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Visceral, subcutaneous fat and bone mineral density distribution in people with cardiometabolic risk factors.

Author/s: Adriana Janet Segura Saldaña1, RD; Diego Emiliano Chávez Fernández1, RD; Baldomero Morales Campos1, RD, MSc; Eliud Salvador Aguilar Barrera1,2, RD, MSc.

Organizations/Affiliations: [1]Posgraduate Department, CICS-UMA, Instituto Politécnico Nacional. Mexico City, Mexico. [2]Asociacion Mexicana para el Estudio de la Diabetes y sus Complicaciones, Mexico City, Mexico.

Abstract

Background: It has been described that alterations in body composition could be risk indicators for cardiometabolic diseases and osteoporosis. The objective of this study was to evaluate the distribution and amount of visceral and subcutaneous fat and bone mineral density (BMD) and its relationship with cardiometabolic risk factors (CMRFs).

Methods: Body composition analysis was performed using DEXA in 30 subjects with multiple CMRFs. Clinical and biochemical variables were determined.

Results: 66.5 female and 33.3% male. Most prevalent CMRF was waist circumference (100%) and high blood pressure as the least common (50%). Subjects with obesity presented higher levels of BMD (1.24 g/cm3) compared to those with normal BMI (1.16 g/cm3) and those with overweight (1.09 g/cm3). A positive correlation was found between BMD and BMI (r=0.36, p=0.048) as well as with plasma glucose levels (r=-0.40, p=0.028). Components such as triglycerides, visceral adipose tissue, waist circumference, blood pressure and BMI had positive relationships with each other.

Conclusions: There is evidence of the relationship between body composition and CMRFS. The clinical foundations are established to investigate the pathophysiological mechanisms behind corporal composition, cardiometabolic risk and insulin resistance with the aim of proposing therapeutic strategies for clinical improvement.

Keywords: Body Composition; DEXA; cardiometabolic risk; Bone Mineral Density.

Abbreviations: BMD, Bone Mineral Density; CMRFs, cardiometabolic risk factors; DEXA, Dual Energy X-Ray Absortiometry; BMI, Body Mass Index.

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