A Rare Case of Tuberculosis of Talus Bone

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Abstract

Tuberculosis of foot can become debilitating if left untreated, and diagnostic delays have the potential to convert a purely osseous lesion into a debilitating condition, especially the one involving joints, leading to local destruction and disability of the joint. So an early diagnosis and treatment is important, which depends upon the awareness in the mind of the treating physician, and the representative clinical and radiological features. A rare case of a 45 years old male presenting with tuberculosis of left talus was diagnosed and treated. Smear aspirated from talocalcaneum joint was positive for acid-fast bacilli. Confirmatory diagnosis of tuberculosis of talocalcaneum joint was made on cytology as imprint smear and smears from aspirated fluid from the lesion showed chronic caseating granulomas along with the acid-fast bacilli. Talus tuberculosis should be considered in countries endemic for tuberculosis when there are any inflammatory symptoms in the ankle joint.

Key Words: Mycobacterium tuberculosis, tuberculous osteomyelitis, talus

Introduction

Tuberculosis is one of the most common health problems occurring in developing countries like India. Involvement of the musculo-skeletal system is seen in 1-3% of all tuberculosis patients of which around 10% involves the foot and ankle region (1,2). Most commonly, tuberculosis of bone occurs in spine followed by the major weight bearing joints like hip and knee. Isolated tuberculosis of talus is very rare with only few cases have been reported so far in research literature. Its unusual symptoms and presentations explains its often unrecognized pathology leading to diagnostic and therapeutic delay, eventually resulting in poor outcome (3,4).

Tuberculosis of foot can become debilitating if left untreated, and diagnostic delays have the potential to convert a purely osseous lesion into a debilitating condition, especially the one involving joints, leading to local destruction and disability of the joint. So an early diagnosis and treatment is important which depends upon the awareness in the mind of the treating physician, and the representative clinical and radiological features (4). Moreover, the added specific tests for tuberculosis contribute to the confirmation of diagnosis. However, many cases of foot tuberculosis do not have classical presentation which leads to diagnostic dilemma. Tuberculosis of the foot has been classified into five radiological types: cystic, rheumatoid, subperiosteal, kissing and spina ventosa (5,6).

![Impression smear from left talus showing acid-fast bacilli.](image)

Fig. 1. Impression smear from left talus showing acid-fast bacilli.

Case Report

A 45 years old male, presented to a tertiary-care hospital with complaints of pain in the left foot for four months along with swelling in the ankle joint. There was a positive history of weight loss, although fever, malaise and night sweats were absent. There was no history of accompanying trauma to the representative foot. There was no history of anti-tubercular treatment. His hemoglobin level and chest X-ray was absolutely normal, although there was raised erythrocyte sedimentation rate and Mantoux test showed positivity.

X-ray left foot showed an irregular lytic lesion of the affected part of the talus. Contrast-enhanced computed tomography (CECT) of ankle showed osteomyelitis of the talus. Smear aspirated from talocalcaneum joint was acid-fast bacilli positive. Confirmatory diagnosis of tuberculosis of talocalcaneum joint was made on cytology as imprint smear and smears from aspirated fluid from the lesion showed chronic caseating granulomas along with the acid-fast bacilli (Fig. 1). Efforts at screening for tubercular lesions in other parts of the body were not contributory. Finally surgical bone
curetting was done of the affected bone followed by nine months of ATT. A six-month follow up by smears for acid-fast bacilli was negative, however the X-ray changes existed.

Discussion

Tuberculosis is one of the leading infections in the world, causing death and disability (7). Extra pulmonary involvement is seen in approximately 30% of patients infected with tuberculosis with only 1-3% having osseous disease (9). Most of the patients with bone tuberculosis may have vertebral involvement (7). Appendicular skeleton is less commonly involved, usually affecting the major weight-bearing joints of lower extremity such as hip and knee. The ankle and the foot are rarely involved and account for only 1% of all tubercular lesions (7,8). There is an increased incidence of cases of TB in HIV positive patients (9,10).

Tuberculosis of foot occurs in four basic forms (2,3). The periarticular granuloma is the most common one, which if not treated, can eventually spread to the adjacent joint and can have a poor prognosis. The second variety is that of a central granuloma, mostly found in the phalanges or the metatarsals of children, and is relatively uncommon (2,3). The two other types of tubercular infection of foot are primary hematogenous synovitis in isolation, and tenosynovitis or bursitis.

The vague symptomatology explains the difficulty and the delay in diagnosis of such cases (11,12). The inflammatory syndrome is non-specific and can mimic septic arthritis (5). X-rays can show some nonspecific signs, initially appearing normal and later showing signs of bone destruction and osteolysis of the bone (13-15).

CECT and magnetic resonance imaging (MRI) are indicated in confirming the diagnosis of such lesions. CECT delineates the extension of lesions and bony destruction, while MRI shows bone destruction at an early stage (15). Confirmation of the diagnosis is made by identifying acid-fast bacilli from the local lesion through microscopy or culture on solid/liquid media for Mycobacterium tuberculosis. New age molecular techniques such as polymerase chain reaction and reverse hybridization through specific primers on various platforms such as genexpert and line probe assay may expedite results in few hours compared to culture based diagnostics which yield results in at least a week (16,17). Surgical treatment aims in the diagnosis by providing a material for bacteriological, cytological and histological study and treatment through curettage and evacuation of pus (sequestrectomy) (14,18).

Talus tuberculosis is an extremely rare disease. It should be considered in countries endemic for tuberculosis when there are any inflammatory symptoms in the ankle joint without any specific lesion clinically or even radiologically. Symptomatology in most of the cases are discreet and explains the late diagnosis. The rise of extremely drug resistant and totally drug resistant tuberculosis can guard the treatment and prognosis (19-21). The patient can be benefitted with prompt chemotherapy and early management of the diagnosed lesion.

Conflicts of Interest: None

References