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常规和强化运动训练对脑缺血再灌注大鼠海马齿状回区nestin表达的影响

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陆 敏 张苏明 常立英 王义辉 朱 舟

华中科技大学同济医学院附属同济医院康复医学科，武汉,430030

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摘要：

目的：探讨应用常规和强化运动训练对脑缺血再灌注大鼠海马齿状回区Nestin表达的影响。方法：54只Wistar大鼠随机分为造模对照组（A组）、常规运动训练组（B组）和强化运动训练组（C组），采用大鼠局灶性脑缺血再灌注模型，大脑中动脉阻塞1h，再灌注7d、14d和21d，应用免疫组织化学方法分别检测各组大鼠缺血侧和对侧海马齿状回区nestin的表达情况。结果：3组大鼠均表现为第7天时的海马区阳性细胞最多，而且在各时间点的缺血侧海马DG区的nestin阳性细胞数均明显多于对侧DG区。第7天、第14天和第21天时，B组和C组大鼠缺血侧海马区nestin阳性细胞均较A组明显增多，差异有显著性(P<0.01)，但B组和C组间大鼠缺血侧海马区nestin阳性细胞数无显著性差异。结论：脑缺血再灌注大鼠海马区nestin阳性细胞的增多存在时间规律及原位增殖特性，运动训练可显著增强nestin阳性表达的数量，但强化运动训练并不能增强此作用。

关键词：脑缺血再灌注 运动训练 巢蛋白

Effects of conventional and intensive exercise training on the expression of nestin in the hippocampus dentate gyrus after cerebral ischemia-reperfusion

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Dept. of Rehabilitation Medicine, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, 430030

Fund Project:

Abstract:

Objective: To explore the effect of conventional and intensive exercise training on the expression of nestin in the hippocampus dentate gyrus(DG) after cerebral ischemia-reperfusion. Method: Fifty-four Wistar rats were randomized into a control group(Group A), a conventional exercise training group(Group B), and an intensive exercise training group(Group C). The middle cerebral arteries(MCA) of rats were occluded for 1 hour, then reperfused for 7th, 14th and 21st days. Immunohistochemistry was used to detect the expression of nestin in the hippocampus dentate gyrus of rats. Result: There was the largest number of Nestin-positive cells in the DG in all groups on the 7th day after cerebral ischemia-reperfusion. Nestin-positive cells in ipsilateral DG were significantly more than those in the counter part at different time points. Significant increase of Nestin expression were detected in rats of Group B and C at different time points after cerebral ischemia-reperfusion, compared with Group A. We also found that there were no significant difference of Nestin-positive cells between Group B and Group C. Conclusion: The increase of Nestin-positive cells in the DG existed time-regularity and in situ proliferation characteristic after cerebral ischemia-reperfusion. Exercise training can significantly promote the expression of Nestin. But intensive exercise training can not enhance this function.

Keywords:cerebral ischemia-reperfusion exercise training nestin

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