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*Clinical Images: Osteoporotic calcaneal stress fractures mistaken for aggravation of rheumatoid arthritis*

The patient, a 72-year-old woman with a 3-year history of rheumatoid arthritis (RA), presented with pain and swelling of both ankle joints of 4 weeks' duration. She had been treated with methotrexate, leflunomide, prednisolone, and celecoxib. She denied having experienced a recent episode of trauma. Her medical history included osteoporosis and compression fractures of the T8 and T9 vertebrae. Swelling and tenderness of both ankle joints were noted on physical examination. Laboratory tests showed an erythrocyte sedimentation rate of 37 mm/hour and a C-reactive protein level of 0.62 mg/dl. Radiographs of both ankle joints revealed osteoporosis only and no specific abnormal bony change. A moderate amount of synovial fluid was observed on ultrasound of both ankle joints. Despite the escalation of antirheumatic medications, her symptoms did not improve. Bone scintigraphy demonstrated intense diffuse increased uptake in both calcanei (**arrows in A**) (images are of the posterior [post] view). Sagittal T2-weighted magnetic resonance images (MRIs) revealed multiple nondisplaced calcaneal compression fractures (**arrows in B**) and posttraumatic reactive synovitis (**arrowheads in B**). Rest and use of splints resulted in a successful recovery. Stress (insufficiency) fractures are one type of incomplete fracture that is caused by repeated cyclical loading of the bone. Osteoporosis is one of the most common conditions that predispose to stress fractures. Although common sites of osteoporotic fractures include the vertebra, the femur, and the distal radius, a considerable number of low-trauma fractures also occur in the foot, calcaneus, ankle, knee, or pelvis (Peris P. Stress fractures in rheumatological practice: clinical significance and localizations. *Rheumatol Int* 2002;22:77–9). Furthermore, since conventional radiographs usually do not reveal any fracture lines in images of stress fractures, these conditions can be underdiagnosed or misdiagnosed as exacerbated RA, especially when accompanied by reactive synovitis. Hence, when RA patients with a high risk of osteoporosis have refractory joint pain in the pelvis or legs, the possibility of a stress fracture should be considered. MRI could be a more helpful tool in the detection of stress fractures in these patients.

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