CASE REPORT

Tubercular cold abscess of scapula: A rare presentation

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Abstract

Tuberculosis (TB) is a very common cause of morbidity and mortality as an infectious disease in endemic areas. Only 18 cases of scapular TB have been reported in the literature so far. In this case report, a patient was reported with tuberculosis of scapula without other typical manifestations of TB. A 54-year-old male presented with a painful progressive swelling of the left scapula for the past 6 months. The swelling was insidious in onset and progressed gradually and associated with a low grade intermittent fever. There were associated constitutional symptoms such as loss of appetite, loss of weight and non-productive cough. Erythrocyte sedimentation rate (ESR) levels were elevated and Mantoux test was positive. A plain radiograph of the chest was done which is normal. MRI findings were suggestive of Koch's pathology. Incision and drainage of the swelling was undertaken which resulted in evacuation of copious amount of pus. Pus for TB culture revealed no growth of acid-fast bacilli (AFB) after 6 weeks. Final report of AFB fluorescent culture revealed growth of *Mycobacterium tuberculosis* complex. The patient was started on ATT regimen. On one year follow up, he is completely asymptomatic with ESR levels and total leukocyte count being within normal limits. Tuberculosis of the scapula is a rare presentation. Tubercular cold abscess should also be kept in mind when a person from a TB endemic area, presents with painful swelling of scapula with or without the associated constitutional symptoms of TB.

Keywords: tuberculosis; tubercular cold abscess; scapula

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Introduction

Tuberculosis (TB) is a very common cause of morbidity and mortality in endemic areas for infectious diseases. There has been an increase in incidence of TB worldwide due to the increased usage of immunosuppressants, diabetes mellitus, AIDS and other immunocompromised states. Musculoskeletal TB constitutes about 10-35% cases of extra-pulmonary TB and only 2% of all cases of TB [1]. Only 18 cases of scapular TB have been reported in the literature so far [2]. In this case report a patient with tuberculosis of scapula without any other manifestations of TB is presented [3]. Tubercular cold abscess of the scapula in the absence of typical findings of TB can be most often misdiagnosed as a tumour or hematoma as a result

of trauma. This case report intends to drive home the point that cold abscess should be kept in mind when a patient presents with painful swelling of the scapula especially in endemic areas.

Case report

A 54-year-old male presented to KIMS hospital, Secunderabad, with a painfully progressive swelling of the left scapula (Figure 1) for the past 6 months. The swelling was insidious in onset associated with pain and progressed gradually and associated with low grade intermittent fever. There was no history of trauma. There were associated symptoms such as, loss of appetite, loss of weight and non-productive cough. Patient was a known case of hypertension, diabetes mellitus and chronic kidney disease. On examination, there was a globular swelling measuring 10×6 cms on the upper aspect of left scapula (Figure 1). The skin over the swelling was normal with no actively discharging sinus and so was the surrounding skin. The swelling was tender, fluctuant, soft in consistency with no local rise in temperature. There was no fixity to the overlying skin and the plane of swelling was subcutaneous.

Figure 1: Swelling over the scapula.

Haemogram report was within normal limits except the predominant lymphocytosis in differential leukocyte count (DLC). Erythrocyte sedimentation rate (ESR) levels were elevated and Mantoux test was positive with the induration on skin measuring 16mm. A radiograph of chest was done which was normal. High resolution ultrasonography (HRUS) of left posterior chest wall was done which revealed a well-defined, rounded, heterogeneously hypoechoic lesion in the intramuscular plane of left posterolateral chest wall without any evidence of vascularity into the lesion and was suggestive of hematoma. Magnetic resonance imaging (MRI) of left shoulder joint and scapula was done which revealed irregular osteolytic lesion with cortical breakdown. The findings were suggestive of focal chronic osteomyelitis of inferior angle of scapula with fluid collection or abscess probably Koch's etiology. There was also evidence of hyperintense lesion in apico-posterior segment of upper lobe of left lung with surrounding infiltrations, suggestive of an infective etiology (Figure 2a,b,c).

