Cutaneous tuberculosis mimicking a mycetoma

Vora RV, Diwan NG, Singhal RR

ABSTRACT

Atypical presentations of cutaneous tuberculosis (TB) are not uncommon and are frequently overlooked in clinical practice, leading to late diagnosis and increased morbidity. Strong clinical suspicion, histopathology, and response to antitubercular treatment are required for its diagnosis. In today's era, when TB threatens to burst into pandemics again, early diagnosis and treatment are very important for the control of disease. We are reporting a case of cutaneous TB which was initially thought to be a mycetoma.

Introduction

Cutaneous tuberculosis (TB) is relatively uncommon form of extrapulmonary TB. Although the incidence of cutaneous TB has fallen from 2% to 0.1% among skin outpatient departments, atypical forms with varied manifestations are still being reported worldwide.[1] These atypical forms can mimic various other dermatological conditions leading to delay in diagnosis and therefore increased morbidity. Delaying in initiating therapy in undiagnosed, long-standing cases results in complications such as squamous cell carcinoma, nasal perforation, and disfiguring scars.[2-5] Here, we are reporting a rare presentation of cutaneous TB which was mimicking a mycetoma. Strong clinical suspicion, histopathology, and response to antitubercular treatment led to the diagnosis.

Case Report

A 90-year-old male, farmer by occupation, had skin lesion over the left leg for the last 10 years. The lesion was asymptomatic, but in the last 30 days, nodules developed over that site were painful and itchy. Those nodules gradually increased in size and then foul smelling discharge started from multiple sinuses. There was no history of trauma over that site in recent past. The patient did not give a history of fever, cough, cold, and TB in past. Patient had no other systemic complaints. Patient had taken ayurvedic treatment, but there was no improvement. Cutaneous examination showed multiple serosanguinous discharging sinuses with deep nodules and ulcerative lesions over the left leg with surrounding erythema and mild edema [Figure 1]. Right leg was normal. There were no lesions elsewhere. No significant findings were present on systemic examination.

All routine blood reports were done. His hemogram, liver function tests, renal function test, and blood sugar levels were within normal limits, and his erythrocyte sedimentation rate was slightly raised (30 mm in first hour). Gram stain of pus collected from the site of the lesion showed moderate number of capsulated Gram-negative bacilli with scanty pus cells. Potassium hydroxide wet mount of that pus showed no fungal morphology. Ziehl–Neelsen stain was negative. Pus culture detected Aeromonas hydrophila. Mantoux test was negative and chest X-ray was normal. Radiograph of left leg anteroposterior/lateral showed no abnormality.

Biopsy showed many epithelioid cell granulomas with central caseous necrosis and periphery arranged epithelioid cells and Langhans giant cells. Moderate lymphocytic infiltration seen. Epidemics was normal [Figure 2]. No fungal organism detected and periodic acid–Schiff stain was negative.

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Anti-Koch’s treatment category 2 was given to the patient for 8 months and the patient improved within 2 months of treatment [Figure 3].

**Discussion**

Cutaneous TB is invasion of skin by *Mycobacterium tuberculosis*, *Mycobacterium bovis*, or following BCG vaccination. Cutaneous TB can be acquired exogenously (inoculation from injury) or endogenously (hematogenous spread). Lupus vulgaris (LV) is the most common morphological variant of cutaneous TB (74%) followed by scrofuloderma, TB verrucosa cutis, miliary TB, and tuberculid.[6]

LV presents with small sharply defined reddish-brown lesions with a gelatinous consistency (called apple jelly nodules). In scrofuloderma, skin lesions result from direct extension of underlying TB infection of lymph nodes, bone, or joints. It presents as firm, painless lesions that eventually ulcerate with a granular base. TB verrucosa cutis occurs after direct inoculation of TB into the skin and presents as a purplish or brownish-red warty growth most often over knees, elbows, hands, feet, and buttocks. Miliary TB occurs in immunocompromised patients and spreads from the primary infection (usually in the lungs) to other organs and tissues through the bloodstream. Skin lesions are small (millet-sized) red spots that develop into ulcers and abscesses. Tuberculid occurs as generalized exanthem in patients with moderate or high degree of immunity to TB because of the previous infection. Patient usually has good health with no identifiable focus of active TB in skin or elsewhere.

Diagnosis of cutaneous TB becomes a challenge at times. Nowadays, latest technique like polymerase chain reaction (PCR) is available which can effectively diagnose the condition. However, sometimes, even histopathology and PCR also make the condition difficult to diagnose like in paucibacillary nature of disease.[7,8] Furthermore, there are many histopathological differential diagnoses present such as sarcoidosis, tuberculosis leprosy (which has granulomas predominantly around dermal nerves), deep fungal infections (special stains can reveal fungus), and granulomatous foreign body reactions (polariscope examination can reveal the agent).[9] Sometimes, therapeutic trial of antitubercular treatment (ATT) may become the only solution.[10] Various unusual forms of LV are reported in literature. Heo *et al.* described a case of LV which was misdiagnosed as tinea and treated for 10 years without relief.[11] Saritha *et al.* described three cases of LV mimicking actinomycosis and mycetoma which were diagnosed by histopathology and lesions resolved completely with ATT.[12] Our patient presented with lesions resembling mycetoma affecting the left leg, however, histopathology and excellent response to ATT led to the confirmation of diagnosis.

**Conclusion**

Noduloulcerative lesions with discharging sinuses is an unusual presentation of cutaneous TB. High clinical suspicion, histopathology, and response to antitubercular therapy can only establish the diagnosis of cutaneous TB in such mimicking dermatoses.
Declaration of patient consent
The authors certify that appropriate patient consent was obtained.

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Conflicts of interest
There are no conflicts of interest.

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