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核仁素在糖尿病性心肌病中的表达

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Nucleolus expression in diabetic cardiomyopathy

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摘要

目的: 探讨核仁素在糖尿病性心肌病中的表达情况。方法: 实验分为对照组和II型糖尿病性心肌病模型组(模型组); 模型组采用高脂高糖饲料持续喂养(第5, 6周于小鼠腹腔注射60 mg/kg链脲佐菌素)构建, 第8周末测定小鼠血糖, 第20周末测定两组小鼠空腹血糖值并计算心脏质量与体质量的比值, 观察心肌形态学病理改变, 采用免疫组织化学法和Western印迹检测心肌核仁素的表达水平。结果: 糖尿病模型组小鼠较对照组空腹血糖值明显升高($P < 0.05$); 模型组小鼠心肌细胞肥大、排列紊乱, 出现断裂及溶解; 免疫组织化学染色及Western印迹显示模型组小鼠心肌核仁素蛋白水平较对照组明显升高($P < 0.05$)。结论: 核仁素可能在糖尿病性心肌病的发生和发展中起着一定的作用。

关键词: II型糖尿病, 心肌病, 核仁素, 表达

Abstract:

Objective: To investigate the nucleolus expression in the diabetic cardiomyopathy.
Methods: The rats were divided into a control group and a type II diabetic cardiomyopathy group (model group). In the model group, rats were fed with high-fat and high-sugar food (rats were intravenously injected with 60 mg/kg chain urea with cephalosporins in the 5th and 6th weeks in mice). The level of blood glucose was determined at the end of 8th week and the level of fasting blood glucose was examined at the end of 20th week. The ratio of the heart mass and body mass was calculated, and the pathological changes in myocardial morphology were observed. The immunohistochemical method and Western blot were used to detect the expression level of myocardial nucleolin.
Results: The level of fasting blood glucose was significantly increased in the diabetic model group than that in the control group ($P < 0.05$). Rats in the model group were found hypertrophic cardiac cells, with fracture, dissolution, and disordered arrangement. Immunohistochemical staining and Western blot showed the protein levels of myocardial nucleolin in the model group were obviously higher than those in the control group ($P < 0.05$).
Conclusion: Nucleolin may play a role in the pathogenesis and development of the diabetic cardiomyopathy.

Key words: Type II diabetes cardiomyopathy nucleolin expression

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