

Metastatic tuberculous abscess (tuberculous gumma)

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Summary

A case of metastatic tuberculous abscess (tuberculous gumma) occurring in a young immunocompromised female is reported. The diagnostic histological features and differential diagnosis of this rare form of cutaneous tuberculosis are discussed. This condition has not been documented previously in Sri Lanka.

Introduction

Tuberculous gumma is the result of a haematogenous spread of mycobacteria from a primary focus during a period of lowered resistance^{1,6}. This unusual disease affects undernourished children of low socio-economic status or patients who have a primary immunodeficient disorder or are secondarily and severely immunodepressed by a disease or therapy^{1,2}. Histopathology is characterised by massive necrosis and abscess formation, resembling changes of scrofuloderma. Acid fast stains usually reveal copious numbers of mycobacteria. Clinical manifestations include subcutaneous abscesses which are generally nontender and fluctuant, arise either singly or multiple lesions on the trunk, extremities or head. The lesions slowly soften and breakdown to form undermined ulcers and sinuses. The confirmation of the clinical diagnosis is obtained by histopathology, acid fast staining of the tissue or smears and bacterial culture. Treatment is essentially as in tuberculosis in general with standard multidrug therapy. Case reports of cutaneous mycobacteriosis appearing in the medical literature over 10 years were reviewed⁴. Two large series of patients and other scattered reports comprise 52 reported patients in whom nodules or cold abscesses due to mycobacterium tuberculosis have been noted⁴.

Case report

A 30 year old woman with systemic lupus

erythematosus (SLE) with overlap syndrome presented with progressive development of multiple painless subcutaneous nodules over the preceding two months. There was no history of antecedent trauma, surgical procedures or injections. She had been on immunosuppressive therapy (azathioprine and prednisolone) for last seven years. She has had other infective episodes namely gastroenteritis complicated by septicemia and an uncomplicated urinary tract infection in the recent past.

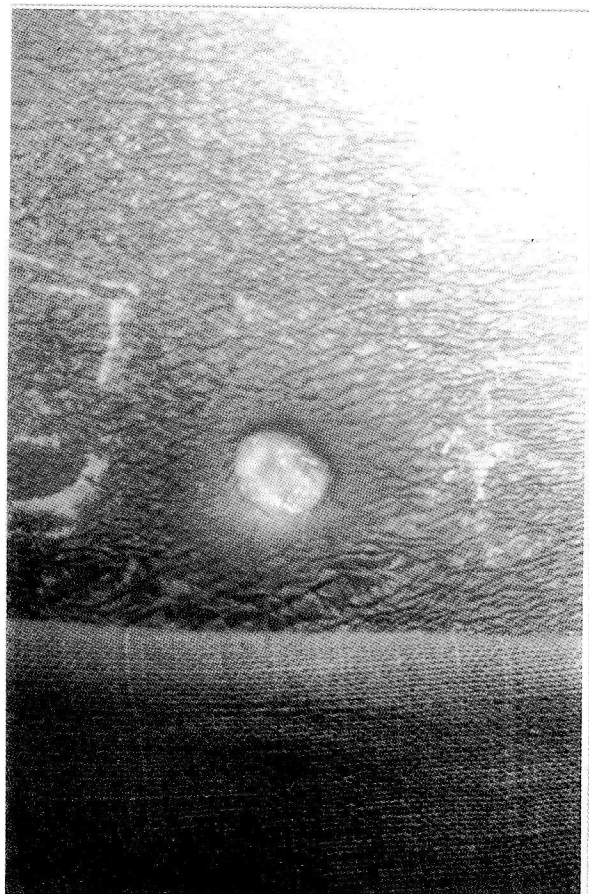


Figure 1. Ulcerated nodule

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Physical examination revealed a lady with cushingoid face and hypertrichosis. There were multiple, mildly tender, fluctuant subcutaneous nodules noted on her lower and upper extremities and buttock. They were varying in size measuring between 1-3 cm in diameter and two of them were discharging purulent material. There was no surrounding erythema. During the stay in the hospital some of the nodules became ulcerated with undermined edges and bluish surrounding skin. (Fig. 1) No organomegaly nor lymph nodes were found. She was afebrile and examination of all other systems were normal except proximal muscle weakness.

Significant laboratory findings included a mild normocytic normochromic anaemia (hemoglobin 11.3 gm/dl), with normal white cell count, an elevated erythrocyte sedimentation rate (70 mm/hr). The chest radiography disclosed no abnormality. Mantoux test was positive with 16 mm induration. Smear from purulent material of the subcutaneous nodule revealed large amount of acid fast bacilli with typical morphology of mycobacterium tuberculosis. Histology from skin biopsy displayed many non-caseating epithelioid cell granulomata surrounded by a dense cuff of lymphocytes associated with plasma cells. The lesion was seen to extend to the deep dermis. The changes were suggestive of a mycobacterial aetiology. Direct microscopy and culture from the pus and a biopsy specimen were negative for fungi.

Discussion

Cutaneous tuberculosis occurs rarely even in areas where the disease is endemic, and they are often misdiagnosed because of a low index of suspicion. The aim of this presentation is to highlight that a high index of suspicion is needed in evaluating patients with possible cutaneous mycobacteriosis because of its rarity and atypical presentation especially in the immunocompromised individuals^{4,5}.

According to the existing classification of cutaneous tuberculosis⁵, our patient's lesions best resemble tuberculous gumma. It is a form

of secondary cutaneous tuberculosis due to endogenous reactivation of bacilli which have been metastasized during primary infection ("silent bacillema") and reactivated at the time of localized or generalized immunosuppression^{1,5}.

The differential diagnosis of tuberculous gumma includes all forms of panniculitis, deep fungal infections, syphilitic gumma and hidradenitis suppurativa¹. Diagnosis may be difficult outside childhood and is confirmed by culture⁵. Lowenstein-Jensen with glycerol or sodium pyruvate can be recommended as culture medium. Colonies of human tubercle bacilli generally appear after 2-3 weeks at 37°C. Growth first appears as small (1-3 mm), dry friable colonies that are rough, warty, granular and buff-coloured. After several weeks, these increase in size; typical colonies have a flat irregular margin and a "cauliflower" center. Colonies are easily detached from the medium's surface but are difficult to emulsify⁷.

References

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