

Prevalence of sentinel fragility vertebral fracture in patients with hip fracture - a retrospective study

I. Genrinho¹⁻³, C. Machado⁴, A. Humenyuk⁵, S. P. Silva²⁻³, S. F. Azevedo²⁻³, C. Oliveira²⁻³, P. M. Teixeira²⁻³, C. Vilafanha²⁻³, N. Pais³⁻⁴, A. Barcelos²⁻³

¹ Rheumatology Department, Centro Hospitalar Tondela Viseu, ² Rheumatology Department, Centro Hospitalar Baixo Vouga, Aveiro, ³ Centro Académico Clínico Egas Moniz Health Alliance, ⁴ Orthopedic Department, Centro Hospitalar Baixo Vouga, Aveiro, ⁵ Department of Mathematics, University of Aveiro, Portugal



INTRODUCTION

Vertebral fragility fractures (VFF) are the most common site for osteoporotic fracture, although they are frequently undiagnosed. Both clinical and radiological VFF have been associated with increased morbidity even in the absence of significant pain. Common comorbidities are kyphosis, restrictive lung disease, and spinal stenosis which contribute to the burden on quality of life and increased mortality rates. Previous investigations showed that individuals with VFF are at a significantly increased risk of suffering hip and further vertebral fractures.

For these reasons, early recognition of VFF and the institution of treatment can improve morbimortality in patients with osteoporosis.

The aim of this study is to determine the prevalence of previous VFF in patients with fragility hip fracture and to characterize VFF location, type and severity.

MATERIAL AND METHODS



Patients ≥ 50 years old admitted to our Fracture Liaison Service between

2019-2023

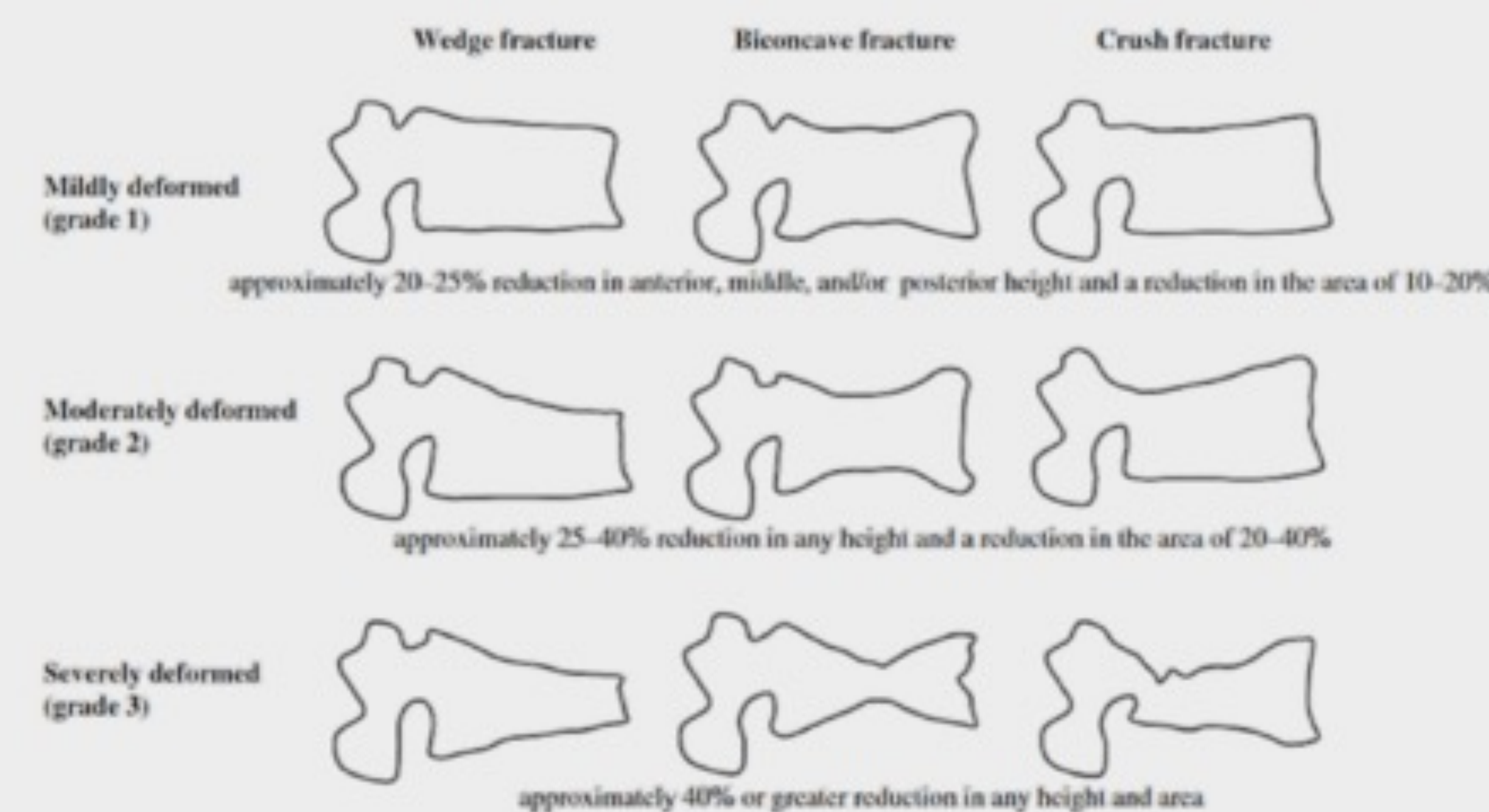


Thoracic and/or Lumbar Spine radiological imaging (previous 5 years)

