


Clinical vignette

Atypical femoral fractures as an incidental finding on dual X-ray absorptiometry

Atypical femoral fractures (AFFs) have been associated with long-term bisphosphonate use [1]. We present a case of AFF first identified with dual X-ray absorptiometry (DXA). A 64-year-old female attended for DXA with over 10 years of bisphosphonate use. DXA of the left hip showed a focal thickening of the lateral cortex (Fig. 1). Image appearances were drawn to the attention of the patient’s physician and bisphosphonates were discontinued. No further imaging studies were performed. The patient fractured her right proximal femur 95 days later, appearances consistent with AFF. Further imaging with X-rays and CT of the left femur showed focal cortical thickening with a transverse lucency, indicative of impending fracture. This correlated with the area of thickening seen on DXA. The patient underwent bilateral femoral nailing. Twelve months later, the patient is making a good recovery. DXA images are usually considered to be non-diagnostic for AFF. However, McKenna et al. [2] showed that focal cortical thickening seen on DXA has a positive predictive value of 37% for AFF. Where focal cortical thickening is identified on DXA in patients on long-term bisphosphonate therapy, further radiological assessment is indicated, and consideration must be given to stopping bisphosphonates and referral to orthopaedics for prophylactic surgical intervention.

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