A Case of Extensive Multifocal Tuberculosis Verrucosa Cutis

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Abstract

Tuberculosis is probably as old as the human race itself. Cutaneous tuberculosis constitutes a very small proportion of extra pulmonary tuberculosis. Extensive, multifocal involvement of cutaneous tuberculosis is a very rare manifestation. We report one such case of extensive, multifocal tuberculosis verrucosa cutis in a 30-year-old immunocompetent male patient in the absence of any primary tubercular focus.

Key Words: Cutaneous tuberculosis, extensive, multifocal, tuberculosis verrucosa cutis

Introduction

Tuberculosis is a global health problem. World Health Organization (WHO) estimates that one-third of worldwide population is at risk of developing the disease. Cutaneous tuberculosis forms about 1.5% of all cases of extrapulmonary tuberculosis.[1] *Mycobacterium tuberculosis* is mainly responsible for these cases. Rarely *M. bovis* and bacille Calmette–Guérin, the attenuated form of *M. bovis* may also be implicated. Cutaneous tuberculosis is relatively more common in the developing countries. In India, the incidence of cutaneous tuberculosis is about 0.1%.[2]

Tuberculosis verrucosa cutis (TVC), which is also known as warty tuberculosis,[3] prossector's wart, anatomist’s wart, or verruca necrogenica usually manifests as verrucous plaques. It occurs due to direct inoculation of the organism into skin of previously infected patients. We herein present a case of extensive multifocal TVC, which has rarely been reported in literature.

Case Report

A 30-year-old male, a farmer by occupation, presented with multiple raised dark colored lesions over his right lower limb of 3 years duration. Initially he had noticed a small asymptomatic raised papular lesion over his right foot, which later increased in size [Figure 1]. He progressively developed more lesions on his right leg and thigh over duration of two and a half years. There was no associated itching, discharge or pain. He did not specifically remember any preceding trauma. There was no history of tuberculosis in family members.

General and systemic examination was normal. There was no regional or generalized lymphadenopathy. Dermatological examination revealed multiple well defined discrete to coalescent verrucous, hyperpigmented plaques, and erythematous nodules on the dorsolateral and posterior aspect of right foot, entire right leg, and medial aspect of right thigh [Figures 1 and 2]. Satellite papules were present around the plaques.

The lesions were not fixed to deeper structures. There was no tenderness, pus discharge, or bleeding from the lesions.

Routine blood investigations and chest radiographs were within normal limits. Enzyme linked immunosorbent assay (ELISA) for human immunodeficiency virus (HIV) was negative. Mantoux measured 17 × 15 mm in size. Radiographs of the right foot, leg, and thigh showed only soft-tissue swelling without bony involvement. Ten percent KOH staining was negative for fungus. Biopsy from the lesion revealed marked pseudoepitheliomatous hyperplasia with irregular acanthosis. The dermis showed well defined epithelioid cell granulomas with Langhans giant cells [Figures 3 and 4]. Neutrophilic microabscesses were also present. Ziehl Neelsen staining was negative for acid fast bacilli (AFB). Periodic acid Schiff stain was negative for fungal elements. Patient was diagnosed as a case of extensive multifocal TVC. He was started on isoniazid 300 mg, rifampicin 600 mg, ethambutol 800 mg, and pyrazinamide 2 g, each taken once daily for 2 months, which was followed by isoniazid 300 mg and rifampicin 600 mg once daily for 4 months. Within 3 months, the lesions flattened out and at the end of 6 months, all the lesions had completely resolved [Figure 5].

Discussion

Cutaneous tuberculosis forms a continuous spectrum, with TVC and lupus vulgaris at one end and scrofuloderma and orificial tuberculosis at the other, corresponding
Verma, et al.: Extensive multifocal tuberculosis verrucosa cutis

to declining cell-mediated immunity. In India, TVC is probably the third most common form after lupus vulgaris and scrofuloderma. Patients may also have more than one clinical form of tuberculosis concurrently. TVC results from direct inoculation of the bacilli into skin of previously infected patients having moderate to high degree immunity against the bacilli. The diagnosis is based on history, evolution of lesion, cardinal morphological features, and histopathological characteristics. The most common site for appearance of lesions is the lower limbs.

Psoriasiform, keloidal, crusted, exudative, sporotrichoid, destructive, tumor-like, and exuberant granulomatous forms are the main variants of TVC, which have been described. Differential diagnosis includes lichen planus hypertrophicus, lichen simplex chronicus, blastomycosis, chromoblastomycosis, other deep fungal infections, and atypical mycobacterial infections.

Culture is usually negative because hardly there are any bacilli in the lesion. Polymerase chain reaction (PCR) is found to be useful in cases were histopathology and culture is inconclusive. Appropriate, good quality, and concentrated specimens may yield more positive results especially since normal PCR may be negative in TVC, which is a paucibacillary form. Nucleic acid probes and radioimmunoassay are few of the newer modalities to investigate such cases. Antitubercular therapy is the mainstay of treatment. Surgical excision and CO2 Laser
ablation may be used to debulk the lesions in resistant cases after completion of medical therapy.

Multifocal cutaneous lesions without any other tubercular focus in the body, is quite rare. A solitary previous case of such extensive multifocal involvement has been reported by Prasad et al. in 2002.[10] Our case is even more unusual as there was no evidence of immune suppression in the patient. The multifocal and extensive pattern of the disease in this patient may be attributed to multiple sites of entry of the organism, as there was no other focus that was discovered. The patient being a farmer could have sustained multiple microtrauma, facilitating entry by tubercle bacilli into the lower limb. However, a hematogenous spread cannot be ruled out.

What is new?
1. Extensive cutaneous tuberculosis can occur even in immunocompetent patients.
2. Extensive multifocal TVC is a rare presentation and can occur probably due to repeated microtrauma.

References

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