

Abstract

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Vitamin D deficiency is associated with the metabolic syndrome in morbid obesity.

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BACKGROUND & AIMS: Vitamin D deficiency has been recently associated with the metabolic syndrome. However, it is not known whether this possible association of vitamin D deficiency with the metabolic syndrome is still present at very high degrees of obesity, as in morbidly obese patients.

METHODS: Transversal, observational study that included 73 consecutive morbidly obese patients (body mass index 40kg/m²). In every patient, anthropometric variables were recorded, fasting blood was assayed for 25-hydroxyvitamin D concentrations, lipid profiles, glucose and insulin levels, and insulin resistance was estimated by homeostasis model assessment.

RESULTS: Vitamin D deficiency was present in 37 of the 73 patients (50.7%). As defined by revised Adult Treatment Panel III criteria, 46 of the 73 obese patients (63%) had the metabolic syndrome. Vitamin D deficiency was more prevalent in morbidly obese patients presenting with the metabolic syndrome, compared with those who did not achieve the criteria for this syndrome (60.9% vs. 33.3% respectively, P=0.023). When serum concentrations of 25-hydroxyvitamin D were categorized in tertiles, there was an association of the prevalence of the metabolic syndrome with the former (P=0.038). Serum high-density lipoprotein cholesterol concentrations were lower (37.0±7.8mg/dl vs. 44.9±8.7mg/dl, P=0.003), and triglycerides levels were higher (163.3±81.5mg/dl vs. 95.1±24.2mg/dl, P=0.001) in the vitamin D-deficient group.

CONCLUSION: Vitamin D deficiency is associated with the metabolic syndrome in morbidly obese patients.

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