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# 运动与饮食干预对肥胖大鼠脂肪组织视黄醇结合蛋白4基因表达及蛋白水平的影响

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摘要：

摘要目的：探讨运动与饮食干预对肥胖大鼠脂肪组织视黄醇结合蛋白4（RBP4）基因表达及蛋白表达水平的影响。方法：健康雄性SD大鼠60只（60—95g），随机抽取10只作为普通膳食对照组（C），喂养标准普通饲料。其余50只喂养高脂膳食，7周后建立肥胖大鼠模型24只，再随机分为3组：高脂膳食组（HS，n=8）、普通膳食组（HS-D，n=8）和普通膳食运动组（HS-E，n=8）。8周后测试大鼠腹内脂肪组织RBP4 mRNA水平和蛋白水平。结果：大鼠腹内脂肪组织RBP4 mRNA表达水平，HS组显著高于C组（P＜0.01），HS-D和HS-E组显著低于HS组（P＜0.01或P＜0.05），HS-E组显著低于HS-D组（P＜0.05）；4组大鼠腹内脂肪组织RBP4蛋白水平没有显著性差异（P＞0.05）。结论：肥胖大鼠腹内脂肪组织RBP4 mRNA表达水平显著上升；运动结合饮食干预非常显著性降低腹内脂肪组织RBP4 mRNA表达水平；运动与饮食干预对腹内脂肪组织的RBP4蛋白水平无显著影响。

关键词：运动 饮食干预 脂肪组织 视黄醇结合蛋白4

# The effects of exercise and diet intervention on gene expression and protein level of retinol-binding protein 4 in adipose tissue of obesity rats

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Fund Project:

Abstract:

Abstract Objective: To investigate the effects of exercise and diet intervention on gene expression and protein level of retinol-binding protein 4(RBP4) in adipose tissue of obesity rats. Method: Sixty healthy male Sprague-Dawley rats (60—95g) were assigned in this study, of which rats were randomly selected as normal dietary control group(C, n=10) and fed with normal standard diet. The remaining 50 rats were fed with high-fat diet. Seven weeks later, 24 diet-induced-obesity rats models were established. They were randomly divided into three groups: high fat dietary group (HS, n=8), normal dietary group (HS-D, n=8) and normal dietary exercise group (HS-E, n=8). Eight weeks later, the RBP4 mRNA level and RBP4 protein level in visceral adipose tissue of every group's rats were examined. Result: The RBP4 mRNA level in visceral adipose tissue of rats was as follow: that in HS group that was significantly higher than that in C group (P<0.05), that in HS-D and HS-E groups were significantly lower than that in HS group (P<0.01 or P<0.05), that in HS-E group was significantly lower than that in HS-D group (P<0.05); RBP4 protein level in visceral adipose tissue had no difference among four groups (P>0.05). Conclusion: RBP4 mRNA expression in visceral adipose tissue were significantly higher in obesity rats. Exercise and diet intervention could significantly decrease RBP4 mRNA expressions; RBP4 protein level in visceral adipose tissue was not significantly influenced by exercise and diet intervention.

Keywords:exercise diet intervention adipose tissue retinol-binding protein 4

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