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Cutaneous Tuberculosis: An Unusual Presentation

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Abstract

Observation: Cutaneous Tuberculosis can present in an uncharacteristic manner in immunosuppressed patients .We report here a case of cutaneous tuberculosis in a twenty five year old male with past history of Hodgkins lymphoma and lymphomatoid papulosis treated with chemotherapy and electron beam therapy at 9 and 14 years of age. He later developed swellings over face and chest after the complete healing of the tuberculous ulcer while he was on antitubercular therapy. So our postulate is that even if there is good recovery from the illness clinically,the immune system may not recover concomitant with recovery and it may take a very long time to recover or no recovery at all. The purpose of this case report was to emphasize the need for awareness of appearance of opportunistic infections in patients who had undergone chemotherapy and or radiotherapy therapy as well as the need for regular follow up.

Introduction

Cutaneous Tuberculosis (CTB) is caused by Mycobacterium tuberculosis (M.tuberculosis) and rarely by Mycobacterium bovis (M.Bovis) and the bacille Calmette-Guerin (BCG), an attenuated strain of M.bovis. CTB accounts for about 1.5% of all cases of extrapulmonary tuberculosis [**1, 2**]. Increased risk of CTB occurs with HIV infection, diabetes mellitus, immunosuppressive therapy, malignancies and end-stage renal disease [**3**]. Although rare, given its worldwide prevalence, it is important for clinicians to recognize the various clinical variants of CTB to prevent missed or delayed diagnoses as well as to prevent the morbidity. Here we describe an unusual form of CTB in a young male.

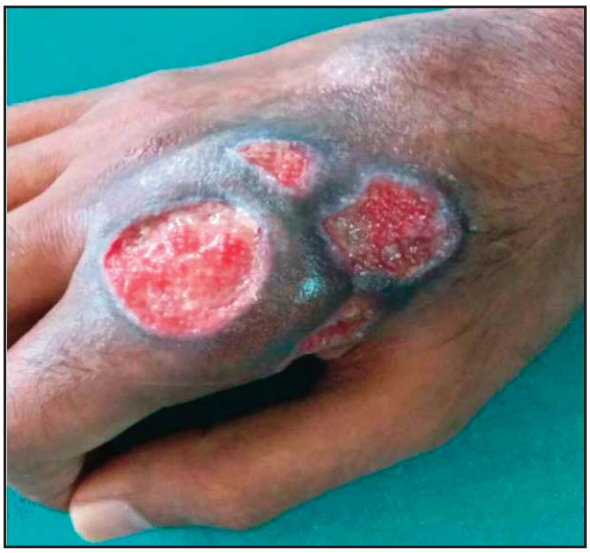

Figure 1. Four well defined ulcers with undermined edge and slough over dorsum of right hand

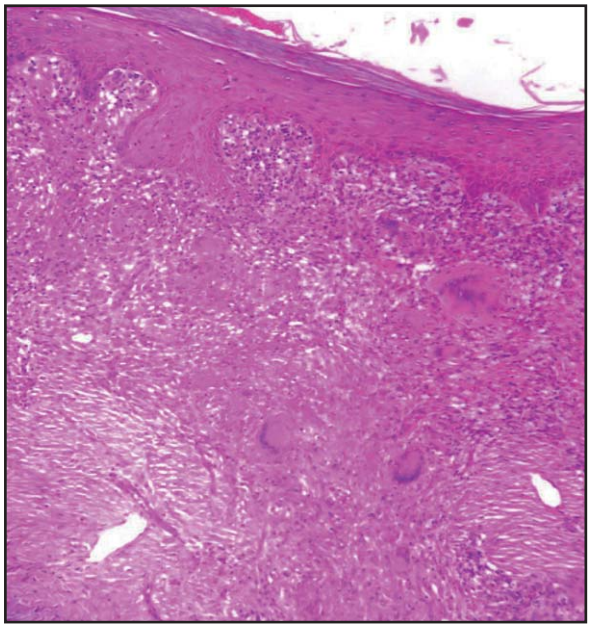

Figure 2. Low power view of section of skin showing dermis wih multiple granulomas with Langhan's giant cells (hematoxylin and eosin staining, 10 x)

