



Imaging Sciences Interesting Cases

CASE 119

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CLINICAL PRESENTATION: A 38-year-old male, recently immigrated from Africa, presented with multiple superficial nodules and swelling.

IMAGING FINDINGS: Plain radiographs show mixed sclerotic and lytic areas within the body of the calcaneus, navicular, cuboid, cuneiforms, and proximal second metatarsal.



Figure 1: AP view of the foot shows mixed sclerotic and lytic areas in the midfoot.



Figure 2: Oblique view of the foot shows mixed sclerotic and lytic areas in the midfoot.



Figure 3: Lateral view of the foot shows mixed sclerotic and lytic areas in the midfoot.

DIAGNOSIS: Mycetoma (Madura Foot)

DISCUSSION: Mycetoma is a debilitating chronic granulomatous disease in tropical and subtropical regions. The disease was first reported from the region of Madura in southern India. It may be caused by a fungal (eumycetoma) or bacterial (actinomycetoma) infection which forms small, subcutaneous swellings that enlarge and break through the skin surface, with concurrent invasion of deeper tissues. The clinical triad consists of painless soft-tissue swelling, skin sinuses, and discharge of colored grains. The infection may occur anywhere in the body, but most commonly enters the plantar surface of the foot in areas where people go barefoot.

Bone changes develop over several months. The bones typically appear moth eaten and have been classified as:

- * Stage 0 - Soft-tissue swelling without bone involvement
- * Stage I - Extrinsic pressure effects on the intact bones in the vicinity of an expanding granuloma
- * Stage II - Irritation of the bone surface without intraosseous invasion
- * Stage III - Cortical erosion and central cavitation
- * Stage IV - Longitudinal spreading along a single ray
- * Stage V - Horizontal spread along a single row
- * Stage VI - Multidirectional spread due to uncontrolled infection

The differential diagnosis of these radiographic features includes other types of osteomyelitis, neuropathic arthropathy, and neoplasm. Treatment for bacterial mycetoma include antibacterial agents if administered early in the course of the disease. Fungal mycetoma may respond partially to antifungal agents, however surgery is preferred if the disease is localized.

REFERENCES:

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