

张军艳,张博爱,朱红灿,黄晓琳.学习记忆训练对全脑缺血大鼠认知能力的影响及其胆碱能机制[J].中国康复医学杂志,2008,(4):305-308

学习记忆训练对全脑缺血大鼠认知能力的影响及其胆碱能机制 [点此下载全文](#)

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基金项目:

DOI:

摘要点击次数: 156

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摘要:

摘要 目的:探讨学习记忆训练对全脑缺血大鼠空间学习记忆能力的影响及其胆碱能机制。**方法:**选用健康雄性SD大鼠90只随机分为假手术组、对照组、训练组。采用改良Pulsinelli's 4血管闭塞法制作全脑缺血大鼠模型。术后1周以Y型电迷宫训练大鼠,分别在训练7d、14d、21d后应用Y型电迷宫检测比较三组大鼠的空间学习记忆能力的差异。**结果:**训练21d后,对照组与假手术组和训练组比较,Y型电迷宫全天总反应时间和潜伏期明显延长($P<0.05$),错误反应次数明显增多($P<0.05$)。对照组神经元明显水肿,细胞器明显减少。训练组神经元细胞大、圆,细胞质丰富。对照组CA1区乙酰胆碱转移酶的光密度值明显低于假手术组和训练组($P<0.05$),而训练组和假手术组之间差异无显著性意义($P>0.05$)。**结论:**学习记忆训练可以改善全脑缺血大鼠的空间学习记忆能力,其机制可能是训练增加了乙酰胆碱转移酶的活性或训练抑制了乙酰胆碱转移酶活性的降低。**关键词** Y型电迷宫;全脑缺血;空间学习记忆;乙酰胆碱转移酶中图分类号: R493, R743 文献标识码: A 文章编号: 1001-1242(2008)-04-0305-04

关键词: [Y型电迷宫](#) [全脑缺血](#) [空间学习记忆](#) [乙酰胆碱转移酶](#)

Effects of learning and memory training on spatial learning and memory deficits and its cholinergic mechanism in rats with global cerebral ischemia [Download Fulltext](#)

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Abstract:

Objective:To explore the effects of learning and memory training on spatial learning and memory deficits and its cholinergic mechanism in rats with global cerebral ischemia. **Method:** Ninety male SD rats were randomly divided into three groups: sham-operated group, control group and training group. Rat model of global cerebral ischemia were made by a modified Pulsinelli's 4-vessel occlusion method. The rats were trained with Y-type maze seven days after operation. **Result:** After training for 21 days, the total reaction time and reaction time in control group were significantly longer than those in training group and sham-operated group ($P<0.05$), and the error number were significantly increased ($P<0.05$). The ultrastructure of hippocampus CA1 pyramidal neuron in the control group were distorted compared with those in the sham-operated group and the training group. The expression of ChAT in hippocampal CA1 region of the control group were significantly less than those in the sham-operated group and the training group. **Conclusion:** Learning and memory training can significantly improve the spatial learning and memory abilities in rats with global cerebral ischemia. Its mechanism may be related to training increased ChAT activity or suppressed ChAT activity decrease after global cerebral ischemia in hippocampal CA1 region.

Keywords: [Y-type maze](#) [global cerebral ischemia](#) [spatial learning and memory](#) [choline acetyltransferase](#)

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