

Tibial Insufficiency Fractures in Rheumatoid Arthritis: A New Clinical Sign

RICHARD CONWAY, MB, Rheumatology Specialist Registrar; DIANE BERGIN, MD, Consultant Radiologist; JOHN J. CAREY, MD, Consultant Rheumatologist; ROBERT J. COUGHLAN, MB, Consultant Rheumatologist, Galway University Hospitals, Merlin Park, Galway, Ireland. Address correspondence to R. Conway, Department of Rheumatology, Galway University Hospitals, Merlin Park, Galway, Ireland. E-mail: drrichardconway@gmail.com. *J Rheumatol* 2012;39:1893–4; doi:10.3899/jrheum.120119

Nontraumatic bilateral tibial fractures are rarely seen. They can present as various types of flares in rheumatoid arthritis (RA). We describe 2 such cases presenting as RA flares in patients in their 50s. Both patients' RA was in sustained remission and both were taking methotrexate. One was treated with adalimumab. Neither was prescribed corticosteroids, and neither smoked or had trauma.

The first case presented as sudden-onset painful swelling of the left ankle with marked tenderness over the distal medial tibia immediately proximal to the ankle joint. Five months later the patient developed identical symptoms in her right ankle. The second case presented as sudden-onset

pain and swelling in both ankles. There was tenderness over the distal medial tibia immediately proximal to the ankle joint bilaterally.

In both cases, plain radiographs demonstrated a sclerotic line in the distal tibia (Figure 1A, 1B). Magnetic resonance imaging confirmed distal tibial stress fractures (Figure 1C, 1D). One patient was osteoporotic and one osteopenic on dual-energy x-ray absorptiometry. Investigations for other causes of bone fragility and secondary osteoporosis were negative. Conservative management resulted in fracture healing.

Nontraumatic bilateral tibial fractures are unusual, but



Figure 1. A. Plain radiograph of right tibial fracture in case 1. B. Plain radiograph of left tibial fracture in case 2. C. Magnetic resonance imaging (MRI) of right tibial fracture in case 1. D. MRI of bilateral tibial fractures in case 2.

have been reported^{1,2}. Fragility fractures in RA can present as apparent monoarticular flares³ and as a flare of symmetrical arthritis⁴. Marked tenderness of the distal medial tibia immediately proximal to the line of the ankle joint was the clue to the diagnosis. This clinical sign has been described⁴ but is not well known. We propose that it be named the TIFRA (for tibial insufficiency fractures in RA) sign.

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