

针推研究

电针治疗对 MCAO 模型大鼠缺血半暗带
GDNF 表达的影响*刘霜月¹ 许潇莹¹ 张玉莲¹ 艾双春²

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摘要:目的 观察电针“水沟”“内关”“三阴交”“委中”穴,对脑缺血再灌注大鼠缺血半暗带区胶质细胞源性神经营养因子(glial cell line derived neurotrophic factor, GDNF)表达的影响,探讨其减轻脑缺血再灌注损伤的作用机制。方法 将120只清洁级成年雄性 Sprague-Dawley (SD)大鼠,随机分为空白组、假手术组、模型组、电针组和抑制剂组5组,每组24只。参照 Longa 改良线栓法,制备大脑中动脉栓塞(middle cerebral artery occlusion, MCAO)模型。电针组以电针刺激大鼠“水沟”“内关”“三阴交”“委中”穴,每天1次,连续治疗28天。抑制剂组以 NF- κ B 抑制剂 PDTC 进行大鼠腹腔注射后(120mg/kg),再行电针刺激,每天1次,连续治疗28天。应用实时荧光定量聚合酶链式反应(polymerase chain reaction, PCR),检测大鼠脑组织缺血半暗带区 GDNF 的 mRNA 表达。结果 与模型组相比,电针组 GDNFmRNA 表达在治疗后第3天时下降,在第7、14、28天时表达上升,差异有统计学意义($P < 0.05$);NF- κ B 抑制剂组 GDNFmRNA 表达在第3、7天时下降($P < 0.05$),在第14、28天时差异不明显无统计学意义($P > 0.05$)。与电针组比较,抑制剂组在治疗后4个观察时间点 GDNFmRNA 表达均下调明显,差异有统计学意义($P < 0.05$)。结论 电针治疗能上调 GDNFmRNA 的表达,对缺血再灌注损伤大鼠起到脑保护作用,其作用机制可能与 NF- κ B 信号通路的活性有关。

关键词: 电针;脑卒中;缺血再灌注损伤;GDNFmRNA;NF- κ B

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Effect of Electroacupuncture on Expression of GDNF
in Ischemic Penumbra of MCAO Model RatsLiu Shuangyue¹ Xu Xiaoying¹ Zhang Yulian¹ Ai Shuangchun²

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Abstract: Objective To observe the effect of electro-acupuncture at Shuigou, Neiguan, Sanyinjiao and Weizhong points on the expression of glial cell line derived neurotrophic factor (GDNF) in ischemic penumbra of rats with cerebral ischemia-reperfusion, and to explore its mechanism of reducing cerebral ischemia-reperfusion injury. **Methods** 120 adult male Sprague-Dawley (SD) rats of clean grade were randomly divided into five groups: blank group, sham operation group, model group, electro-acupuncture group and inhibitor group, with 24 rats in each group. The middle cerebral artery occlusion (MCAO) model was established by using Longa's modified thread embolization method. In the electro-acupuncture group, rats were stimulated by electro-acupuncture at Shuigou, Neiguan, Sanyinjiao and Weizhong points once a day for 28 days. The inhibitor group was intraperitoneally injected with NF- κ B inhibitor PDTC (120 mg/