

论著

胆红素对抗脂多糖诱导大鼠急性肺损伤的实验研究

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摘要 目的: 探讨胆红素对抗急性肺损伤 (ALI) 的作用及其机制。方法: 用雄性Wistar大鼠 (200-250 g) 30只, 随机分为生理盐水对照组、脂多糖 (LPS) 致ALI动物模型组、胆红素干预组。观察病理形态变化并检测肺组织肺系数 (LI); 支气管肺泡灌洗液 (BALF) 中白细胞 (WBC) 计数、中性粒细胞 (PMN) 百分比、蛋白含量 (Pr); 肺泡通透指数 (LPI) 及肺组织匀浆中超氧化物歧化酶 (SOD)、脂质过氧化产物丙二醛 (MDA)、谷胱甘肽过氧化物酶 (GSH-Px) 水平变化。结果: (1) ALI模型组LI, BALF中WBC计数、PMN百分比、Pr及LPI均显著高于生理盐水对照组 (均 $P<0.01$)。胆红素干预组LI, BALF中WBC计数和LPI均显著低于ALI模型组 (均 $P<0.01$), PMN百分比和Pr明显低于ALI模型组 (均 $P<0.05$), 且与生理盐水对照组无显著差异 ($P>0.05$)。 (2) ALI模型组MDA含量显著多于生理盐水对照组 ($P<0.01$), SOD活性和GSH-Px含量都明显低于生理盐水对照组 ($P<0.01$)。胆红素干预组MDA含量明显低于ALI模型组 ($P<0.01$), 而SOD活性和GSH-Px含量显著多于ALI模型组 ($P<0.01$, $P<0.05$)且与生理盐水对照组无显著差异 ($P>0.05$)。结论: 胆红素通过其抗氧化作用对抗大鼠急性肺损伤。

关键词 [胆红素](#); [肺损伤,急性](#); [脂多糖类](#)

分类号 [R363](#)

Antagonistic effect of bilirubin on acute lung injury induced by LPS in rats

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Abstract

AIM: To investigate the effect of bilirubin on acute lung injury (ALI) and the mechanism. METHODS: 30 male Wistar rats were divided into normal group, ALI group and bilirubin treatment group. Lung specimens were examined by histopathological technique. Lung index (LI) and lung permeability index (LPI) were measured. Moreover, white blood cell (WBC) count, neutrophil percentage (PMN%) and the content of protein (Pr) in the bronchoalveolar lavage fluid (BALF), as well as the contents of superoxide dismutase (SOD), malonaldehyde (MDA) and glutathione peroxidase (GSH-Px) in the lung homogenate were determined. RESULTS: (1) In ALI group: LI, WBC count, PMN%, Pr and LPI increased significantly compared with normal group ($P<0.01$). In bilirubin treatment group, all the values determined decreased compared with ALI group ($P<0.01$; $P<0.05$). No notable discrepancy between bilirubin treatment group and normal group ($P>0.05$) was observed. (2) In ALI group, the content of MDA was significantly higher ($P<0.01$), but the contents of SOD and GSH-Px were significantly lower than those in normal group ($P<0.01$). In bilirubin treatment group, the content of MDA decreased significantly ($P<0.01$) but the contents of SOD and GSH-Px increased significantly ($P<0.01$; $P<0.05$) compared with ALI group. No notable discrepancy between bilirubin treatment group and normal group was observed ($P>0.05$). CONCLUSION: Bilirubin relieves ALI induced by LPS in rats via antioxidation.

Key words [Bilirubin](#) [Lung injury, acute](#) [Lipopolysaccharides](#)

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