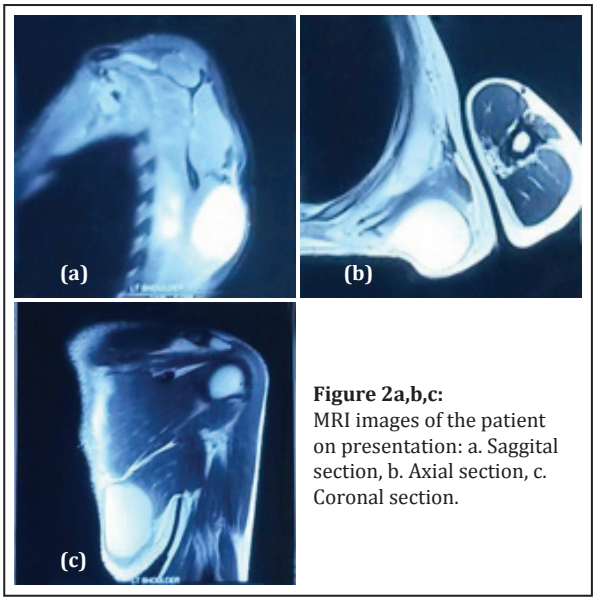

Figure 2a,b,c: MRI images of the patient on presentation: a. Saggital section, b. Axial section, c. Coronal section.

Fine needle aspiration cytology (FNAC) of the swelling resulted in aspiration of pus like material. Examination revealed presence of histiocytes without any well-formed granulomas. Neither any evidence of malignancy nor the presence of acid-fast bacilli (AFB) was reported. Final report of AFB fluorescent culture revealed growth of *Mycobacterium tuberculosis* complex.

Finally, incision and drainage of the swelling was undertaken which resulted in evacuation of copious amount of pus. Gram's stain and Ziehl-Neelsen stain for the pus sample turned out to be negative. Pus for culture (Lowenstein-Jensen medium) and sensitivity of the sample revealed no growth of organisms. Pus for TB culture revealed no growth of AFB after 6 weeks. There was a delay in wound healing post operatively by 2 months. Now at 1year follow-up, the patient is completely asymptomatic, surgical scar healed by secondary intention. The range of movements at glenohumeral, and scapulothoracic joints were normal with normal ESR levels and total leukocyte count (TLC). The chest rediograph is also normal.

Discussion

TB is an infectious disease caused by *Mycobacterium tuberculosis*. Nearly one third of the people world-wide are infected with TB and nearly 2 million people die all over the world as a result of it [4]. Tuberculosis of the musculoskeletal system constitutes about 10-35% of extra-pulmonary TB and only 2% of all TB lesions [1]. TB of the bone usually results from direct spread of bacilli from lungs, GIT or lymph nodes either through hematogenous or lymphatic routes. In the musculoskeletal system, joint involvement is most common followed by involvement of long bones [1]. Involvement of flat bones is very rare [2]. The isolated involvement of a flat bone like scapula without any primary focus very often confuses the clinician with other pathologies and leads to a delay in the diagnosis. Finding of a cold abscess is strongly suggestive of TB [5].

Unusual location, lack of pulmonary symptoms, known history of malignancy, low index of suspicion and close differential diagnoses frequently lead to a delay in diagnosis [2, 6, 7]. Scapular TB is commonly confused with tumors, both benign and malignant. Osteochondromas, chondrosarcomas, fibrous dysplasia are tumors arising from scapula which misguide clinicians from an early diagnosis of scapular TB [8-10]. Findings on X-ray which favour a diagnosis of TB osteomyelitis over neoplasia are juxta-articular abscesses, rings of inflammatory tissue due to cortical destruction and spread of infection to extra-osseous tissue [11].

A positive Mantoux test, raised ESR levels are consistent findings in tuberculosis, but are not diagnostic [12-15]. Confirmation of tuberculosis is primarily based on the findings of granuloma and caseous necrosis or tubercle bacilli on FNAC or in tissue culture [6]. Treatment is usually started on the basis of granuloma, as bacilli may not be isolated all the time. AFB smears lack sensitivity and moreover are not specific for M. tuberculosis. Culture and sensitivity though are specific, it takes 2-3 weeks [16]. Histologic diagnosis along with microbiology and molecular studies can help to clinch the diagnosis.

Conclusion

Tuberculosis of the scapula is a very rare presentation. In places where TB is endemic, tubercular cold abscess should also be kept in mind when a person presents with painful swelling of scapula with or without the association of constitutional symptoms of TB.

Acknowledgement

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Conflicts of interest

Authors declare no conflicts of interest.

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