

论著

小剂量哌替啶对香烟烟雾致豚鼠急性肺气道反应的影响

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摘要 目的 研究小剂量阿片受体激动剂哌替啶(Peth)对香烟烟雾吸入引起的豚鼠急性气道收缩反应和炎症反应的影响。方法 观察Peth 0.01, 0.1和1 mg·kg⁻¹对豚鼠自主吸入75%香烟烟雾(含25%O₂)60 mL后,气道阻力和肺动态顺应性变化的影响及气道组织血管通透性变化的影响;观察Peth 0.1 mg·kg⁻¹对豚鼠2 h内分6次吸入(共360 mL)75%浓度的香烟烟雾后,支气管肺泡灌洗液(BALF)中白细胞总数和分类计数改变的影响,测定BALF中一氧化氮(NO)含量。结果 Peth能减轻或明显抑制香烟烟雾刺激后气道阻力增高和肺动态顺应性下降的反应,抑制气道组织各段微血管通透性增加的反应,降低BALF中的白细胞总数和中性粒细胞比例,降低BALF中NO的含量。结论 小剂量Peth对豚鼠急性神经源性气道收缩反应和炎症反应具有抑制作用。

关键词 [哌替啶](#) [烟雾](#) [气道阻力](#) [炎症](#)

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Effect of low-dose pethidine on cigarette smoke-induced acute airway responses in guinea pigs

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Abstract

AIM To investigate the effects of low-dose pethidine (Peth), a μ -opioid receptor agonist on cigarette smoke-induced acute airway smooth muscle constriction and inflammatory reaction in guinea pigs. **METHODS** Low-dose Peth 0.01, 0.1 and 1 mg·kg⁻¹ were given iv 10 min before guinea pigs inhaled 75% cigarette smoke 60 mL. Then, the changes in airway resistance (R_{aw}), dynamic lung compliance (C_{dyn}) and vascular permeability in airway tissues were observed. The total leukocyte and the differential leukocyte in bronchoalveolar lavage fluid (BALF) and nitric oxide (NO) content in BALF were investigated after guinea pigs given iv Peth 0.1 mg·kg⁻¹ 10 min before cigarette smoke inhalation and consecutively inhaled 360 mL smoke in 2 h. **RESULTS** Low-dose Peth reduced or significantly inhibited increase in R_{aw} and decrease in C_{dyn} , simultaneously inhibited vascular leakages in each part of airway tissues, decreased the total leukocyte and the proportion of neutrophil in BALF, and lowered the content of NO in BALF. **CONCLUSION** Low-dose Peth inhibits acute neurogenic airway constriction and inflammatory responses in guinea pigs.

Key words [pethidine](#) [smoke](#) [airway resistance](#) [inflammation](#)

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