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论著

卡维地洛对顺铂致大鼠急性肾衰竭的预防作用

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摘要 目的 观察卡维地洛对顺铂致大鼠急性肾衰竭的影响，并初步探讨其作用机制。方法 Wistar大鼠给予卡维地洛5，15和30 mg·kg^{-1}，ig，每日1次，连续6 d，于d 3单次ip顺铂10 mg·kg^{-1}。于d 6测定血清尿素氮（BUN）和肌酐（SCr）含量，尿*N*-乙酰-β-*D*-氨基葡萄糖苷酶（NAG）活性，肾组织丙二醛（MDA）含量、超氧化物歧化酶（SOD）及谷胱甘肽过氧化物酶（GSH-Px）活性；苏木素 伊红染色观察肾脏病理改变。结果 顺铂组大鼠血清BUN和SCr含量升高，尿NAG活性升高，肾组织MDA水平增加，SOD和GSH-Px水平降低，肾脏病理改变明显。预先给予卡维地洛5和15 mg·kg^{-1}可明显逆转上述改变，但加大剂量至30 mg·kg^{-1}时效应反而降低。结论 在一定剂量范围内，卡维地洛可能通过减少活性氧产生，增加抗氧化酶活性而减轻顺铂所致急性肾衰竭。

关键词 顺铂 卡维地洛 肾功能衰竭, 急性 超氧化物歧化酶 丙二醛

分类号 R972

Protective effect of carvedilol on acute renal failure induced by cisplatin in rats

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Abstract

AIM To investigate the effect of carvedilol on acute renal failure induced by cisplatin in rats and explore the possible mechanism. **METHODS** Male Wistar rats were given ig carvedilol 5, 15 and 30 mg·kg^{-1}, respectively, once daily for 6 d, and single dose of cisplatin 10 mg·kg^{-1} ip at d 3. Renal injury was assessed by measuring serum creatinine (SCr), blood urea nitrogen (BUN), acetyl-β-*D*-glucosaminidase (NAG) in urine and the renal morphology changes by Hematoxylin-eosin (HE) staining, as well as the malondialdehyde (MDA) content, superoxide dismutase (SOD) activity and glutathione peroxidase (GSH-Px) activity of the kidney were measured. **RESULTS** Cisplatin induced a significant increment in SCr, BUN, NAG, and MDA content and severe morphology changes, at the same time, decreased the renal SOD and GSH-Px activities. Pre treatment with carvedilol 5 and 15 mg·kg^{-1} reversed the changes mentioned above. **CONCLUSION** In some dosage range, carvedilol improves acute renal failure induced by cisplatin through reducing reactive oxidative species and increasing the activity of antioxidases.

Key words cisplatin carvedilol kidney failure acute superoxide dismutase malondialdehyde

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