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Visual Diagnosis in Emergency Medicine

PLANTAR ECCHYMOSIS SIGN

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CASE REPORT

A 31-year-old man presented to the Emergency Department with right heel pain 1 day after falling from a 12-foot ladder. He denied any other injuries or pain. A thorough physical examination revealed only tenderness over the right heel and a central ecchymosis on the mid-plantar aspect of the foot (Figure 1). There was no tenderness over the area of ecchymosis. Radiographs and computed tomographic imaging were significant for a comminuted fracture of the calcaneus that extended into the calcaneotalar joint (Figure 2). The patient was placed in a bulky

Figure 1. The plantar ecchymosis sign (Mondor's sign).

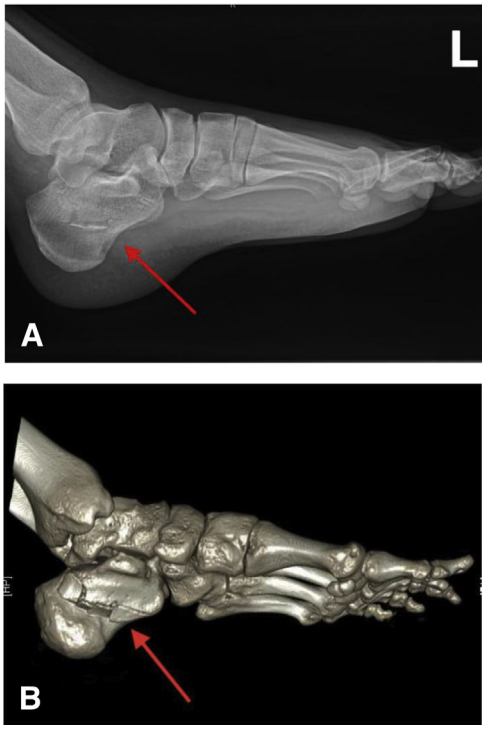

Figure 2. Mildly displaced, comminuted intra-articular fracture of the calcaneus. (A) Plain radiograph. (B) Three-dimensional reconstructed computed tomography scan.

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splint, instructed not to bear weight, and given orthopedic follow-up.

DISCUSSION

The plantar ecchymosis sign is a centrally located midfoot plantar ecchymosis that has been described after clinically significant injuries to the foot. The finding is thought to be due to diffusion of blood within the central compartment of the foot and may occur after calcaneal fractures or Lisfranc joint injuries (1,2). In the case of a calcaneus fracture, blood does not diffuse to the subcutaneous tissues until it has traveled distal to the thick plantar fascia. The ecchymosis most commonly appears 24–48 h after a calcaneus fracture. The finding has also been referred to as Mondor sign when it is associated with calcaneal fractures (3).

Because both calcaneal fractures and Lisfranc injuries can be subtle or occult on plain films, the plantar ecchymosis sign should alert the clinician to a potentially serious injury. Whereas this patient's fracture was noted on the initial plain radiographs, a patient with a centrally located plantar ecchymosis and negative plain films should undergo a thorough physical examination of the foot and consideration for additional imaging (i.e., computed tomography scan), given that missing the diagnosis can lead to poor prognosis and long-term sequelae.

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