

Lumbar Scoliosis in Postmenopausal Women: Prevalence and Relationship With Bone Density, Age, and Body Mass Index

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Resumen

Study Design. Cross-sectional study.

Objective. The aim of this study was to investigate the prevalence of lumbar scoliosis in postmenopausal women aged 50 years and older, and to determine the association of adult lumbar scoliosis with age, osteoporosis, and body mass index (BMI).

Summary of Background Data. Adult scoliosis prevalence has not been clearly determined. In addition, limited data are available on the correlation of adult scoliosis with age, bone mineral density, and BMI.

Methods. We studied 380 postmenopausal women aged 50 years and older, who were evaluated with dual-energy radiograph absorptiometry (DXA) scan images. The lumbar curvature magnitude in the coronal plane was measured in DXA images with Cobb's method. Scoliosis was defined by the presence of a curvature 10 degrees or larger. Age and T-score in the lumbar spine and in both femoral necks were recorded, and BMI was calculated. Correlation analysis among the studied variables was performed, as well as a linear regression analysis to determine the effect of femoral neck T-score, spine T-score, age, and BMI as independent predictors of the Cobb angle in the lumbar spine.

Results. The prevalence of lumbar scoliosis was 12.9% (49 cases); 43 cases (11.3%) had lumbar curves 10 degrees or more but less than 20 degrees, and six cases (1.6%) had lumbar curves more than 20 degrees. Age and BMI were independent predictors of the Cobb angle; the femoral neck T-score and the lumbar T-score were not independent predictors of the Cobb angle.

Conclusion. We found a 12.9% prevalence of lumbar scoliosis in postmenopausal women aged 50 years and older, most of them with mild curves. Age and BMI are independent predictors of lumbar

scoliosis. Bone mineral density (BMD) is not an independent predictor of the magnitude of the curve.

Palabras clave

Palabras clave de autor: Adult scoliosis; Scoliosis prevalence; Osteoporosis; Aging spine

KeyWords Plus: ADOLESCENT IDIOPATHIC SCOLIOSIS; ADULT SPINAL DEFORMITY; LOW-BACK-PAIN; MINERAL DENSITY; STRUCTURAL SCOLIOSIS; GROWTH-PATTERN; SKELETAL AGE; FOLLOW-UP; GIRLS; POPULATION