

Obesity as a protective factor for postmenopausal osteoporosis

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Background: Obesity is considered a protective factor for osteoporosis improving bone mass and maintaining higher levels of estrogen during menopause. **Objective:** To determine the association of obesity with bone mineral density (BMD), and its relationship with sex hormone levels. **Design:** A case-control study in Caucasian obese and non obese postmenopausal women. **Subjects:** 113 obese and 50 non-obese postmenopausal women. **Measurements:** BMD (dual-photon X-ray absorptiometry) at cervical femur, Ward's triangle, proximal radius and lumbar spine. Plasma levels of glucose, insulin, total estrogen, follicle stimulating hormone (FSH), sex hormone binding globulin (SHBG), dehydroepiandrosterone sulfate (DHA-S) and testosterone. **Results:** Mean BMD at femoral sites were significantly higher in obese women (femoral neck: 0.849 ± 0.124 g/cm² vs 0.753 ± 0.095 g/cm², $P < 0.001$; Ward's triangle: 0.634 ± 0.134 g/cm² vs. 0.553 ± 0.100 g/cm², $P < 0.001$). Mean BMD at lumbar spine was 0.906 ± 0.138 g/cm