Multifocal tuberculosis verrucosa cutis

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Abstract

Tuberculosis verrucosa cutis (TBVC) is a form of cutaneous tuberculosis which is caused by Mycobacterium tuberculosis. Mycobacterium tuberculosis is known to cause both pulmonary as well as extra-pulmonary infections. Though, cutaneous infection constitutes very small proportion of Mycobacterial infection, it has great morbidity and is sometimes a diagnostic challenge. Herein, we report a case of 34 year old immunocompetent patient who had multifocal verrucous tuberculosis in the absence of a primary focus.

Introduction

Mycobacterium tuberculosis is an acid and alcohol fast bacillus which causes pulmonary as well as extra pulmonary infections in humans. Cutaneous tuberculosis constitutes only 1.5% of all tuberculosis infections[1]. Tuberculosis verrucosa cutis (TBVC) is a form of cutaneous tuberculosis which is due to direct invasion of tuberculous bacilli in to the skin in a patient with previous sensitivity to the organism. Multifocal involvement of the skin is rare. Herein, we report a case of multifocal verrucous tuberculosis in a 34 year old male without a primary focus.

Case report

A 34 year old manual labourer presented with multiple raised erythematous lesions over both legs for three years duration. There were more lesions over his right leg. They have initially started over the right knee as small asymptomatic erythematous papules. Later he has developed similar lesions over the same leg as well as the other leg. There was no associated pain, itching or purulent discharge. He denied any preceding trauma. He was a known patient with epilepsy on sodium valproate and there was no personal or family history of tuberculosis or immune deficiency.

Examination revealed multiple well defined discrete and coalescent verrucous erythematous papules and plaques over anterior, medial and lateral aspects of both legs. Most lesions were found over the right knee and thigh. (Figure 1 and 2) Lesions were not fixed to the underlying structures. There was no tenderness, pus discharge or bleeding from the lesions. General and systemic examination was normal. There was no lymphadenopathy or hepato-splenomegaly. BCG scar was present. The routine investigations including chest radiography were normal, retroviral screening was negative. ESR was 42 mm with negative Mantoux test. Radiological examination of lower limbs revealed soft tissue swelling without bone involvement. Fungal culture and TB cultures were negative. Skin biopsy showed skin surface ulceration, pseudoepitheliomatous

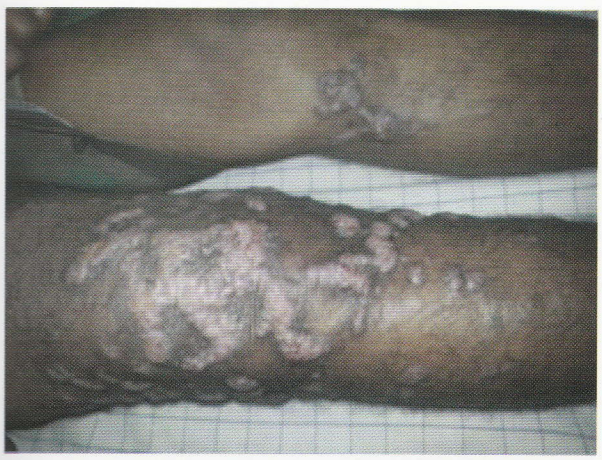

Figure 1.

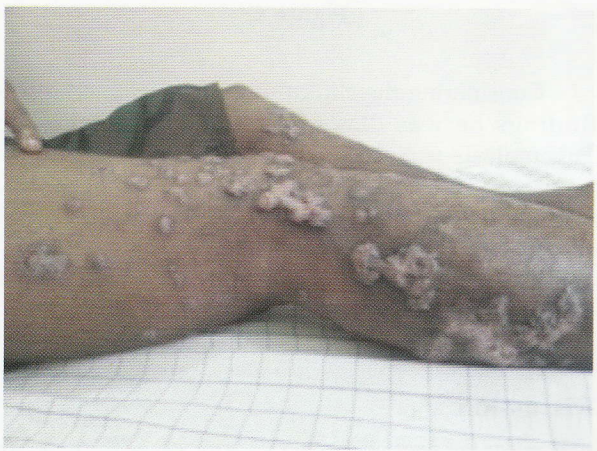

Figure 2.

