Diffuse idiopathic skeletal hyperostosis (DISH): relation to vertebral fractures and bone density.

Abstract:
Radiographs and spinal bone mineral density (BMD) were evaluated from 342 elderly men regarding possible effects of diffuse idiopathic skeletal hyperostosis (DISH) on vertebral fractures and densitometry measurements. Prevalent vertebral fractures were more frequent among men with DISH compared to men with no DISH even after fracture prevalence was adjusted for BMD. Paravertebral calcifications should be considered in patients with DISH when interpreting BMD measurements because both dual X-ray absorptiometry (DXA) and quantitative CT (QCT) densitometry may not be reliable. INTRODUCTION: The purpose of this study is to evaluate the prevalence of DISH in older men and its association with vertebral fractures and with BMD determined by DXA and QCT. METHODS: Lateral radiographs of the spine were analyzed in a sample of 342 men aged ≥65 years participating in the MrOS Study concerning the presence and grade of DISH and vertebral fractures. Lumbar BMD was measured by both DXA (areal, grams per square centimeter) and QCT (volumetric, grams per cubic centimeter). The association between DISH, BMD, and presence of fractures was studied using 2 (2) and t tests. RESULTS: DISH was present in 52% (178/342) of the men. Men with DISH were older (mean, 75.1 vs 73.3, p<0.05) and more likely to have
prevalent fractures (28% vs 20%, p< p = 0.09). BMD assessed with DXA (1.08 vs 1.00 g/cm(2), p<<= 0.0001), but not with QCT (0.11 vs 0.11 g/cm3, p = 0.65), was significantly higher in men with DISH compared to men without DISH. Significantly lower BMD of men with both DISH and fractures compared to men with DISH but without fractures was only detected by QCT (-25%, 0.09 vs 0.12, p< 0.05). Both DXA BMD and QCT BMD were significantly higher in severe lumbar DISH (+22% and +31%, p< 0.0001), respectively. CONCLUSION: DISH was associated with a higher prevalence of vertebral fractures in elderly men. Lumbar ossifications related to DISH should be considered when interpreting BMD measurements to predict their fracture risk.