Unusual presentation of shoulder joint tuberculosis: A case report

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ABSTRACT

Tuberculosis of the shoulder joint is uncommon. In adults the classical dry type of shoulder tuberculosis (caries sicca) has been described, while the fulminating variety has not been reported. We treated a case of fulminating variety of tuberculosis of the shoulder joint with anti-tubercular therapy and a shoulder immobilizer sling. At 18 months of follow up, the patient was disease free and had a good functional range of motion.

Key words: shoulder tuberculosis, fulminating variety

CASE REPORT

A 45-year-old male presented in February 1996, with a history of mild pain in the right shoulder joint for the past two years and a rapidly progressive swelling around the right shoulder of one month duration. He was febrile, had severe pain and was not able to move the shoulder joint. There was no history of previous trauma, massage, manipulation or any sexually transmitted disease. During the past two years he had been treated off and on with anti-inflammatory drugs and had received antibiotics during the last two weeks without much relief.

On examination, the right shoulder joint had a diffuse swelling with ill defined margins. The overlying skin was tense and shiny with venous engorgement. There was no discharging sinus or pointing abscess. Movements of the shoulder were painful and restricted in all directions. There was no distal neurovascular deficit. The patient had no systemic disease.

Laboratory examination revealed haemoglobin of 10 gm %, a total leucocyte count of 10,000 3 mm with 47% lymphocytes, 50% polymorphs and 3% eosinophils. The ESR (Westergren) was 80 mm/hr. VDRL test was negative. The tuberculin test was strongly positive. Chest X-ray was normal.

An anteroposterior roentgenogram of the right shoulder (Fig. 1) revealed a soft tissue swelling and a probable pathological fracture dislocation of the

INTRODUCTION

The incidence of tuberculosis of the shoulder joint is 1–2.8% of the skeletal tuberculosis.4,7,10 The dry type of lesion is commonly reported in adults while the fulminating variety of shoulder tuberculosis is common in children.2 We report a middle-aged patient with shoulder joint tuberculosis in whom the clinical presentation was of the acute fulminating type and simulated a sarcomatous lesion with severe destruction of the shoulder joint.
shoulder. The separated head of the humerus was lying in the soft tissues at the inferior margin of the joint. There was ectopic calcification seen in and around the joint. On retrospective review, the X-rays during the first two years of mild symptoms were unremarkable. A plain and enhanced computed tomography scan (Fig. 2) showed bony destruction of the glenoid cavity and a pathological fracture dislocation of the shoulder. The bony architecture of the head was altered and it was lying dislocated posteriorinferiorly within the soft tissues. The acromioclavicular joint, too, was dislocated. There was a large centrally necrotic, liquefied lesion with multiple adjacent calcification around the fractured head and upper end of the humerus, and in the subscapularis, infraspinatus and deltoid muscle area, leading to a marked soft tissue swelling of the shoulder and compromise of the axillary space.

**Figure 1** Anteroposterior roentgenogram showing a pathological fracture dislocation of the shoulder. The separated head is lying in the soft tissue.

**Figure 2** Computed tomography scan showing bony destruction, a pathological fracture dislocation of the shoulder and a large centrally necrotic lesion with multiple adjacent calcification around the fractured head and upper end of the humerus.
With CT guided aspiration, approximately 20 ml of fluid with debris was removed. A cytological examination of the aspirate showed caseation and a granulomatous lesion strongly suggestive of tuberculosis. A culture examination for pyogenic bacteria did not grow any organisms. The patient was started on four drug antitubercular therapy initially and was put on two drugs after two months, which was continued for sixteen months. The shoulder was immobilized in a shoulder immobilizer sling. He showed considerable clinical improvement within one month. At final follow up he had gained weight, had no pain or swelling and although the movements were restricted (flexion 15°, extension 10°, abduction 75°, adduction 0°, internal rotation 10° and external rotation 10°) and mostly scapulothoracic, he could carry out his day-to-day activities without much discomfort. ESR was 20 mm/h. The anteroposterior roentgenogram (Fig. 3) showed healing with sclerosis of the upper end of the humerus and glenoid cavity. There was marked calcification forming a bony bridge between the proximal part of the humeral shaft and the lateral scapular margin below the glenoid. The fractured head was totally absorbed and could not be visualised.

DISCUSSION

Tuberculosis of the shoulder joint may differ clinically and pathologically from tuberculosis of other joints and can be difficult to diagnose in the early stages. Richter et al reported an average delay of fifteen months between the beginning of symptoms and diagnosis. This delay could be attributed to the pathologic process, which has been described as a slow, insidious, dry type of lesion, commonly known as caries sicca in adults. There is usually concomitant involvement of the synovial membrane and the subchondral bone. Radiologically such a lesion may show osteoporosis, subchondral erosions, diminished joint space, reactive sclerosis and progressive joint destruction. The acute fulminating variety of disease, as seen in our patient, is reported to be very rare in adults but common in children and may simulate acute osteomyelitis, septic arthritis or osteogenic sarcoma. Although our patient had symptoms related to the right shoulder for the last two years, he presented with acute exacerbation clinically simulating a tumorous lesion and radiologically with fracture-dislocation of the joint. This presentation of shoulder tuberculosis has not been reported before in adults. Computed

Figure 3  Anteroposterior roentgenogram after eighteen months of antitubercular therapy showing a bony bridge between the proximal part of the humeral shaft and lateral scapular margin. The fractured head is totally absorbed.
tomography was more helpful than plain X-rays in diagnosis as it clearly demonstrated the abscess. Abdelwahab et al reported two cases of tuberculosis which mimicked neoplasms but retrospective analysis of the radiographic features offered some clues to the more benign nature of the disease. Subsequent aspiration of this cavity and cytology of the aspirate finally confirmed the lesion to be tubercular. The value of fine needle aspiration cytology in the diagnosis of tuberculosis of bone and joints which mimic a neoplastic lesion has been emphasized by Maheshwar Sahoo et al.

The patient responded very well to anti-tubercular therapy with rest in an immobilizer and regained a useful range of motion. At the time of final follow up his X-rays showed complete absorption of the head of the humerus with a bony bridge between the upper humeral shaft and scapula, which probably helped him regain abduction and a stable joint. Martini et al believed that a severe destructive tubercular lesions may not have as bad an outcome as anticipated. They recommended shoulder spica immobilization in abduction and external rotation to avoid disabling stiffness in adduction. They also reported better results with conservative management as compared to arthrodesis or excision. According to Kelly and Kalson, the pathology in tuberculosis lends itself to debridement of infective tissue because the shoulder is a non-weight-bearing joint and can accept more joint irregularity. This case brings out a very rare presentation of tuberculosis of the shoulder joint with emphasis that modern imaging techniques are useful in such situations where diagnosis is difficult.

REFERENCES