Abstract

Tuberculosis of rib is a rare condition and is often missed till osseous destruction of the rib is seen on chest radiograph or a cold abscess is formed in the chest wall. Such a case is reported here in view of its rarity.

Key words: Osseous destruction, chest wall mass, haematogenous dissemination.

Introduction

Any bone in the body can be a site for tuberculosis. However, tuberculosis of rib is an extremely rare condition. Tuberculosis of rib must be distinguished from other types of inflammatory bone lesions of the ribs and from benign and malignant tumours. The cold abscesses must be distinguished from cysts and tumours of chest wall and from somewhat more common types of cold abscesses in this area secondary to tuberculosis of thoracic spine. A case report of tuberculosis of rib with cold abscess in the chest wall is presented hereinunder.

Case report

A 37-year-old female non-smoker presented with a one-month history of pain and swelling over the left side of the chest. Pain was insidious in onset, localised and non-radiating, and aggravated on movement and coughing. There was history of low-grade fever and loss of weight over one month. She had no past history of tuberculosis or contact with a case of tuberculosis. On general examination, patient was afebrile with no pallor, clubbing, and lymphadenopathy. She had pulse rate of 72/min, respiratory rate of 20/min, and blood pressure of 120/80 mm of Hg in the right upper arm. On examination of her respiratory system, a soft non-tender fluctuant non-pulsatile swelling was palpable on the left side of the chest in mid-axillary line, measuring about 10 x 10 cms in size. Local temperature over the swelling was not raised and there was no cough impulse. There were no other significant findings and other systems were normal. Investigations showed her haemoglobin to be 11 gm%, total leucocyte count 7,500/cmm, neutrophils 72%, lymphocytes 18%, and eosinophils 10%. Her blood sugar level and liver function tests were normal and she was not immunocompromised. Her chest radiograph showed evidence of osseous destruction of the left 7th rib in its lateral aspect with associated soft-tissue swelling over the chest wall (Figure 1). Chest ultrasonography showed evidence of a hypoechoic lesion in the lateral aspect of chest wall showing thick internal echoes measuring 8.5 x 4.5 cms. There was no evidence of pleural effusion. Fine needle aspiration of this swelling was done. Smear of the aspirate showed lymphocytes, lymphoblasts, and histiocytes. The picture was reported as suggestive of cold abscess due to tuberculosis. She was started on antituberculous treatment with category one DOTS, i.e., 2HREZ+4HR thrice weekly which she tolerated well. Her chest swelling subsided gradually and she showed signs of improvement over the course of treatment.

Discussion

As mentioned earlier, tuberculosis of the rib is a rare condition. It has an insidious onset and less than 50% of patients have active pulmonary disease. Destruction of bone in tuberculosis results from pressure necrosis by granulation tissue and also by the direct action of invading organisms. Mechanism of rib tuberculosis includes:- (1)
haematogenous dissemination associated with activation of a dormant tuberculous focus (most common); (2) direct extension from a lymphadenitis of chest wall, and (3) direct extension from lungs. Presenting symptoms of rib tuberculosis are a painful or non-tender chest wall mass or chest pain. The mass can be cystic or doughy. The location of the mass is not classic since any part of the rib can be involved. Diagnosis of rib tuberculosis may be difficult and is based on bacteriologic or histologic confirmation – as is true in all tuberculosis cases. This patient presented with tuberculosis of rib with chest wall swelling without any pleuro-pulmonary involvement. She probably had rib involvement due to isolated haematogenous dissemination from a dormant tuberculous focus which might have got activated due to some impairment of immunity. However, her serological assay for HIV was negative. The diagnosis was made on the basis of aspiration cytology of the swelling which showed signs of cold abscess due to tuberculosis. She responded well to antituberculous chemotherapy.

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References


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