Abstract

Introduction: The various diagnostic classifications in the literature concur as regards the important role of abdominal obesity in the onset and progression of metabolic syndrome. Accordingly, this study was aimed at clarifying whether central obesity measurements assessed by dual X-ray absorptiometry (DXA) may predict metabolic syndrome in Spanish postmenopausal women.

Material and methods: This historical cohort study included a total of 1326 postmenopausal women aged > 45 years old who had routinely undergone DXA to measure their bone mineral density between January 2006 and January 2011. The regions of interest (ROI) envisaged in our study by using DXA were the lumbar regions L1-L4 and L4-L5. At the same time, they underwent a complete medical examination including personal medical history assessment, biochemical blood analysis, blood pressure measurement and anthropometrical evaluation. Metabolic syndrome was diagnosed attending to the criteria established by National Cholesterol Education Program Adult Treatment Panel III (NECP-ATP-III).

Results: During the observation period, 537 women, representing 40.5% of the total studied, met the diagnostic criteria for metabolic syndrome. L1-L4 and L4-L5 abdominal fat mass determinations were associated with the development of metabolic syndrome in all regression models tested, showing an increasing gradient from the lowest to highest quintile.

Conclusion: Central adiposity measurements assessed by DXA, especially L1-L4 region of interest, could be considered a powerful predictor of metabolic syndrome in postmenopausal women.

Keywords

Metabolic syndrome, Abdominal obesity, Postmenopause.