wu Fang,Gong Biao,Li Xuezhi,et al.Effect of electroacupuncture on motor evoked potential and expression of Nogo-A and its receptor NgR in rats with focal cerebral ischemia[J].J Third Mil Med Univ,2013,35(03):228-232.

点击复制

导航/NAVIGATE
本期目录/Table of Contents
下一篇/Next Article
上一篇/Previous Article

工具/TOOLS
引用本文的文章/References
下载 PDF/Download PDF(1220KB)
立即打印本文/Print Now
查看/发表评论/Comments
导出

统计/STATISTICS
摘要浏览/Viewed 167
全文下载/Downloads 88
评论/Comments

RSS XML

电针对局灶性脑梗死大鼠Nogo-A及其受体NgR和运动诱发电位的影响(PDF)

分享到:

《第三军医大学学报》[ISSN:1000-5404/CN:51-1095/R] 卷: 35 期数: 2013年第03期 页码: 228-232 栏目: 论著 出版日期: 2013-02-15

Title: Effect of electroacupuncture on motor evoked potential and expression of Nogo-A and its receptor NgR in rats with focal cerebral ischemia

作者: 伍芳; 龚标; 李学智; 黄思琴; 王力; 方毅; 李凤; 吕凯
重庆医科大学中医药学院

Author(s): Wu Fang; Gong Biao; Li Xuezhi; Huang Siqin; Wang Li; Fang Yi; Li Feng; Lu Kai
College of Traditional Chinese Medicine, Chongqing Medical University, Chongqing, 401331, China

关键词: 电针; 脑梗死; 运动诱发电位; Nogo-A; NgR

Keywords: electroacupuncture; cerebral infarction; motor evoked potential; Nogo-A; NgR

分类号: R246; R363; R743.33

文献标志码: A

摘要: 目的 观察电针对局灶性脑梗死大鼠运动诱发电位和梗死周围组织神经抑制因子Nogo-A及其受体NgR等的影响，探讨电针治疗脑梗死的机制。 方法 将36只成年SD大鼠，分为正常对照组、模型组和电针组（每组12只）。电针组和模型组按照改进后的Longa的方法制作大脑中动脉闭塞模型。正常组和模型组不做任何治疗，电针组在造模成功后第1天进行电针治疗。3组均在造模后1 d和14 d进行运动诱发电位(MEP）检测，14 d时进行HE染色和Nissl染色观察大鼠脑组织病理变化，免疫组化染色和Western blot法检测Nogo-A和NgR在脑组织内的表达。 结果 14 d时，电针组MEP N1波的潜伏期（15.38±1.58）ms和N2波的潜伏期（33.60±3.58）ms较模型组N1波的潜伏期（21.28±4.00）ms和N2波的潜伏期（41.78 ±3.07）ms明显好转（$P<0.01$）；HE染色结果显示，电针组脑组织较模型组梗死区域的神经细胞病变程度明显改善；Nissl染色结果显示，电针组的Nissl小体数目较模型组增多，肿胀的神经细胞内可见Nissl小体分布；免疫组化检测结果显示，电针组的Nogo-A和NgR的表达较模型组明显减少（$P<0.05$，$P<0.01$）；Western blot检测结果显示，电针组Nogo-A蛋白（22.45±0.95）%和NgR蛋白（26.76±1.14）%较模型组[Nogo-A蛋白（43.75±6.21）%,NgR蛋白（54.50±5.00）%]明显减少（$P<0.01$）。 结论 电针能明显改

