

Osteoarticular tuberculosis of the hand

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A 35-year-old man who emigrated from Cameroon in 2008 with no past medical history presented to a local clinic complaining of a painless left finger mass which had been present for 5 years. The patient came to the outpatient clinic because the skin over his finger started to breakdown, especially with flexion, but there was no drainage. The patient's vital signs were normal, and he was afebrile. On physical examination, he had severe swelling of the entire left third finger, worse over the dorsal aspect of the finger at the proximal interphalangeal joint (PIP) (Figure 1). There was a scaly plaque on the dorsal PIP but no warmth, erythema, or drainage. A CBC, rheumatoid factor, anti-citrulline antibodies, HIV test, electrolytes, and ANA were normal or negative. A magnetic resonance image of the hand (Figure 2) showed an enhancing third finger mass seen around the third finger proximal and middle phalanges and the third finger flexor and extensor tendons, causing enlargement of the digit. This mass extended more proximally around the flexor tendons. A biopsy with cultures and stains for fungi, anaerobic and aerobic bacteria and mycobacteria grew *Mycobacterium tuberculosis*. The acid-fast bacillus stain was negative. His chest x-ray was clear without infiltrates, masses, or nodules. The patient started on antituberculous treatment through the Department of State Health Services.

Osteoarticular tuberculosis represents 1%–3% of extra-pulmonary tuberculosis.¹ Tenosynovitis is the most common form and has the potential to spread to the bone. The pathogenesis may be direct inoculation or hematogenous spread from a primary focus. It presents gradually, and for unknown reasons, the flexor side is more affected than the extensor side and the ulnar side than the radial side.² Osteoarticular tuberculosis occurs more frequently in the arms than



Figure 1. The middle digit of the left hand has diffuse swelling with an area of skin breakdown and partial healing.

in the legs and is often found in the dominant arm.³ It presents as a chronic lesion associated with pain, swelling, and functional limitation, with or without constitutional symptoms. It usually evolves slowly with functional limitations and manifests as ‘a sausage shaped mass’ along the inflamed tendons. The diagnosis can be difficult, and delays can result in significant damage. A synovial or bone biopsy is essential and should be performed in all patients to confirm the diagnosis with Ziehl-Neelsen staining and cultures for *Mycobacterium* spp.¹ The pathology can show granulomas with central necrosis. Current treatment recommendations from the Centers for Disease Control and

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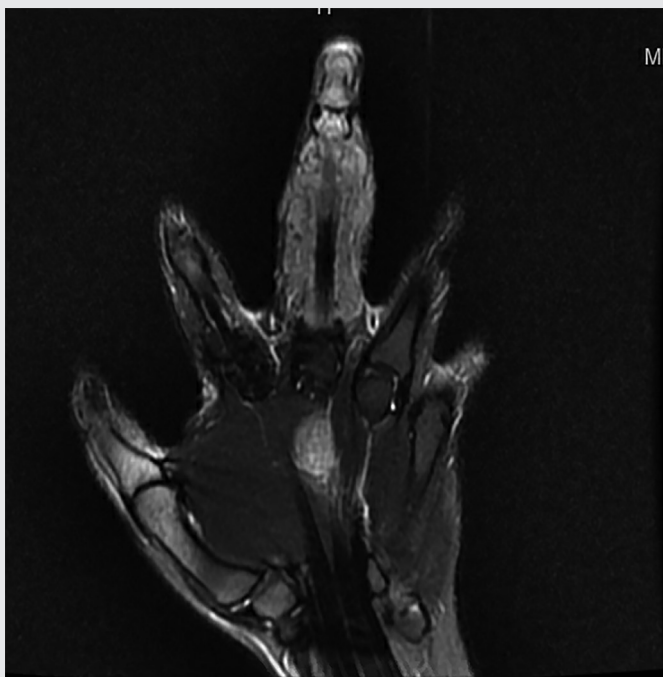


Figure 2. Magnetic resonance imaging of the left hand reveals a slightly enhancing mass in the middle finger with cortical bone thinning and erosion.

Prevention include a two-month course of rifampicin, isoniazid, pyrazinamide, and ethambutol, followed by four months of rifampicin and isoniazid. This type of hand lesion is uncommon, and recognition is important.

Keywords: tuberculosis, osteoarticular infection, hand

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