Original Article

Cutaneous Tuberculosis : A Clinico-morphological Study

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Abstract

Background : Cutaneous tuberculosis forms a small subset of extrapulmonary tuberculosis. The present study is an attempt to observe the clinico morphological pattern seen in cases of cutaneous tuberculosis over a period of 5 years, and to correlate them with mantoux reactivity and human immunodeficiency virus (HIV) status.

Methods :All cases of cutaneous tuberculosis observed among the dermatology in patients and those attending out patient department were included in the study. The basis of diagnosis was clinical, histopathological and microbiological. Intradermal mantoux test and serological test in the form of enzyme-linked immunosorbent assay (ELISA) for tuberculosis was done. HIV screening was carried out in 32 cases. CD4 counts were done in all HIV positive cases.

Results : A total 0.02% patient attending the dermatology centre had cutaneous tuberculosis. The spectrum of infection included 19 (51%) cases of lupus vulgaris, 7 (19%) cases of papulonecrotic tuberculids, six cases each of tuberculosis verrucosa cutis and scrofuloderma. One case had scrofuloderma and lupus vulgaris and another both scrofuloderma and papulonecrotic tuberculide. One case of lichen scrofulosorum was seen in a seven year old boy. 11 cases revealed evidence of systemic tuberculosis. Seven cases of HIV with CD4 counts between 50-500 cells/µl were observed in this study.

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Key Words: Cutaneous tuberculosis; HIV status

Introduction

With the improvement of living conditions and the introduction of effective treatment, the number of reported cases of tuberculosis have declined. The invasion of the skin by *Mycobacterium tuberculosis* has become rare in developed countries but is seen in developing countries. The incidence of cutaneous tuberculosis had fallen from 2% to 0.15% [1]. Extra pulmonary tuberculosis has now shown resurgence because of human immunodeficiency virus (HIV) infection. Cutaneous tuberculosis may show atypical manifestations in the presence of HIV infection.

This study included the epidemiology, most frequent morphological forms, course of disease and its correlation to Mantoux reactivity.

We describe the clinical, histopathologic, and bacteriologic findings of 33 patients with different forms of cutaneous tuberculosis.

Material and Methods

All cases of cutaneous tuberculosis observed among the in patients and those attending out patient department were included in the study.

The diagnosis was based on clinical features, histopathologyl (haematoxylin-eosin and Ziehl-Neelsen stains) and microbiology of the tissue smears and in case of discharging sinuses the tissue exudate. Intradermal mantoux test was done. Enzyme linked immunosorbent assay (ELISA) for tuberculosis was performed in 26 cases.The clinical presentation and investigations were recorded and interpreted according to Beyt's classification [2]. HIV screening was carried out in 32 cases and CD4 counts done in all HIV positive cases.

All cases were subjected to a mantoux test and the results graded as nil (no induration), negative (induration <10 mm in HIV negative and < 5 mm in HIV positive), positive (induration >10 mm in HIV negative and >5 mm in HIV positive), strongly positive (induration >20 mm in HIV negative and >10 mm in HIV positive).

Results

A total of 37 cases of cutaneous tuberculosis,were observed in a patient population of 1,52,000 (0.024%) over a period of five years from 1999 to 2004. This study comprised 8 females (22%) and 29 males (78%).

The spectrum of infection included 19 (51%) cases of lupus vulgaris (Fig. 1), 7 (19%) cases of papulonecrotic tuberculids, six cases each of tuberculosis verrucosa cutis (Figs. 2 & 3) and scrofuloderma. One case had scrofuloderma and lupus vulgaris and another both scrofuloderma and papulonecrotic tuberculide. One case of lichen scrofulosorum in a seven year old boy was seen (Fig. 5). 14 (38%) cases revealed evidence of tuberculosis elsewhere in the body. Five cases of scrofuloderma were associated with tuberculous lymphadenitis and one with tuberculous osteomyelitis of the calcaneum. All patients were placed on antitubercular therapy

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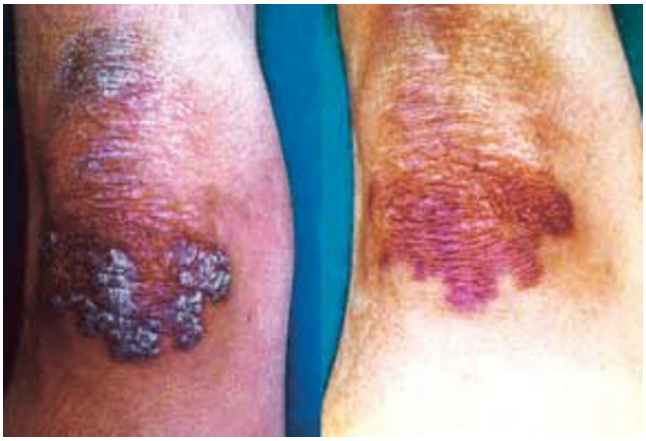

Fig. 1 : Lupus vulgaris; Pre and post treatment

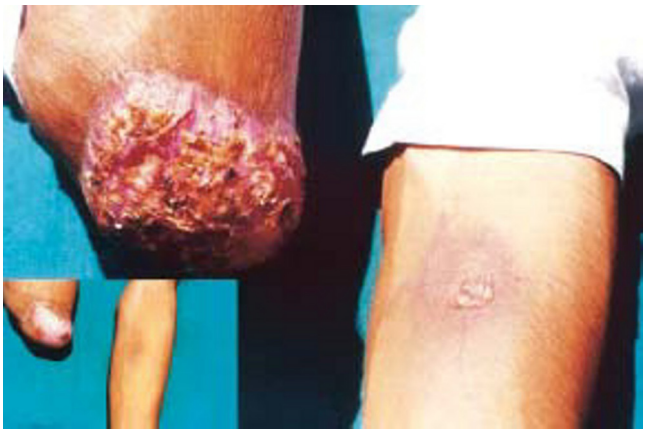

Fig. 2 : Tuberculosis verrucosa cutis (TVC) pretreatment with strong positive mantoux and post treatment (inset)

