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The use of dual-energy X-ray absorptiometry in the evaluation of women with obstructive sleep apnea-hypopnea syndrome

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Abstract

Corporal composition has been increasingly acknowledged as important to understand the complex inflammatory mechanism, which envolve conditions such as: obesity, cancer, methabolic syndrome and Obstructive Sleep Apnea-Hypopnea Syndrome (OSAHS). A more precise way to evaluate body composition can be obtained by using Dual-Energy X-Ray Absorptiometry (DXA). This study evaluated the association of the diagnosis OSAHS regarding the body fat measured by DXA, anthropometric parameters and biochemical variables. Was adopted cross-sectional study using a sample consisting of consecutive cases of fifty adult women, suspected of having OSAHS. The women carried out overnight polysomnography, anthropometric evaluations (BMI, neck and waist circumference), DXA and lipid profile, fasting glycemia, insulin, glycated hemoglobin, C-reactive protein and serum leptin levels. OSAHS was defined by the apnea-hypopnoea index (AHI) from the overnight polysomnography. According to the AHI, the women were divided in two groups: with and without apnea. Twenty-seven of them had OSAHS (AHI = 22.04 + 17.55). The results were: (a) the BMI was not capable of predicting OSAHS in this study (p = 0.204); b) for each 1% increase in TBF%, the probability of having sleep apnea increase by 12,8%; c) Comparing all variables (anthropometrics, DXA and blood sample), the serum leptin was the only variable with a significant difference between the groups (p=0.0257). The results reinforce the role of total body fat and leptin in the etiology of OSAHS and the need to include the evaluation of corporal composition measures by DXA in studies of sleep apnea.

Biography

Patrícia Costa Bezerra - Bachelor's at Nutrition from Brasilia University (1993). Clinical Nutrition Specialist, São Paulo University (USP) - Ribeirão Preto (1994). Clinical Nutritionist SARAH Hospital, from 1995 until 2000. Master degree at Psychology Brasília University (2001). Professor of Nutrition at the Catholic Brasilia University, clinical coordinator from 2000 until 2007. PhD in Medical Sciences Brasilia University, in the field of Sleep Medicine and Apnea. Currently conducts assistance in the area of clinical nutrition in private practice at Brasilia Corporal Evaluation Center – BCEC. Assisting aging people, adults and children in treatment for obesity, eating disorders, malnutrition, metabolic syndrome, cancer among other diseases with excess or shortage of some nutrient maintains activities and research on body composition by DXA in the BCEC.