

论著

视黄醇结合蛋白4与2型糖尿病骨代谢的关系

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摘要:

目的: 探讨血清视黄醇结合蛋白4(RBP4)与2型糖尿病(T2DM)骨转换指标骨钙素(OC)、I型胶原C-末端交联顶端肽(CTX)及骨密度(BMD)水平的相关性。**方法:** 128例门诊初诊T2DM患者及同期门诊或体检中心健康体检者,其中正常葡萄糖耐量(NGT)组46例和T2DM组82例,进一步分男女亚组(M-NGT,F-NGT,M-T2DM,F-T2DM)。ELISA测定血清中RBP4,OC,CTX水平;双能X线骨密度仪(DXA)测定各部位BMD。**结果:** T2DM组无论男性或女性,lnRBP4与lnCTX均存在显著正相关(M-T2DM, $r=0.564, P<0.01$; F-T2DM, $r=0.386, P=0.018$),与lnOC不相关;校正年龄、吸烟、血肌酐清除率(CCr)、腰臀比后,M-T2DM的正相关仍显著($r'=0.536, P<0.01$),而F-T2DM组lnRBP4与lnCTX相关性消失($r'=0.317, P=0.072$)。NGT组,lnRBP4与lnOC及lnCTX无相关性;无论NGT组还是T2DM组,lnRBP4与各部位BMD均不相关。**结论:** T2DM患者的血清RBP4可能与骨代谢相关。

关键词: 2型糖尿病 视黄醇结合蛋白4 骨钙素 I型胶原C-末端交联顶端肽 骨密度

Serum retinol binding protein 4 and bone metabolism in patients with type 2 diabetes

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Abstract:

Objective: To determine the relation between serum concentration of retinol binding protein (RBP) 4 and markers of bone metabolism, bone mineral density (BMD) in patients with type 2 diabetes mellitus (T2DM). **Methods:** A total of 82 patients newly diagnosed with T2DM and 46 subjects with normal glucose tolerance (NGT) enrolled in the cross-sectional study. Subset analyses were performed, dividing subjects on the basis of gender into M-T2DM, F-T2DM, M-NGT, and F-NGT. The serum concentrations of RBP4, osteocalcin (OC) and C-terminal telopeptide of collagen type I (CTX) were measured with ELISA. The BMD was measured by dual-energy X-ray absorptiometry (DXA) with a Hologic QDR4500A device. **Results:** In both the T2DM groups, lnRBP4 showed a positive relationship with lnCTX (M-T2DM, $r=0.564, P<0.01$; F-T2DM, $r=0.386, P=0.018$), but no association with lnOC. After adjusting for age, smoking, creatinine clearance rate (CCr), and waist-to-hip ratio (WHR), lnRBP4 still showed a strong association with lnCTX in the M-T2DM group ($r'=0.536, P<0.01$), but not in F-T2DM ($r'=0.317, P=0.072$). In the NGT group, there was no relation between lnRBP4 and lnCTX or lnOC. lnRBP4 showed no association with BMD in all groups. **Conclusion:** The level of serum RBP4 may be correlated with the bone metabolism in patients with T2DM.

Keywords: type 2 diabetes mellitus retinol binding protein 4 osteocalcin C-terminal telopeptide of collagen type 1 bone mineral density

收稿日期 2011-03-28 修回日期 网络版发布日期

DOI: 10.3969/j.issn.1672-7347.2012.02.015

基金项目:

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