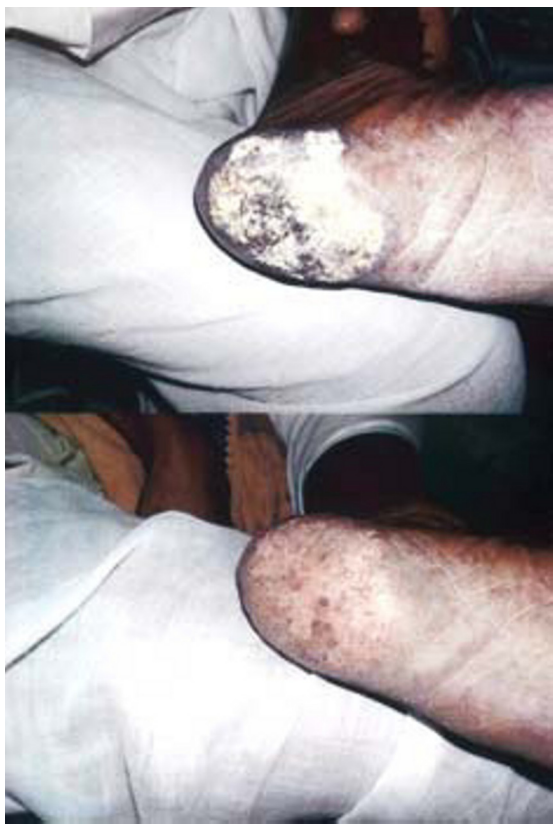

Fig. 3 : Tuberculosis verrucosa cutis pre and post treatment

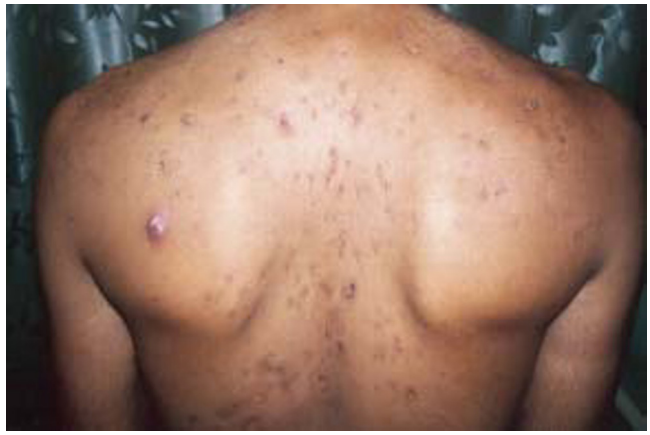

Fig. 4 : Papulonecrotic tuberculids in HIV positive patient

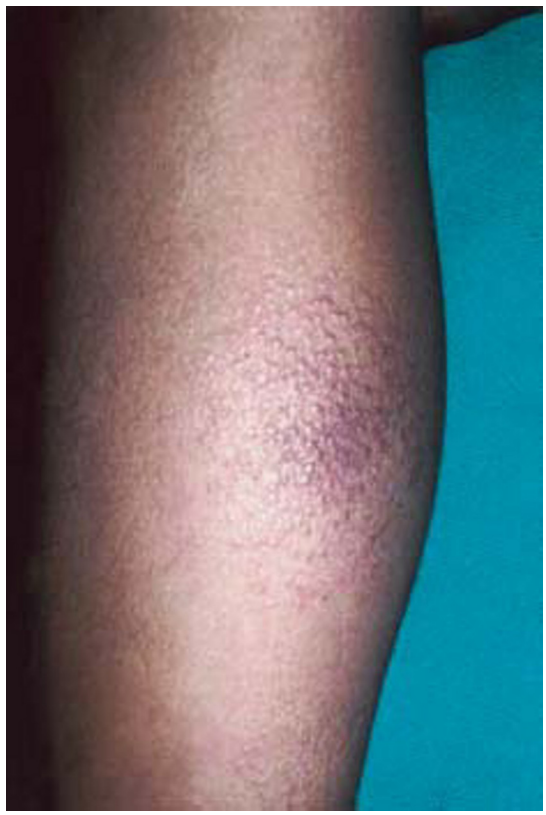

Fig. 5 : Lichen scrofulosorum

with an initial phase of rifampicin, isoniazid, ethambutol and pyrazinamide for two months followed by rifampicin and isoniazid. Most cases showed complete resolution on treatment in six months. In those, with associated systemic tuberculosis and HIV infection the duration of treatment was dictated by the systemic manifestation despite resolution of the cutaneous manifestations.

Of the 37 cases, 32 were screened for HIV infection and seven cases tested positive for HIV. Two cases each of papulonecrotic tuberculids (Figs. 4 & 6), lupus vulgaris and scrofuloderma tested positive for HIV. One patient displayed both scrofuloderma and papulonecrotic tuberculide (Fig. 7). CD4 counts were done in all seven cases.

All cases were subjected to a mantoux test. 27 cases were