- EXCLUDED PATIENTS:
- Total dependence status before fracture
 - Died in orthopaedic ward after surgery
 - Pathological fractures

DATA COLLECTED from hospital database

GENANT SEMIQUANTITATIVE METHOD




Adapted from Genant et al ³

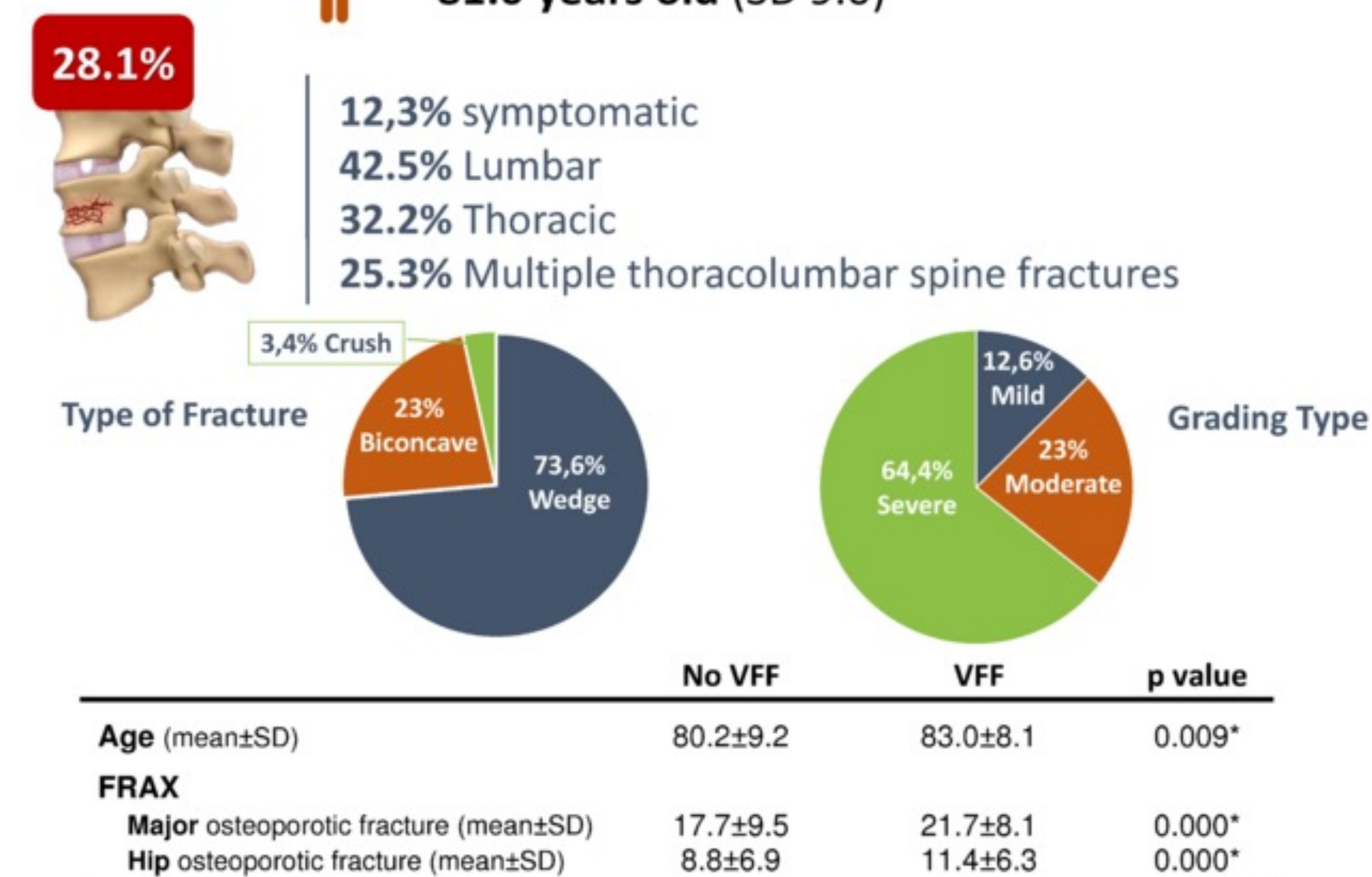
Sociodemographic and FRAX data

A general descriptive analysis was performed and Chi-square test was used to determine differences between groups comparing categorical variables using RStudio® software, **p-value <0.05 was statistically significant.**

RESULTS

357 patients were screened for eligibility

260 (83.9%)  310 RADIOLOGICAL IMAGING available
81.0 years old (SD 9.0)



CONCLUSIONS

More than a quarter of hip fracture patients have previous VFF. Lumbar spine was the most frequently involved location, wedge fracture the most common fracture type, and the majority were severe. These findings highlight that VFF is frequently underrecognized and delays proper osteoporotic treatment. Investigation, diagnosis, and the implementation of timely treatment for VFF can prevent future fragility fractures.

REFERENCES

1. Kelly M, et al, Osteoporotic Vertebral Fractures are Common in Hip Fracture Patients and are Under-recognized, Journal of Clinical Densitometry: Assessment & Management of Musculoskeletal Health, vol.8, no.8, 1-7, 2020
2. Chen Z, et al, What are risk factors for subsequent fracture after vertebral augmentation in patients with thoracolumbar osteoporotic vertebral fractures, BMC Musculoskeletal Disorders (2021) 22:1040
3. Genant HK, et al, (1993) Vertebral fracture assessment using a semiquantitative technique. J Bone Miner Res 8:1137-1148

