CLINICAL SNAPSHOT

Insufficiency Fracture Following Power Walking

A 62-year-old woman presented with a 1-week history of left ankle pain following power walking. Plain radiography showed no abnormalities. Magnetic resonance imaging (MRI), carried out because of persisting pain, found a fracture of the distal tibia. Measurement of bone density revealed osteopenia, and an analysis of blood samples showed a low concentration of the bone formation marker osteocalcin. Twenty years earlier the patient had undergone radical hysterectomy for cervical cancer, and 3 years before the current event, leukemia had been treated with steroids and chemotherapy. Chemotherapy, particularly in combination with repeated, long-term administration of steroids, disrupts osteoblast function. This proven late complication of antineoplastic treatment is particularly relevant in vulnerable groups such as postmenopausal women or young patients with acute leukemia. Insufficiency fractures arise in pathologically altered bone; stress fractures, in contrast, can also occur in healthy bones.

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Figure: MRI (T1 TSE sagittal) shows hypointensity of cortical bone and sub-cortical trabeculae corresponding to a fracture of the posterior tibia.