

论著

埃他卡林对脂多糖、油酸、二甘醇等所致肾脏损伤的影响

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摘要 目的 观察埃他卡林对脂多糖、油酸和二甘醇等不同因素所致肾脏损伤的影响。方法 采用大鼠股静脉注射2%醋酸铅致敏后注射脂多糖1 μg (1 ml/kg), 4 h造成内毒素休克肾损伤模型, 大鼠左肾动脉注射油酸0.15 ml/kg, 24 h造成油酸所致肾损伤模型, 分别在造模前3 d及1 h, 以埃他卡林1, 3, 9 mg/(kg·d)灌胃给药; 小鼠腹腔注射二甘醇10 g/kg后, 立即以埃他卡林1, 3, 9 mg/(kg·d)灌胃给药6 d, 第7天造模成功。3种模型建立后, 观察血清肌酐、尿素氮水平和肾脏形态学变化, 评价肾脏功能。结果 (1)内毒素性休克大鼠血清肌酐和尿素氮水平显著升高, 组织病理显示有肾小球微血栓、肾小管上皮肿胀和管腔内蛋白管型形成。埃他卡林9 mg/kg组能明显降低血清尿素氮和肌酐水平, 改善上述病理变化。(2)左肾动脉注射油酸大鼠血清肌酐和尿素氮水平显著升高, 组织病理显示肾小球内皮细胞坏死, 球囊腔减小, 肾小管间质充血且管腔内有蛋白管型形成。埃他卡林对油酸所致大鼠肾脏损伤无显著性改善作用。(3)二甘醇肾损伤小鼠血清肌酐水平显著性升高, 埃他卡林9 mg/kg组血清肌酐水平恢复至正常。结论 埃他卡林不适合于脂多糖、油酸所致肾脏损伤的防治, 埃他卡林可否用于二甘醇所致肾损伤的治疗值得进一步研究。

关键词 [ATP敏感性钾离子通道](#) [埃他卡林](#) [肾脏](#) [肾脏损伤](#)

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Effects of iptakalim on renal injury induced by lipopolysaccharide, oleic acid and diethylene glycol

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Abstract

Objective To observe the effects of iptakalim on renal injury induced by lipopolysaccharide(LPS), oleic acid and diethylene glycol(DEG). **Methods** By injection of 2% lead acetate and 1 μg (1 ml/kg) LPS to rats' femoral vein, 4 h later the experimental models of renal injury induced by LPS have been developed. By injection of 0.15 ml/kg oleic acid to rats' left renal artery, 24h later the experimental models of renal injury induced by oleic acid have been developed. Iptakalim was orally gavaged at the doses of 1, 3, 9 mg/(kg·d) for 3 d and 1 h before injury. The experimental models of renal injury have been developed by injection of DEG 10 g/kg to mice's peritoneal cavity, then iptakalim was orally gavaged at the doses of 1, 3, 9 mg/(kg·d) for 6 d. After the experimental models have been set up, observe the serum levels of creatinine(Cr), blood urea nitrogen(BUN) and pathological changes in renal tissue, for the further evaluation of renal function. **Results** (1) In rats with the shock induced by LPS, significantly increased serum levels of Cr and BUN were found. Renal cortex of injury rats showed obviously glomerulus microthrombi, tubular cell swelling, necrosis, congestion and cast. Pretreatment of iptakalim at the dose of 9 mg/kg showed improved renal dysfunction and pathological changes in renal tissue.(2)In rats with the renal injury induced by oleic acid, significantly increased serum levels of Cr and BUN were found. Renal cortex of renal injury rats showed obviously glomerulus endothelial cell necrosis, tubular cell congestion and cell cast. Iptakalim had no effect on damaged renal function and the morphological changes in renal tissue. (3)In mice with the renal injury induced by 10 g/kg of DEG, significantly increased serum levels of Cr were found. Iptakalim at the doses of 9 mg/kg decreased serum levels of Cr to normal level. **Conclusion** Iptakalim does not fit for individuals of renal damage caused by LPS or oleic acid. The protective effects of iptakalim against renal damaged by DEG need to be further investigated.

Key words [ATP-sensitive potassium channel](#) [iptakalim](#) [kidney](#) [renal injury](#)

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