

Scrofuloderma in Disseminated Tuberculosis – A Rare Pediatric Case Report

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Abstract- Scrofuloderma is a common type of cutaneous tuberculosis characterized by a bluish-red nodule overlying an infected lymph gland, bone or joint that breaks down to form an undermined ulcer with a granulating tissue at the base. Progression of the disease leads to irregular adherent masses, densely fibrous at some places while fluctuant and discharging at others. It heals with a characteristic puckered scarring at the site of infection. The disease is caused by *Mycobacterium tuberculosis*. Very few pediatric patients with scrofuloderma have been reported. Here we describe a case of scrofuloderma with spine and pulmonary involvement in a 11 year old child which has been rarely described in literature.

Index Terms- Scrofuloderma, spinal tuberculosis, pulmonary TB

I. INTRODUCTION

Though, human disease with *Mycobacterium tuberculosis* and *M. bovis* usually spreads by droplets, and the portal of entry is often the respiratory tract, skin can also be involved primarily.^{2,3}

Scrofuloderma, also called ‘tuberculosis colliquativa cutis’ is a common form of cutaneous tuberculosis affecting children and young adults in which there is breakdown of skin overlying a tuberculous focus in the lymph node, bone or joint.^{1,4} Initially, there are firm painless, subcutaneous nodules that gradually enlarge and suppurate.^{1,3,4} These lead to ulcers and sinus tracts with undermined edges and ultimately puckered scars.¹

Diagnosis is usually performed by needle aspiration biopsy or excisional biopsy of the mass and the microbiological demonstration of stainable acid fast bacteria.³ PCR has a low sensitivity but high specificity.^{5,6} The best approach for treatment of this disorder is with conventional anti-tubercular drugs while people in close contact with the patient, such as family members, should undergo testing for tuberculosis.³

The role of surgery cannot be denied.² The affected nodes can be treated with electrosurgery, cryosurgery and curettage with electrodesiccation as an adjunct measure, with pharmacological therapy as the primary method of treatment.³ We report a case of scrofuloderma, with spinal and pulmonary involvement in our institute.

II. CASE REPORT

A 11-year-old male child resident of Chennai, presented in our paediatrics department with complaints of fever on and off for three months, and enlarged left upper cervical and submandibular nodes with multiple discharging sinuses on his

left axilla, left forearm and lower aspect of mid sternal region (Fig-1 & Fig-2) for the last 2 months. Initially, the lesions started as papules that progressed to nodules and pustules leading to draining sinuses. He also had a history of low grade fever, associated with loss of weight and appetite. There was no history of trauma, cough, haemoptysis, or similar complaints among family members. The discharge from the lesions was initially serous and then purulent in nature. He had pain and tenderness in the lower mid sternal region. There was no history of contact with a tuberculosis patient and nothing was positive on systemic enquiry. His parents and sister, were all alive and healthy.