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hyperplasia with extensive orthokeratosis or parakeratosis of the epidermis and multiple ill-defined granulomas rimmed by lymphocytes without necrosis in the dermis. Organisms were not demonstrated in AFB, PAS and H & E staining (Figure 3 and 4).

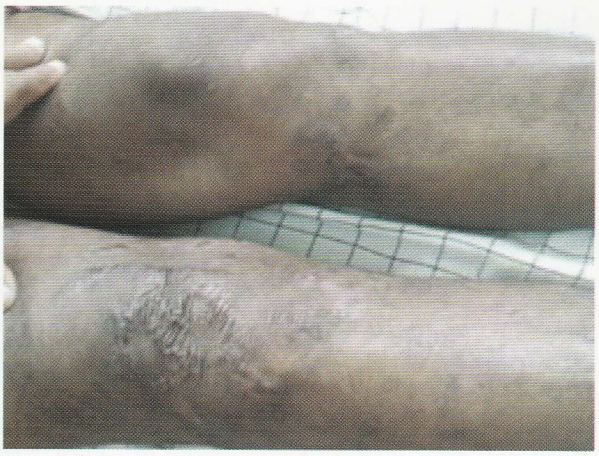

Figure 3.

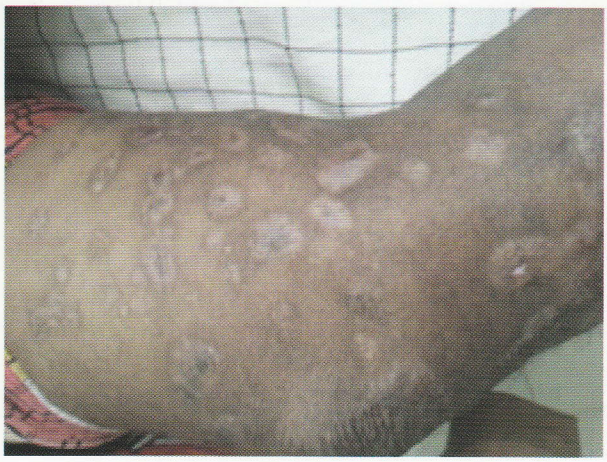

Figure 4.

Considering the clinical presentation and biopsy findings he was diagnosed as having extensive Tuberculosis verrucosa cutis (TBVC) and started on isoniazid, rifampicin, ethambutol, and pyrazinamide, daily for 2 months, followed by isoniazid and rifampicin for 4 months, for which he responded well. The lesions were flattened out and completely healed on completion of treatment (Figure 5, 6 and 7).

Discussion

Tuberculosis has affected humans from prehistoric times[2]. Mycobacterium tuberculosis is the predominant etiologic agent in cutaneous TB. Occasionally, M.bovis and bacillus Calmette-Guerrin (BCG) may produce cutaneous lesions[3].

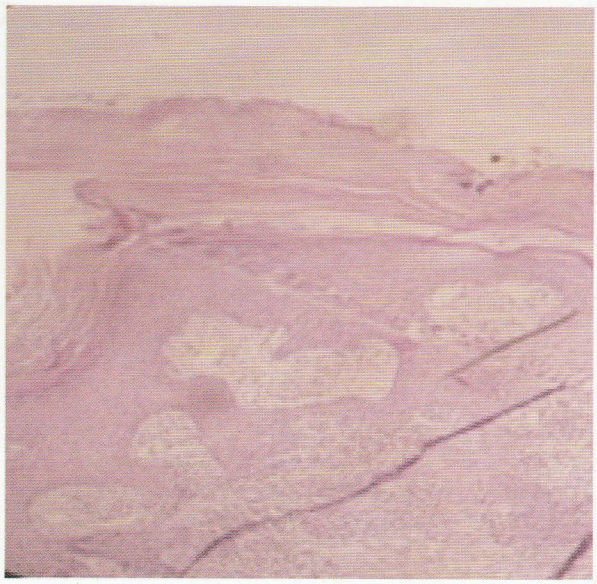

Figure 5.

