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论著

盐酸戊乙奎醚抑制脂多糖致急性肺损伤大鼠肺组织中PMN扣押和NF-κB活化

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摘要 目的：观察盐酸戊乙奎醚(PHC)对脂多糖(LPS)致急性肺损伤(ALI)大鼠中性粒细胞(PMN)肺内扣押及对肺组织核因子κB（NF-κB）活化的影响。方法： SD大鼠随机分为对照组、LPS模型组（静脉注射5 mg/kg LPS）、LPS+PHC高、中和低(3.0、1.0和0.3 mg/kg)3个剂量组，每组8只，用比色法测定肺组织髓过氧化物酶(MPO)活性，进行支气管肺泡灌洗液(BALF)PMN计数，蛋白免疫印迹法检测肺组织NF-κB的表达。结果：PHC显著降低ALI大鼠肺组织MPO活性、BALF中PMN计数比例（均P＜0.05)；ALI组大鼠肺组织磷酸化NF-κB的表达显著高于正常对照组（P＜0.05)；PHC高、中剂量组能显著抑制大鼠肺组织磷酸化NF-κB表达高于ALI模型组（均P＜0.05)；在造模后不同的时点观察，PHC对磷酸化NF-κB表达的作用有差别，以造模后6 h时最能有效抑制磷酸化NF-κB上调。结论： PHC能抑制LPS诱导ALI大鼠PMN在肺内扣押和肺组织NF-κB活化，PHC抑制LPS诱导PMN肺内扣押可能与抑制NF-κB活化有关，后者有待进一步验证。

关键词 急性肺损伤； 盐酸戊乙奎醚； 脂多糖类； NF-κB

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PHC inhibits sequestration of neutrophils and activation of NF-kappa B in lung tissue of ALI rats induced by LPS

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Abstract

<FONT face=Verdana>AIM:The present study was designed to investigate the effects of penehyclidine hydrochloride (PHC) on lipopolysaccharide (LPS) induced sequestration of neutrophils and activation of NF-κB in lung tissue in rats.
METHODS:Acute lung injury was induced successfully by intravenous administraiton of LPS (5 mg/kg) in rats. PHC (3.0, 1.0, and 0.3 mg/kg) was administered to rats 0.5 h prior and then again concomitant with LPS exposure. The activity of myeloperoxidase (MPO) and pulmonary microvascular leakage, as indicated by albumin content in the bronchoalveolar lavage fluid (BALF), were measured at 6 h after LPS application. Western blotting analysis was performed to determine the phosphorylations of NF-κB in lung tissue.
RESULTS:Challenge with LPS alone resulted in a significant increase in MPO activity and the ratio of neutrophiles in BALF. LPS also triggered activation of NF-κB in 2 h. Pre-treatment with PHC significantly abolished the activation of MPO and increase of neutrophiles in BALF in a dose-dependent manner. Moreover, pretreatment with PHC efficiently blunted the activation of NF-κB induced by LPS at 6 h.
CONCLUSION:These results suggested that the protective effect of PHC in LPS-induced ALI in rats was observed, and this effect was partly responsible for the inhibition of the activation of NF-κB by LPS.</FONT>

Key words Acute lung injury Penehyclidine hydrochloride Lipopolysaccharides NF-kappa B

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