

论文

孟鲁司特对哮喘豚鼠气道嗜酸性粒细胞凋亡及Fas mRNA表达的影响

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摘要:

目的研究白三烯受体拮抗剂孟鲁司特(montelukast,MK)对哮喘豚鼠气道嗜酸性粒细胞(eosinophil,Eos)凋亡和Fas mRNA表达的影响。方法以卵白蛋白致敏豚鼠制备哮喘模型。用密度梯度离心法分离并计数支气管肺泡灌洗液(BALF)中的嗜酸性粒细胞;采用TUNEL技术原位检测嗜酸性粒细胞凋亡;通过逆转录-多聚酶链反应(RT-PCR)技术检测嗜酸性粒细胞Fas mRNA的表达。结果孟鲁司特能显著降低哮喘豚鼠BALF中Eos的数量;在孟鲁司特治疗组,嗜酸性粒细胞凋亡指数明显升高, Fas mRNA的表达显著增强,与模型组比较均有显著性差异。结论嗜酸性粒细胞凋亡与Fas mRNA表达增加高度相关;增强气道嗜酸性粒细胞Fas mRNA的表达,促进其凋亡,可能是孟鲁司特拮抗哮喘气道炎症的一个重要机制。

关键词: 白三烯受体拮抗剂 孟鲁司特 哮喘 嗜酸性粒细胞 细胞凋亡

Effects of montelukast on apoptosis and Fas mRNA expression of eosinophils in airway of asthmatic guinea pigs

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Abstract:

AimTo study the effect of montelukast on apoptosis and Fas mRNA expression of eosinophils in airway of asthmatic guinea pigs. MethodsExperimental asthma model of guinea pigs was induced by ovalbumin. The eosinophils in broncho-alveolar lavage fluid (BALF) were separated by density gradient centrifugation. The apoptosis of eosinophils was labeled by TdT-mediated dUTP nick end labeling (TUNEL) technique. Fas mRNA expression of eosinophils was detected by reverse transcription-polymerase chain reaction (RT-PCR). ResultsAfter treatment with montelukast, the number of eosinophils in BALF of asthmatic guinea pigs decreased significantly. The apoptosis index as well as Fas mRNA expression of eosinophils were elevated significantly. There were statistical differences between the therapeutic group and the model group. ConclusionApoptosis of eosinophils is highly correlated with the increased expression of Fas mRNA. Enhancing expression of Fas mRNA and promoting apoptosis of eosinophils subsequently may be an important mechanism for montelukast to antagonize airway inflammation of asthma.

Keywords: montelukast asthma eosinophil apoptosis leukotriene receptor antagonist

收稿日期 2003-10-08 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者: 张洪泉

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