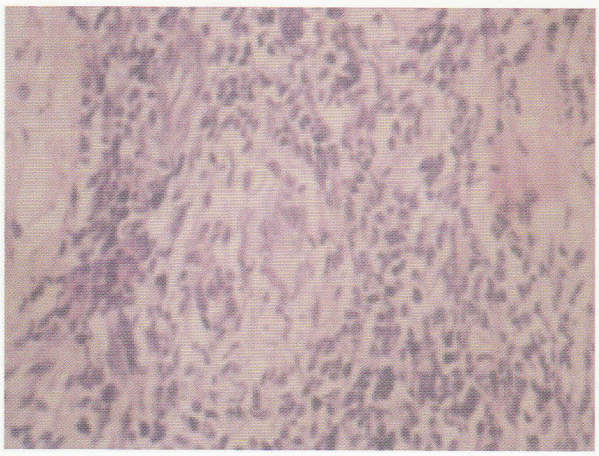

Figure 6.

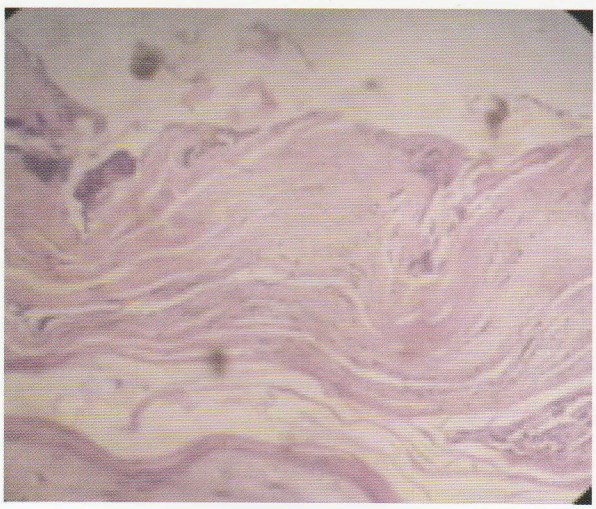

Figure 7.

Cutaneous TB has a wide variety of skin presentations[3]. Direct inoculation of the organism from exogenous source may cause tuberculous chancre, TB verrucosa cutis and occasionally Lupus vulgaris. Endogenous spread of the organism may give rise to scrofuloderma, acute milliary TB, a tuberculous gumma, orificial TB and lupus vulgaris[2].

TBVC is due to direct inoculation of bacilli into the skin in an individual with moderate to high immunity against the bacilli[3]. Diagnosis is made by thorough history, clinical examination aided by histopathological evidence. Culture may not always reveal the organism. The most common site of involvement is lower limbs[4]. The main variants of TBVC are psoriasiform, keloidal, crusted, exudative, sporotrichoid, destructive, tumor-like, and exuberant granulomatous forms[5,6]. The main differential diagnosis are hypertrophic lichen planus, chromoblastomycosis and atypical mycobacterial infection.

The available treatment options are anti tuberculous drug treatment together with debulking surgery and CO2 ablating laser treatment.

TBVC is characterized by the presence of verrucous papules and plaques, due to direct inoculation of the organism into the skin of a previously infected patient. However, multifocal verrucous plaques in an immunocompetent patient without any other tuberculous foci are rare and few case reports could be found in the literature[7] Therefore, multifocal pattern of the disease in this patient may be due to either haematogenous spread of the disease or direct inoculation from unrecognized minor trauma as he is a manual labourer.

Acknowledgement

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