

Importance of spinal deformity index in risk evaluation of VCF (vertebral compression fractures) in obese subjects: prospective study

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Abstract

Introduction

Obesity and osteoporosis share many features and recent studies have identified many similarities suggesting common pathophysiological mechanisms. Obesity is associated with a higher risk of non-traumatic fractures despite bone mineral density (BMD) being normal or even increased.

Materials and methods

54 obese subjects were analyzed (51±16 years, 10 males, 44 females). Spinal deformity index (SDI) is a semi-quantitative method that may be a surrogate index of bone microarchitecture. SDI index was higher in patients than in controls. In 87.5 % of patients and 10 % of controls we found morphometric vertebral fractures, despite a DEXA Tscore not diagnostic of osteoporosis.

Conclusion

The objective of this study was to assess in obese patients levels of 25OH vitamin D, parathyroid hormone, serum and urinary calcium (Ca) and phosphorus (P), BMD, and SDI. 87.5 % of the obese subjects present nontraumatic vertebral fractures and reduced bone quality as measured by SDI.

Keywords: Osteoporosis Obesity Spinal deformity index Vertebral fractures

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