

论文

记忆障碍大鼠GIRK1和IRK1的表达

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摘要:

目的 研究大鼠侧脑室注射聚集态β淀粉样肽<sub>25-35</sub> (β-AP<sub>25-35</sub>)后不同时间,大脑皮层GIRK1和IRK1的表达。方法 通过Morris水迷宫实验测量大鼠空间学习记忆能力;用RT-PCR方法测定GIRK1和IRK1的相对表达水平。结果在Morris水迷宫实验中,第4,5,8及10次训练时,βAP注射组的潜伏期比假手术组明显延长。βAP注射后1d及3d组和假手术组相比,GIRK1的表达明显降低,17d后与假手术组相同。IRK1的表达无明显改变。结论 大鼠侧脑室注射聚集态βAP<sub>25-35</sub>可引起空间学习记忆能力和钾通道表达改变。β淀粉样肽导致的GIRK1表达抑制可能与脑功能异常有关

关键词: β淀粉样肽 GIRK1 IRK1 记忆

THE EXPRESSION LEVELS OF GIRK1 AND IRK1 IN MEMORY DEFICIT RATS

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Abstract:

AIM To study the expression level of GIRK1 and IRK1 in cerebral cortex after aggregated beta amyloid peptide<sub>25-35</sub> injection into the rat cerebral ventricle for different times. METHODS To test the spatial learning and memory in Morris water maze. To observe GIRK1 and IRK1 expression levels by RT-PCR. RESULTS In Morris water maze task, the latencies of beta amyloid peptide treated rats were longer than those of the sham rats in the 4, 5, 8, 10 training periods ("student"*t*-test, *P*<0.05). The expression levels of GIRK1 in beta amyloid peptide injection day 1 and day 3 groups are decreased significantly compared with sham group (Tukey's test, *P*<0.05) and there is no difference between beta amyloid peptide injection day 17 group and sham group. IRK1 expression levels are no difference among the four groups. CONCLUSION Injection of aggregated beta amyloid peptide<sub>25-35</sub> into rat cerebral ventricles can induce memory and potassium channel expression changes. Beta amyloid peptide induced inhibition of GIRK1 expression may have some relations with brain dysfunction.

Keywords: GIRK1 IRK1 memory beta-amyloid peptide

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