

论著

# 大承气汤治疗大鼠内毒素性ARDS的疗效分析及免疫调节机制研究

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**摘要** 目的: 探讨大承气汤对内毒素“二次打击”致急性呼吸窘迫综合征(ARDS)的防治作用,为中西医结合防治呼吸道疾病提供有效依据。方法: 48只健康雄性Wistar大鼠随机分为4组:生理盐水对照组、ARDS模型组、大承气汤治疗组、地塞米松治疗组,每组12只。采用大肠杆菌脂多糖(LPS)“二次打击”建立大鼠ARDS动物模型,结合动脉血气分析、肺湿/干重(W/D)比值及肺组织病理学观察和评分,评价大承气汤的药理作用;酶联免疫吸附法(ELISA)测定血浆与支气管肺泡灌洗液(BALF)中肿瘤坏死因子- $\alpha$ (TNF- $\alpha$ )、白细胞介素-1(IL-1)、IL-10水平,探讨大承气汤的药理作用和免疫调节机制。结果: (1)大承气汤可以显著提高ARDS大鼠动脉血氧分压,增加血氧饱和度,降低肺湿/干重比值和肺病理损伤,减轻肺水肿和肺部炎症反应,因而具有改善肺通气、抑制肺部炎症反应、减轻肺损伤功能。(2)大承气汤可使血浆促炎细胞因子(TNF- $\alpha$ 、IL-1)和抗炎细胞因子(IL-10)水平同时降低,使BALF中TNF- $\alpha$ 、IL-1水平降低同时IL-10水平却升高,因而表现出对全身炎症反应和局部炎症反应不同的免疫调节机能。结论: 大承气汤抑制肺部炎症反应除与下调全身炎症反应水平有关,同时还与促进肺部抗炎介质产生、调节肺部促炎介质/抗炎介质的平衡有关。

**关键词** [大承气汤](#); [脂多糖类](#); [呼吸窘迫综合征](#); [急性肺损伤](#); [地塞米松](#); [肿瘤坏死因子](#)

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## Immunoregulatory effect of Dachengqi decoction on endotoxic ARDS in rats

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### Abstract

<FONT face=Verdana>AIM: To investigate the effect of Dachengqi decoction (DD) on the acute respiratory distress syndrome (ARDS) in rat model induced by endotoxin “two-hit”. METHODS: 48 healthy male Wistar rats were randomly divided into 4 groups: control group, ARDS model group, ARDS+DD treatment group and ARDS+dexamethasone treatment group (12 in each group). E. coli lipopolysaccharide (LPS) “two-hit” induced ARDS model in rats was established. The arterial blood gas analysis, lung wet/dry weight (W/D) ratio and lung tissue pathology observation and scoring were measured to evaluate the pharmacological effects of DD on ARDS. The levels of TNF- $\alpha$ , IL-1 and IL-10 were determined by ELISA to explore the immune regulatory mechanism of DD. RESULTS: (1) Treatment with DD significantly improved blood pressure in rats, increased oxygen saturation, decreased lung wet/dry weight ratio and lung injury score, relieved pulmonary edema and the inflammatory responses. (2) DD suppressed the productions of systemic and pulmonary pro-inflammatory mediators and promoted the release of anti-inflammatory mediators in lung. CONCLUSION: The inhibitory effects of DD treatment on pulmonary inflammatory response are not only related to reducing the extent of systemic inflammatory response, but also promote pulmonary anti-inflammatory production and regulate the balance of pulmonary pro-inflammatory mediators and anti-inflammatory cytokines. This specific regulatory effect protects the target organ from excessive inflammatory organ injury, discloses that DD has advantages in the treatment of endotoxic ARDS.</FONT>

**Key words** [Dachengqi decoction](#) [Lipopolysaccharides](#) [Respiratory distress syndrome](#) [Acute lung injury](#) [Dexamethasone](#) [Tumor necrosis factor](#)

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