

## 实验研究

# 姜黄素对小鼠急性肺损伤的保护作用<sup>\*</sup>

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**摘要:** **目的** 探讨姜黄素对小鼠急性肺损伤 (Acute lung injury, ALI) 的保护作用。 **方法** 40 只健康成年 BALB/c 小鼠被随机分为: 对照组、模型组、姜黄素组和乌司他丁组。对照组腹腔注射生理盐水, 其他各组腹腔注射脂多糖 (LPS) 20 mg/kg 建立急性肺损伤小鼠模型; 姜黄素组在 ALI 造模前 30 min 腹腔注射姜黄素 200 mg/kg; 乌司他丁组于 ALI 造模前 1 h 腹腔内注射乌司他丁 ( $1 \times 10^5$  U/kg)。12 h 后处死小鼠, 留取血样, ELISA 法测定小鼠血清中肿瘤坏死因子 (Tumor necrosis factor, TNF- $\alpha$ )、白介素-6 (Interleukin 6, IL-6)、丙二醛 (Malondialdehyde, MDA)、超氧化物歧化酶 (Superoxide dismutase, SOD) 水平的变化; 留取肺组织, 观察肺组织病理学变化并计算各组小鼠肺湿重/干重比值 (W/D)。 **结果** 与对照组相比, 模型组小鼠血清 TNF- $\alpha$ 、IL-6、MDA 水平显著升高, SOD 水平显著下降; 而与模型组相比, 姜黄素组和乌司他丁组小鼠血清 TNF- $\alpha$ 、IL-6、MDA 水平明显降低, SOD 水平显著升高。与对照组相比, 模型组小鼠肺 W/D 显著升高; 与模型组相比, 姜黄素组和乌司他丁组小鼠肺 W/D 明显降低。模型组小鼠肺泡结构破坏严重, 肺泡间隔增厚, 间质渗出较多, 而姜黄素组和乌司他丁组小鼠肺泡结构相对较完整, 炎性细胞渗出较少。姜黄素组和乌司他丁组两组相比无差异。 **结论** 姜黄素可减轻 LPS 诱导的急性肺损伤小鼠炎症反应, 其机制可能与抑制脂质过氧化反应有关。

**关键词:** 姜黄素; 脓毒性休克; 急性肺损伤; 炎症反应; 脂质过氧化反应

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## A Research on the Protective Effect of Curcumin on Acute Lung Injury in Mice

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**Abstract:** **Objective** To explore the protective effect of curcumin on Acute Lung Injury (ALI) in mice. **Method** 40 healthy adult BALB/c mice were randomly divided into control group, model group, curcumin group and ulinastatin group. The control group was intraperitoneally injected with normal saline, and the other groups were intraperitoneally injected with lipopolysaccharide (LPS) 20 mg/kg to establish the mouse model of acute lung injury. The curcumin group was intraperitoneally injected with 200 mg/kg of curcumin 30 minutes before the modeling of ALI. Ulinastatin group was intraperitoneally injected with ulinastatin ( $1 \times 10^5$  U/kg) 1 hour before the establishment of the ALI model. After 12 hours, mice were sacrificed and blood samples were collected. The serum levels of tumor necrosis factor (tnf-leutrium), interleukin-6 (il-6), malondialdehyde (MDA), and superoxide dismutase (SOD) were determined by ELISA. Lung

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