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论著

美洛昔康对慢性铝超负荷致神经元退变大鼠海马环氧化酶2表达的影响

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摘要 目的 探讨环氧化酶2（COX-2）抑制剂对神经元退变大鼠海马COX-2表达的影响。方法 大鼠分为正常对照、慢性铝超负荷模型、美洛昔康1和3 mg·kg^{-1}组。除正常对照组外，大鼠ig给予葡萄糖酸铝（Al^{3+} 200 mg·kg^{-1}·d^{-1}），每周5 d，连续20周。给药组大鼠在每次给予铝盐后30 min分别ig美洛昔康。Morris水迷宫检测大鼠空间学习记忆能力，HE染色观察大鼠海马神经元形态，RT-PCR检测大鼠海马COX-2 mRNA表达，Western蛋白印迹法检测海马COX-2蛋白表达。结果 与正常对照组比较，慢性铝超负荷模型组大鼠空间学习记忆能力明显下降，海马神经元核固缩，海马COX-2 mRNA和蛋白表达均明显增加。同时给予美洛昔康可明显改善慢性铝超负荷导致的大鼠学习记忆能力降低和海马神经元损伤，并明显抑制慢性铝超负荷导致的海马COX-2 mRNA和蛋白表达的增加。结论 美洛昔康对慢性铝超负荷导致的神经元退变大鼠海马COX-2表达具有抑制作用，提示COX-2抑制剂对神经元退变具有一定的防治作用。

关键词 美洛昔康 环氧化酶2 铝超负荷,慢性 神经变性

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Effect of meloxicam on cyclooxygenase 2 expression of chronic aluminum overload-induced nerve degenaration in rat hippocampus

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Abstract

AIM To investigate the effect of cyclooxygenase 2(COX-2) inhibitors on COX-2 expression of nerve degeneration in rat hippocampus. **METHODS** The rats were divided into 4 groups: normal control, chronic aluminum overload model, and meloxicam 1 and 3 mg·kg^{-1} groups. Except normal control group, the rats were ig given aluminum gluconate（Al^{3+} 200 mg·kg^{-1}·d^{-1}）, 5 d a week, for 20 weeks. Meloxicam was administered ig to the rats in meloxicam groups 30 min after each aluminum administration. Spatial learning and memory function of rat was determined with Morris water maze, morphologic changes in hippocampal neurons were evaluated by HE staining, and COX-2 mRNA and protein expressions in hippocampus were detected with RT-PCR and Western blot, respectively. **RESULTS** Compared with normal control group, the spatial learning and memory function of rats in chronic aluminum overload model group was significantly impaired, and hippocampal neurons showed obviously karyopycnosis. The expressions of COX-2 mRNA and protein in hippocampus obviously increased, too. Meloxicam 1 and 3 mg·kg^{-1} obviously prevented rats from learning and memory function impairment induced by chronic aluminum overload, and decreased the percentage of neuron with karyopycnosis. The increase in COX-2 mRNA and protein expressions induced by chronic aluminum overload was significantly inhibited by meloxicam. **CONCLUSION** Meloxicam can inhibit the COX-2 expression of neurodegeneration induced by chronic aluminum overload in rat hippocampus, and it is suggested that the COX-2 inhibitors use to prevent and treat the neurodegenerative diseases.

Key words meloxicam cyclooxygenase 2 aluminum overload chronic nerve degeneration

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