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耐力运动对2型糖尿病大鼠骨骼肌葡萄糖载体4基因表达的影响 [点此下载全文](#)

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摘要:

目的: 探讨耐力运动对糖尿病大鼠骨骼肌葡萄糖载体4 (glucose transporter 4, GLUT4) mRNA表达的影响。方法: 32只雄性2型糖尿病OLETF大鼠和13只雄性对照LETO大鼠随机分为6组: A1组OLETF运动组、A2组OLETF运动+胰岛素组、B1组OLETF非运动组、B2组OLETF非运动+胰岛素组、C组LETO运动组、D组LETO非运动组。A1、A2、C组参照Poung报道的大鼠游泳运动方法运动12周。A2、B2组经肝门静脉予胰岛素10U / Kg的注射, 1min后处死取材。Real-time PCR方法测定GLUT4 mRNA。结果: GLUT4 mRNA表达在A1组比B1组升高3倍, A2组比A1组升高13倍, B2组比B1组升高20倍, 差异均有显著性意义; A2组比B2组GLUT4 mRNA升高2倍, 差异无显著性意义。结论: 耐力运动可以促进GLUT4 mRNA的表达, 耐力运动和胰岛素对糖尿病治疗具有协同作用, 两者不能相互替代。

关键词: [糖尿病大鼠](#) [耐力运动](#) [GLUT4 mRNA](#) [骨骼肌](#)

Effects of endurance training on GLUT4 gene expression in skeletal muscle of rats with type 2 diabetes/ [Download Fulltext](#)

[WANG Dan](#) [WU Yi](#) [HU Yongshan](#) [et al](#)

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Abstract:

Objective: To explore effects of endurance training on GLUT4 gene expression rats with type II diabetes. Method: Thirty two diabetic rats were divided into four groups: training (group A1), training with insulin injection (group A2), no training (group B1) and no training with insulin injection (group B2). Thirteen no-diabetic rats were divided into two groups: training (group C) and no training (group D). Expressions of GLUT4 gene were measured by real-time PCR. Result: Expressions of GLUT4 mRNA in group A1 were 3 times higher than in group B1; in group A2 were 13 times higher than in group A1; in group B2 were 20 times higher than in group B1; in group A2 were 2 times higher than in group B2. Conclusion: Endurance training can increase gene expressions of GLUT4 mRNA in skeletal muscle of diabetic rats. The results showed that there is synergic effect of endurance training and insulin injection in diabetic treatment but these two interventions can not be replaced each other.

Keywords: [diabetic rat](#) [endurance training](#) [GLUT4 mRNA](#) [skeletal muscle](#)

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