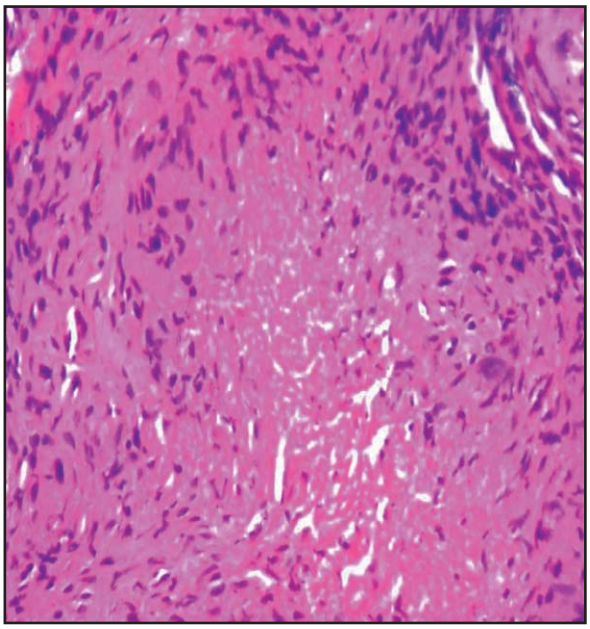

Figure 3. High power view of dermis showing granuloma with caseation necrosis at the centre (hematoxylin and eosin staining, 40x)

Case Report

A 25 year old male presented with four ulcers over dorsum of right hand for the past 8 months.The ulcer was preceded by a painless erythematous papule over right first finger web space which later progressed to form a small ulcer and subsequently similar ulcers developed adjacent to the previous lesion. He had multiple modalities of treatment for the same. He was diagnosed as having Hodgkins lymphoma-stage 4 which was completely treated with Adriamycin, bleomycin, vinblastine and dacarbazine (ABVD regimen) at 9 years of age and subsequently at the age of 14 years he was diagnosed to have lymphomatoid papulosis over right elbow which was completely treated with electron beam therapy (EBT) at 14 years of age. Physical examination revealed four ulcers on the lateral aspect of dorsum of right hand, the size ranged between 1x1cm to 3x2cm with well defined margins, undermined edge and healthy granulation tissue in the floor (**Figure 1**). Multiple small discrete mobile lymph nodes were palpable in right axilla.

Investigations disclosed a low haemoglobin of 10.9g% and elevated ESR of 120mm/hr. His serum albumin and globulin were of 3.9g/dl and 4.4g/dl respectively with albumin globulin reversal of 0.9. Biopsy of the ulcer showed well defined granulomas with caseation necrosis in the dermis (**Figures 2,3 and 4**). Mantoux test was positive with 11mm. Chest X ray was normal. A diagnosis of cutaneous tuberculosis was made and he was started on Antitubercular therapy (ATT). Ulcers were completely healed within 3 months (**Figure 5**).

But after 4 months of therapy patient presented with chest pain, and two swellings each over forehead and chest. The swellings were soft, skin coloured and fluccuant on palpation. Upper lip swelling was also noticed. He was evaluated with CT of skull and thorax which showed soft tissue swellings with underlying bone destruction. Lymph node biopsy and lip biopsy were done which showed well defined granulomas with caseating necrosis and granulomatous chelitis respectively. Swellings were aspirated which showed pus and mycobacterial culture and sensitivity was done. Mycobacterial culture was negative. Since there is appearance of new lesions, inspite of negative mycobacterial culture, streptomycin was added to the regimen. Patient showed improvement with reduced pain and swelling.

