

## Case Report

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## Isolated Tuberculosis of the Talus Bone

### Abstract

**Case:** Isolated talus osteomyelitis caused by Koch's bacillus (BK) is extremely rare. In this paper we report an isolated talus bone tuberculosis in a 52 year-old man who presented a 2-month history of swelling, pain and functional disability of his right ankle. Surgical bone curetting and histological examination showed granuloma with central caseating necrosis. Acid fast stain and PCR examination of the sample showed Koch's bacillus which confirms TB of the talus.

**Key words:** Talus, Foot, Tuberculosis, Osteomyelitis

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**T**uberculosis (TB) is still a major health problem for both the developing and the developed countries. It can affect any organ system of the body involving the bone ranging from 1–3% of all TB patients. It most commonly affects the spinal skeleton followed by the weight-bearing major joints such as the hip and the knee. Isolated TB of the talus bone is a very rare occurrence. TB osteomyelitis of talus is extremely rare and until this time up to 12 cases were reported in English literature (1,2). Therefore, we report a patient with isolated TB of the talus bone.

### Case

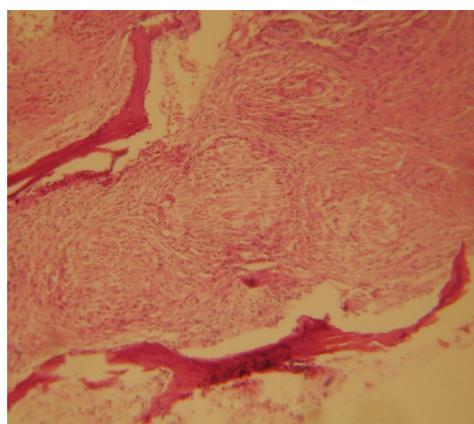
A 52-year-old man who lives in the neighborhood of Iraq was referred to Kermanshah Emam Reza Hospital, a place in the north western part of Iran with a 2-month history of swelling, pain and functional disability of his right ankle. On a physical examination, his right ankle was tender, bulged, and had a limited painful range of motion. There was no history of trauma in the past medical history. Laboratory findings show an elevated erythrocyte sedimentation rate (ESR) of 69 mm (Westergren method), a positive CRP test and white blood cells at 9000 predominantly lymphocytes. The Mantoux skin test was negative. Anteroposterior (AP) and lateral radiographs of the left ankle showed an extensive irregular lytic lesion of the talus bone, without the involvement of calcaneus, distal tibia, and fibula (figure 1). On 99Tc whole body scan, only an increased uptake at the ankle area was observed (figure 2). The chest x-ray was normal. The patient benefited from surgical bone curetting. The histological examination of the biopsy sample showed granuloma and central caseating necrosis (3,4). Acid fast stain and PCR exam for Koch's bacillus were positive on specimen which confirms TB of the talus. The patient received nine months of anti-TB chemotherapy, consisting of two months of four drugs (isoniazid [INH], pyrazinamide, ethambutol, and rifampin). He was given two drugs (INH and rifampicin) in the next four months. At the end of anti-TB therapy, the patient had no pain with full recovery. He achieved a good range of motion and his growth indices changed significantly, with normal general condition (Figure 3). ESR declined normally two months after the operation.



**Figure 1.** The X-rays of the talus showed osteolytic lesion.



**Fig 2.** CT scan of foot showing sequestration.



**Fig 3.** Histopathologic changes showing chronic granulomatous osteomyelitis.

## Discussion

Tuberculosis still remains a leading infection, causing death worldwide (5,6). Extra pulmonary involvement is noted in 23–30% of patients infected with TB (5) with only 1–3% having osseous disease. Thirty to fifty percent of patients with bone TB have vertebral involvement (6,8). Less frequently observed appendicular skeleton involvement, usually affects major weight-bearing joints of lower extremity such as hip and knee. The ankle and foot are rarely affected and account for only 1% of all TB infections (5,6,9,10). In a report of 74 patients with foot or ankle TB, Dhillon and Naji found only one case of talus TB (6). Symptomatology is frequently led by an insidious pain of the ankle with a functional disability (11,12,13). The poor character of this symptomatology and our patient's age explain the difficulty and the delay of diagnosis, an observation made also in Anderson's study (9). Biological inflammatory syndrome is non-specific and can mimic septic arthritis (9,14). X-rays can show some nonspecific signs. It can be normal at a precocious stage, as in our case; secondarily, some signs of bone like destruction and osteolysis appear (15).

The CT scan and Magnetic Resonance Imaging (MRI) find their indication in making the precocious diagnosis in such localization. CT scan reveals the extension of lesions and bony destruction. MRI shows bone destruction sites at a precocious stage (6,15). Diagnosis can be made through these means but confirmation is brought by the identification of the bacillus from the local lesion or by a histological study of the sequester (11,14), as in our case. Surgical treatment had double aim: diagnosis by providing a material for bacteriological and histological study and therapeutic through curettage and evacuation of pus or of the necrotic bone (sequestrectomy). This treatment should be always completed by orthopedic treatment such as a plastered immobilization (11, 12, 14). In our patient, the treatment was completed with favorable outcome despite the delay of diagnosis. Talus tuberculosis is an extremely rare disease. It should be considered when confronted with any inflammatory ankle symptomatology without specific lesions. Symptomatology is often discreet and explains the late diagnosis. We can get the best result with prompt chemotherapy and early surgery.

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