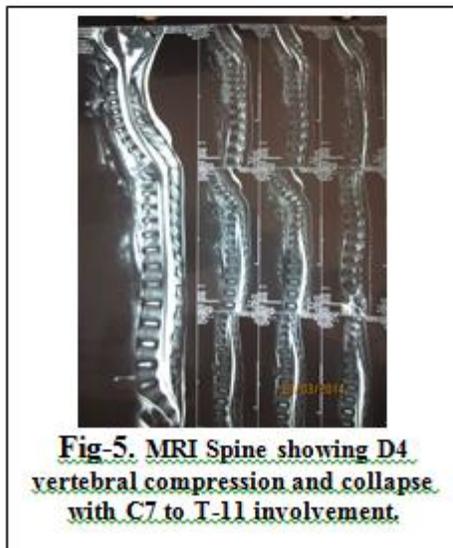
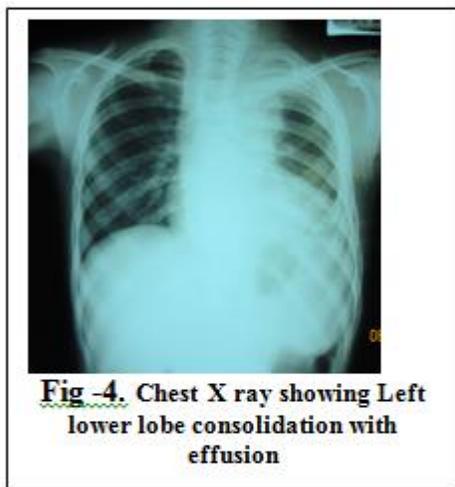
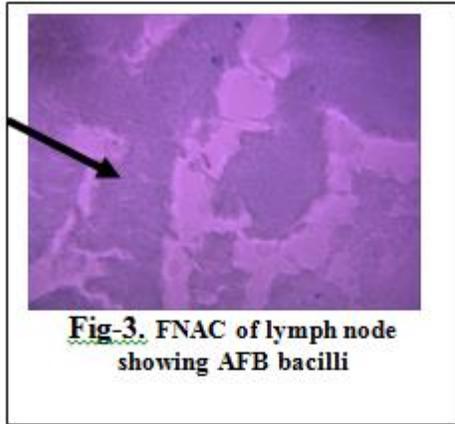
He belonged to a poor socioeconomic class. Physical examination revealed a undernourished child. Lymph nodes examination showed a palpable matted left upper cervical nodes, left axillary node of significant size, with discharging sinus from it. There were no other significant nodes palpable.



Fig-1. Multiple discharging sinuses near axilla and over left forearm



Fig-2. Enlarged Left Submandibular and upper deep cervical lymph node



There was difficulty in flexing his trunk and bending to reach for object on floor. No other joint involvement was noted. Respiratory system examination showed reduced air entry on left infra scapular and infra axillary area. No significant finding was noted in gastrointestinal, cardiovascular system. On laboratory

investigations, the blood complete examination revealed TLC: 10000/mm³, Hb: 12gm/dl, ESR: 50 mm. mantoux test was positive (23mm) and a microcytic hypochromic picture, while urine and stool examination had no abnormal finding. FNAC from left cervical lymph node showed AFB positivity (Fig-3). Skin biopsy of the lesion in the left forearm revealed non-necrotising granulomatous inflammation. HIV screening was negative. Sputum for AFB was negative. Chest X-ray showed minimal pleural effusion left side (Fig-4). Chest and Abdominal ultrasonography revealed left sided minimal pleural effusion. MRI Spine revealed lesion involving C7 to D11 vertebrae with anterior wedge compression and collapse of D4 vertebra with marrow involvement, suggestive of Pott's spine (Fig-5). Currently, the patient is on ATT treatment as per RNTCP-DOTS (category1) for past 1 month with clinical improvement.

III. DISCUSSION

One-third of the world's population is infected with *M. tuberculosis* and global burden of the disease continues to grow.^{1,5,7} The organism responsible for tuberculosis was identified more than 100 years ago while a BCG vaccine has been in use for over 60 years and chemotherapy for over 30 years.⁸ Despite all these, the disease still remains a major international health problem.^{3,5,7} The reasons may be malnutrition, low socioeconomic conditions, crowded place and multidrug resistant strains of *M. tuberculosis*.^{3,9} In our case, lymph node enlargement with multiple draining sinuses, microbiological evidence of AFB, histopathology report, and a good response to ATT favoured the diagnosis of scrofuloderma. The condition has to be differentiated from some other similar clinical entities.

Differential diagnosis of discharging sinuses^[1-3,6,10]

- Atypical mycobacterial infection due to *M. scrofulaceum* and *M. avium-intracellulare*
- Actinomycosis
- Sporotrichosis
- Botryomycosis
- Nocardiosis
- Syphilitic gumma
- Hidradenitis suppurativa

There are only very few pediatric scrofuloderma cases reported in recent literatures. Since our child presented with Scrofuloderma with involvement of Spine and lung, and this being a rare association, this case is being published.

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