

## CASE REPORTS

### ISOLATED SHOULDER JOINT TUBERCULOSIS IN AN ADOLESCENT

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#### Abstract

Tuberculosis (TB) of the shoulder joint is uncommon. The diagnosis of TB is less considered by clinicians among other common causes of shoulder pain including traumatic and degenerative conditions. We report an 11-year-old girl having shoulder pain, restriction of shoulder joint movement, weakness of left upper limb for 3 months and ipsilateral axillary lymph node enlargement. MRI of the left shoulder showed erosive arthropathy and aspirate from the joint grew mycobacterium tuberculosis (MTB), sensitive to all the standard anti-tuberculous drugs. She was started on first line anti-TB therapy (ATT). However, after 2 months, she had paradoxical involvement of the right hip joint, but was subsequently lost to follow up.

**Keywords :** Shoulder, tuberculosis, musculoskeletal, children

#### Introduction

Despite the fact that skeletal and joint tuberculosis (TB) is one of the most common forms of extra-pulmonary TB, involvement of the shoulder is a very rare manifestation with an incidence rate of 0.9 to 1.7%. (1) The classical sites involved are head of humerus, glenoid, spine of the scapula, acromioclavicular joint, coracoid process and synovial lesion. (2) Three types of joint affection are seen in shoulder TB. Type I, the Caries sicca, the atrophic form; Type II the Caries exudata (fulminating type), with swelling and cold abscess formation and Type III the Caries mobile, with good range of passive movements. (3) We report a case of the fulminating type of shoulder joint TB in an 11 year old girl affecting the humeral head and the glenoid.

#### Case Report

An 11 years old girl presented with weakness of left upper limb for 3 months. She had injury to left shoulder 2 years ago. There was no fever, contact with a patient suffering from TB. On examination, weight was 28kg, there was restriction of movement at left shoulder joint with pain. MRI of the left shoulder showed erosive arthropathy involving humeral head & glenoid in the left glenohumeral joint. There were markedly enlarged left axillary lymph node. Incision and drainage of the left shoulder joint as well as excision of left axillary node was done. Histopathology of the node showed caseous necrosis with granulomas suggestive of TB. Pus from the shoulder joint showed acid fast bacilli (AFB) on the smear. Culture grew mycobacterium tuberculosis (MTB) sensitive to all the standard anti-tuberculous drugs. Patient was given 4 drug anti-tuberculous therapy (ATT) consisting of isoniazid, rifampicin, pyrazinamide and ethambutol. Two months later, she had difficulty in walking and there was restriction of movement of right hip joint. Ultrasound (USG) showed right psoas abscess 4.6x1.6cm. She was advised surgery but was subsequently lost to follow up.

#### Discussion

TB of the shoulder joint may differ clinically and pathologically from TB of other joints and can be difficult to diagnose in the early stages. There is an average delay of fifteen months between the beginning of symptoms and diagnosis. (4) Features of shoulder TB are generalized rarefaction of bones with varying degree of erosions of articular margin or actual destruction of upper end of humerus by cavitary lesions or the glenoid. (2) In advance cases, inferior subluxation of head of humerus bone may occur. In addition, there is subchondral erosions, reactive sclerosis and periosteal reactions. (5) Our patient also had involvement of head of the humerus and the glenoid with changes of erosive arthropathy. A triad of radiographic finding (Phemister's triad) is characteristic of tubercular arthritis - severe periarticular osteoporosis, peripherally located osseous erosions and gradual narrowing of the inter-osseous space. (6) Radiological diagnostic methods (X-ray, CT scans, MRI scans) provide high precision and sensitivity for monitoring of articular lesions. (7) Similarly, MRI helped in making the diagnosis in our patient. The occurrence of lymph node on the same side as the affected shoulder was also seen in another case report. (7) Treatment includes standard anti-tuberculosis drugs for 12-18 months. In a study of 11 patients with a mean follow up of 28 months, 5 cases had a painless, mobile shoulder, while three had mildly restricted shoulder motion without pain, and three had residual limitation of motion of the affected shoulder. (8) Our patient developed right psoas abscess, within 2 months of starting ATT. Since the initial drug sensitivity test showed susceptibility to all the standard anti TB drugs, the development of psoas abscess would suggest a paradoxical reaction.

#### Conclusion

Tuberculosis of shoulder joint can be difficult to diagnose during the early stages and it should be suspected and kept in mind in patients with long-standing pain and restriction of movements of shoulder joint. Imaging techniques are useful in situations where diagnosis is difficult.

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