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论著

曲尼司特对糖尿病大鼠肾单核细胞趋化蛋白1表达的抑制作用

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摘要 目的 研究曲尼司特对糖尿病大鼠肾纤维化及单核细胞趋化蛋白1(MCP-1)表达的影响。方法 健康SD大鼠一次性尾静脉注射链脲佐菌素30 mg·kg^{-1}制备糖尿病大鼠模型,72 h后每天分别ig给予曲尼司特100和200 mg·kg^{-1},每天1次,连续12周。测定空腹血糖(FBG)、24 h尿蛋白(UP)和血清尿素氮(BUN)含量及肾指数;Masson染色观察肾形态,免疫组化法和Western印迹法检测肾组织MCP-1蛋白表达。结果 与正常对照组相比,模型对照组FBG、BUN、24 h UP含量和肾指数均明显升高(P<0.01);与模型对照组相比,曲尼司特100和200 mg·kg^{-1}组BUN、24 h UP含量、肾指数均显著降低(P<0.01),BUN由(21.0±3.5)mmol·L^{-1}分别降低到14.5±2.6和(10.1±3.7)mmol·L^{-1},24 h UP由(39.3±6.6)mg分别降低到27.0±4.5和(23.7±6.0)mg(P<0.01)。与正常对照组相比,模型对照组肾小球体积增大,系膜区增宽,间质胶原纤维明显增多,肾MCP-1蛋白表达显著增加(P<0.05)。与模型对照组相比,曲尼司特100和200 mg·kg^{-1}组间质胶原纤维明显减少,肾MCP-1表达明显下降(P<0.05)。其中曲尼司特200 mg·kg^{-1}组效果更为明显(P<0.01)。结论 曲尼司特可能通过减少MCP-1表达,从而延缓肾间质纤维化的发展。

关键词 曲尼司特 单核细胞趋化蛋白-1 糖尿病大鼠 肾纤维化

分类号 R963

Inhibitory effect of tranilast on expression of monocyte chemotactic protein-1 in kidneys of diabetic rats

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Abstract

OBJECTIVE To study the effect of tranilast on renal fibrosis and the expression of monocyte chemotactic protein-1(MCP-1) in the kidneys of diabetic rats. **METHODS** Diabetic animal models were induced after streptozotocin 30 mg·kg^{-1} was injected into Spraque-Dawley rats. After 72 h, tranilast 100 and 200 mg·kg^{-1} was ip given to rats in tranilast groups, respectively, once daily, for 12 weeks. The fasting blood glucose(FBG), 24 h urine protein(UP), urea nitrogen(BUN),and renal hypertrophy index were determined. The pathological changes of renal tissue were observed by Masson staining. The expression of MCP-1 in renal tissue was measured by immunohistochemical method and Western blotting. **RESULTS** Compared with normal control group, concentrations of FBG, BUN, 24 h UP and kidney hypertrophy index in model control group were all significantly increased (P<0.01). Compared with model control group, BUN, 24 h UP, and renal hypertrophy index in tranilast 100 and 200 mg·kg^{-1} groups greatly decreased. Compared with model control group, BUN decreased from (21.0±3.5) mmol·L^{-1} to (14.5±2.6) and (10.1±3.7)mmol·L^{-1}, 24 h UP decreased from(39.3±6.6) mg to (27.0±4.5)mg and (23.7±6.0)mg (P<0.01). Compared with normal control group, the glomerular volume was enlarged, mesangial area broadened, and interstitial collagen fiber and the expression of MCP-1 protein in the kidney increased obviously in model control group (P<0.05). Compared with model control group, interstitial collagen fiber significantly decreased, so did MCP-1 expression of the