Discussion

The prevalence of cutaneous tuberculosis in India was found to be 0.26% [**4**]. The commonest type of cutaneous tuberculosis in India was lupus vulgaris (57.69%) which was followed by scrofuloderma (21.2%) and tuberculosis verrucosa cutis (19.23%) [**4**]. The prevalence of multidrug resistance in both pulmonary and extrapulmonary TB was aro-

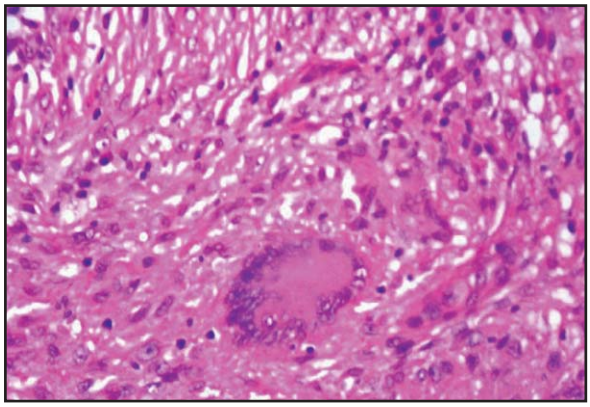

Figure 4. High power view of dermis showing granuloma with Langhan's giant cell and epithelioid histiocytes (hematoxylin and eosin staining,40x)

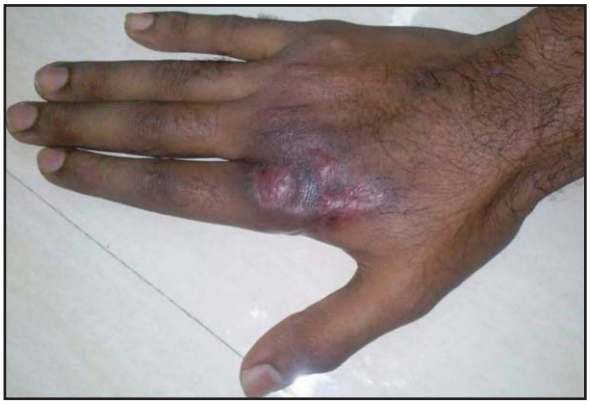

Figure 5. Healed ulcers of cutaneous tuberculosis with antitubercular therapy

und 3.7% [**5**]. The demonstration of M. tuberculosis or acid fast bacilli (AFB) in tissue culture and smear, respectively can be formidably difficult because some forms of CTB are paucibacillary [**6**].

Our patient was a young male with previous history of Hodgkins lymphoma and lymphomatoid papulosis which was treated with ABVD regimen and EBT at 9 and 14 years of age. At his first visit we considered the possibility of pyoderma gangrenosum and CTB and it was treated as CTB based up on the clinical and histopathological features. The ulcers healed with in three months of ATT supporting the diagnosis. When he presented with new lesions over forehead and chest, recurrence of Hodgkins lymphoma and disseminated TB were considered. Hodgkins lymphoma was ruled out based on the histopathological features.

The soft tissue swellings developed and progressed despite standard antitubercular chemotherapy. The possible explanations may be due to the resistance of the mycobacteria or a different mycobacterial infection affecting the soft tissues. Since AFB was not cultured, a drug sensitivity could not be done. So it is not possible to confirm whether it is due to drug resistance or not. This type of presentation is uncommon. In the literature nodular lesions over scalp and forehead were described in a cardiac transplant patient on cyclosporine and prednisolone while on antitubercular chemotherapy [**7**].

In our patient, there is still immunosuppression and immunologically he may not recovered completely from his illness or from the treatment. Another explanation could be his immune system is not functioning properly because of his chemotherapy and EBT. So our postulate is that even if there is good recovery from his illness clinically, the immune system may not recover concomitant with recovery and it may take a very long time to recover or no recovery at all. Hence all patients who have chemotherapy and or radiation therapy should be alerted for the likely appearance of opportunistic infections. These patients should be followed up regularly for a prolonged period.

Although the prevalence of CTB is very low, at times atypical presentations do exist. It is a well recognized complication in HIV positive and immunosuppressed patients where it can present in an uncharacteristic manner [**7**]. Retrospective review of response to treatment in addition to clinical features and histopathology is also important in diagnosis of the disease. The purpose of this case report was to emphasize the unusual presentation of CTB in an immunocompromised host and to impress the need for awareness of appearance of opportunistic infections in patients who had undergone chemotherapy and or radiotherapy therapy as well as the need for regular follow up.

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