



Atypical Presentation of Acute Freiberg Disease



Louise Kenny, MRCS¹, Balaji Purushothaman, MRCS², Rebecca Teasdale, MRCS³,
Mueiad El-Hassany, MRCS¹, Bansal Parvin, FRCS(Tr & Orth)²

¹ Surgeon, Sunderland Royal Hospital, Sunderland, UK

² Orthopedist, Sunderland Royal Hospital, Sunderland, UK

³ Medic, Sunderland Royal Hospital, Sunderland, UK

ARTICLE INFO

Level of Clinical Evidence: 4

Keywords:

acute pathologic fracture
avascular necrosis
corticosteroids
Freiberg disease
metatarsal
osteonecrosis

ABSTRACT

Freiberg disease is a chronic progressive condition that results in pain and loss of normal function of the metatarsophalangeal joint (MTPJ). We describe a case of acute Freiberg disease secondary to a short course of oral steroids. The patient presented with an acute metatarsal head fracture that was managed successfully with open reduction and internal fixation. Although a rare complication of corticosteroid use, physicians having patients start taking steroids must remember the risk of osteonecrosis.

© 2016 by the American College of Foot and Ankle Surgeons. All rights reserved.

Freiberg disease is a chronic progressive condition that results in pain and loss of normal function of the metatarsophalangeal joint (MTPJ) of the foot. We describe a case of acute Freiberg disease secondary to a short course of oral steroids. The patient presented with an acute metatarsal head fracture that was successfully treated with internal fixation.

Case Report

A 23-year-old female presented to the accident and emergency department because of sudden onset pain in her right foot. This had occurred after she had stood on her tiptoes. She had no history of any prodromal symptoms or other trauma. She had been discharged 1 day earlier from the hospital where ulcerative colitis had been diagnosed. She had been treated with a 6-day course of oral prednisolone 30 mg. She had completed the course the day before her presentation to the accident and emergency department. Apart from this, she was fit and well with no significant medical history. She was currently unemployed and did not participate in sporting activities.

On examination, she had minimal swelling over the dorsum of the right foot, with a palpable bony prominence over the second metatarsal head. The distal circulation and sensation were intact.

Plain radiographs (Fig. 1) showed an unusual appearance of the head of the second metatarsal. This finding was interpreted as dislocation of the metatarsophalangeal joint by the accident and emergency medical staff, prompting manipulation with the patient under local anesthetic. This failed, and the opinion of orthopedic staff was sought the same day. Because of the atypical radiographic appearance, computed tomography scans (Figs. 2 and 3) of the right foot were ordered. The scans demonstrated a coronal fracture of the second metatarsal head. Because the history of trivial trauma was not concordant with the radiographic images and because of her recent steroid treatment, we suspected the fracture was pathologic. The provisional diagnosis of a pathologic fracture of the second metatarsal head was explained to the patient. Because she was very young and the head fragment was of a reasonable size, surgical treatment was deemed appropriate. This was explained to the patient, who provided informed consent, and the procedure was performed 2 days later.

After induction of general anesthesia, a thigh tourniquet was applied and set at 300 mm Hg. Intravenous antibiotics (cefuroxime 1.5 g intravenously) were given in accordance with the hospital antibiotic prophylaxis regimen. Standard skin preparation with Betadine® (Purdue Products, Stamford, CT) and draping were performed. A longitudinal incision measuring 5 to 6 cm and centered over the second metatarsal head was placed. The joint was accessed through the medial side by way of the extensor digitorum longus. The joint was delivered through the wound (Fig. 4). The coronal split of the metatarsal head was confirmed, and the fragment was lying dorsally. The fracture site was very carefully cleared of debris, preserving the articular surface, which was damaged and crushed at the level of the

Financial Disclosure: None reported.

Conflict of Interest: None reported.

Address correspondence to: Louise Kenny, MRCS, Sunderland Royal Hospital, Kayll Road, Sunderland, SR4 7TP, United Kingdom.

E-mail address: lkenny@doctors.net.uk (L. Kenny).



Fig. 1. Plain radiographs of the right foot demonstrating abnormal appearance of the second metatarsal (A) before and (B) after manipulation.

split. The soft tissues dorsally were preserved to spare the blood supply to the metatarsal head. Thorough lavage of the wound was performed. The metatarsal head fragment was reduced and held with a wire. A Barouk measure was used to estimate the length of the screw. Next, a 13-mm Twistfix screw (Ortho Solutions, Essex, UK) was inserted. Reduction and fixation of the fracture was satisfactory (Fig. 5). A bony fragment from the fracture site at the second metatarsal was sent for histologic examination. The wound was thoroughly washed. Hemostasis was achieved using bipolar cautery. The capsular tissue was repaired with 2-0 undyed Vicryl® (Ethicon, Somerville, NJ). The skin was closed using interrupted 3-0 nylon. Keller's type Soft Ban (Alibaba, Hangzhou, China) and crepe bandage dressings were applied. Postoperatively, she was given 2 further doses of intravenous

antibiotics (cefuroxime 750 mg). Her foot was kept elevated and closely monitored for distal sensation and circulation. She was allowed to mobilize with heel weightbearing using crutches. Radiographs showed satisfactory fixation of the fracture. She was returned 2 weeks after surgery for removal of the sutures. At 8 weeks after surgery, the radiographs showed satisfactory findings (Figs. 6 and 7), and she was allowed to weight bear fully. At the 6-month follow-up examination, clinically she was asymptomatic, and radiologically good union of the fracture was seen. At the 1-year follow-up visit, she remained asymptomatic, and the radiographs (Figs. 8 and 9) showed that the injury and subsequent open reduction and internal fixation had stimulated neovascularization of the metatarsal head, preventing collapse and reversing the avascular necrosis.

Download English Version:

<https://daneshyari.com/en/article/5575993>

Download Persian Version:

<https://daneshyari.com/article/5575993>

[Daneshyari.com](https://daneshyari.com)