Case Report

Lupus Vulgaris with Abscess

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MJAFI 2009; 65 : 84-85

Key Words : Lupus vulgaris; Secondary changes; Granulomas

Introduction

Tuberculosis of skin though uncommon can occur by direct inoculation, haematogenous spread from internal lesion and an underlying tuberculous lesion breaking open through the skin. Lupus vulgaris (LV) has a multifactorial pathogenesis (inoculation, haematogenous) and generally presents as erythematous, chronic reddish brown plaques. This can be associated with tuberculosis of other organs viz the lung, bone, lymph node or the joints [1]. We report a case of lupus vulgaris presenting with psoriasiform papules on the forearm.

Case Report

A 49 year old lady presented to the dermatology OPD with history of four nodules on left forearm of one and a half years duration. These nodules were initially of the size of a peanut and gradually increased in size over one year to form small reddish scaly patches with scanty sero-sanguineous discharge off and on. The patient denied history of trauma on the site or past history of pulmonary tuberculosis. There was no history of swimming in the ponds or swimming pools.

Fig. 1 : Psoriasiform lupoid swellings on the forearm.

Local examination revealed a row of four discrete circumscribed erythematous indurated scaly plaques varying in size from 0.75 to 2cm in diameter on the extensor aspect (radial side) of the left forearm (Fig. 1). The plaques had a lupoid appearance with reddish brown colour. Marked scaling made the lesions appear psoriasiform. A clinical diagnosis of lichen simplex chronicus was made and sporotrichosis and lupus vulgaris were considered in the differential diagnosis. Skin biopsy from the lesion showed hyperkeratosis acanthosis and parakeratosis with neutrophilic infiltrate in the form of focal micro abscesses. The superficial dermis showed ill formed epithelioid cell granulomas, with small areas of caseation and interspersed Langhan's giant cells with tight lymphocytic cuff around blood vessels and the adnexae (Fig. 2). Ziehl Neelsen (ZN) stain of the lesion did not reveal any acid fast bacilli (AFB). PAS and Grocott stain did not show any fungal elements. The overall histological picture was of lupus vulgaris with - secondary changes (lupus vulgaris exfoliatus).

The mantoux test resulted in 17 mm induration. The TB-ELISA was equivocal with the IgG of 1.03IU/L (normal values <0.9IU/L; positive is > 1.1 IU/L). Chest radiograph PA view revealed old healed lesions of pulmonary tuberculosis. The

Fig. 2 : Epithelioid cell granulomas, Langhan's giant cells in dermis and neutrophilic abscesses in epidermis (H&E stain 100X)

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patient was treated with conventional ATT comprising of ethambutol, pyrazinamide, rifampicin and INH (2 EHRZ + 4 HR). Anti tubercular therapy (ATT) was tolerated well, the patient could be followed up for three months. The lesions healed completely and the pain also disappeared.

Discussion

Although 1 of 3 individuals on this planet is infected with the tubercle bacillus, the incidence of cutaneous tuberculosis appears low. In a tertiary care hospital in northern India 0.1% of dermatology patients seen from 1975-1995 had cutaneous TB. Lupus vulgaris was the most frequent manifestation (55%), followed by scrofuloderma (27%), TB verrucosa cutis (6%), tuberculous gumma (5%) and tuberculids (7%) [2].

As we move into the 21st century, cutaneous tuberculosis has re-emerged in areas with a high incidence of HIV infection and multi-drug resistant pulmonary tuberculosis [3]. *Mycobacterium tuberculosis*, *Mycobacterium bovis*, atypical mycobacteria and the BCG vaccine can cause tuberculosis involving the skin. The diagnosis of cutaneous tuberculosis is challenging and requires the correlation of clinical findings with diagnostic testing. In addition to traditional AFB smears and cultures, there has been increased utilisation of polymerase chain reaction because of its rapidity, sensitivity and specificity [4].

Lupus vulgaris is a chronic and progressive form of cutaneous tuberculosis that occurs in tuberculin sensitive patients. Lesions are usually solitary and more than 90% involve the head and neck in western countries [5]. In India buttocks and trunk are commonest sites [1]. Our case is unusual in its presentation with four papules on the extensor aspect of the right forearm. Case reports of disseminated lupus vulgaris have also been reported [6]. The lesions in our case were arranged in a straight line (Kobener's phenomenon) which could be explained by the repeated itching by the patient that would have inoculated the organism in other parts of the forearm. Clinical variants are numerous and are seen in plaque, ulcerating, nodular and vegetative forms. [7].

Histologically, the most prominent feature is a typical granulomatous tubercle with epithelioid cells, Langhan's giant cells and a mononuclear inflammatory infiltrate. Caseation necrosis is minimal and acid fast bacilli are rare. Tissue histology varies with secondary changes of abscess formation, ulceration, atrophy and scarring [8]. In long standing lupus vulgaris, squamous cell carcinoma can occur. The diagnostic dilemma in our case was

atypical clinical presentation of the case and the variable histological picture (the findings of neutrophilic abscesses in the epidermis along with epithelioid cell granulomas and Langhan's giant cells in the dermis clinched the final diagnosis of LV) of tuberculosis verrucosa cutis (TVC), sporotrichosis and *Mycobacterium marinum* infection. However TVC was ruled out clinically, rarity of absence of history of any injury (thorn, needle stick) at the site and multiple lesions. *Mycobacterium marinum* infection with a histology similar to LV was easily ruled out as the patient was not a swimmer and therefore not exposed to sea water or aquarium. Sporotrichosis was ruled out by the special fungal stains and absence of asteroid bodies. Lupus vulgaris is a paucibacillary form of tuberculosis, culture is often negative and the diagnosis rests chiefly on clinical suspicion and characteristic histopathology; strengthened by a strong tuberculin reaction and a good response to antitubercular treatment.

However one should be aware of multidrug resistant tuberculosis. It is therefore important that cutaneous tuberculosis be kept in the differential diagnosis of long standing cutaneous disorders and histopathology would help in confirming or excluding this treatable condition.

Conflicts of Interest

None identified

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