善急性脑梗死大鼠的神经传导通路，改善梗死区组织病理表现，减少Nogo-A和NgR在脑组织内的表达，促进神经功能缺失症状的恢复。

Abstract: Objective To observe the effect of electroacupuncture (EA) on motor evoked potential (MEP) and expression of Nogo-A and Nogo receptor (NgR) in brain tissues of rats with focal cerebral ischemia, and to investigate the mechanism of EA in treatment of focal cerebral ischemia. Methods Thirty-six adult SD rats were divided into a normal group, a model group and an EA group. Rat models of middle cerebral artery occlusion were successfully established by improved Longa procedures in the model group and EA group. The rats of the normal group and model group were not given any treatment, while those of the EA group were given EA treatment on the 1st day after operation for 14 d. The latency of MEP was examined on the 1st day and 14th day after operation. HE staining and Nissl staining were used to observe the pathological changes of brain tissues, and immunohistochemistry and Western blotting were used to detect the expression of Nogo-A and NgR on the 14th day after operation. Results After 14 d, the latency of MEP N1 waves [(15.38±1.58)ms] and N2 waves [(33.60±3.58)ms] in the EA group was significantly shorter than that [N1 waves (21.28±4.0)ms and N2 waves (41.78±3.07)ms] in the model group ($P<0.01$). There was significant difference in brain pathology between the model group and EA group. Immunohistochemical staining and Western blotting results indicated that the expression levels of Nogo-A and NgR in the EA group were significantly lower than those in the model group ($P<0.05$, $P<0.01$). Conclusion EA is an effective method to improve the neural pathways and cerebral histopathological status, decrease the expression of Nogo-A and NgR, and promote the recovery from neurological deficits after focal cerebral ischemia.

参考文献/REFERENCES:

伍芳，龚标，李学智，等. 电针对局灶性脑梗死大鼠Nogo-A及其受体NgR和运动诱发电位的影响[J].第三军医大学学报,2013,35(3):228-232.

相似文献/REFERENCES:

[1]郑宗菊,李光勤.以反复发作性偏侧肢体无力为主要表现的脑梗死1例[J].第三军医大学学报,2012,34(18):1825.
[2]周平,李卫东,李英秋,等.脑梗死患者血清高迁移率族蛋白B1、白介素-6水平的变化及其与危险因素的相关性[J].第三军医大学学报,2012,34(19):1953.
Zhou Ping,Li Weidong,Li Yingqiu,et al.Serum levels of high mobility group box-1 and interleukin-6 in cerebral infarction patients and their correlation with the disease’s risk factors[J].J Third Mil Med Univ,2012,34(03):1953.
[3]马海,陈康宁,任亚静,等.多模式CT指导下动脉溶栓术对急性脑梗死的治疗研究[J].第三军医大学学报,2012,34(21):2188.
Ma Hai,Chen Kangning,Ren Yajing,et al.Multimode CT guided artery thrombolytic therapy in treatment of acute cerebral infarction[J].J Third Mil Med Univ,2012,34(03):2188.
[4]李梅,冯华.大面积脑梗死的临床表现及治疗方法[J].第三军医大学学报,2006,28(03):272.
[5]邱明国,王健,谢兵,等.电针刺激光明、外关组穴fMRI脑功能成像的研究[J].第三军医大学学报,2005,27(19):1970.
[6]刘海朋,胡永波,张小东,等.电凝法制作大鼠脑卒中模型的改良研究[J].第三军医大学学报,2011,33(17):1798.
Liu Haipeng,Hu Yongbo,Zhang Xiaodong,et al.Improved electrocoagulation method for establishing rat cerebral apoplexy model[J].J Third Mil Med Univ,2011,33(03):1798.
[7]翟瑄,梁平,夏佐中,等.高压氧治疗儿童外伤性基底节区脑梗死56例临床分析[J].第三军医大学学报,2010,32(14):1575.
[8]郭大静,陈维娟,吴伟,等.磁敏感加权成像对脑梗死的诊断价值[J].第三军医大学学报,2010,32(02):176.
Guo Dajing,Chen Weijuan,Wu Wei,et al.Diagnostic value of susceptibility weighted imaging in cerebral infarction: report of 38 cases[J].J Third Mil Med Univ,2010,32(03):176.
[9]张珊珊,罗勇,武磊.PI3K/AKT通路在电针促进局灶脑缺血再灌注大鼠脑内血管再生中的作用[J].第三军医大学学报,2010,32(23):2488.
Zhang Shanshan,Luo Yong,Wu Lei.Role of phosphoinositide 3-kinase/AKT signaling pathway in promoting angiogenesis

in rats with focal cerebral ischemia/reperfusion using electrical acupuncture[J].J Third Mil Med Univ,2010,32(03):2488.
[10]焦海霞,王萍,马腾,等.强力霉素抑制MMP-9对大鼠局灶性缺血再灌注脑损伤的保护作用[J].第三军医大学学报,2010,32(24):2591.
Jiao Haixia,Wang Ping,Ma Teng,et al.Doxycycline-mediated inhibition of MMP-9 protects focal cerebral ischemia-reperfusion injury in rats[J].J Third Mil Med Univ,2010,32(03):2591.