

Caries Exudata - Do You Know?

Satyen Joshi^{1*}, Brijbhushan Mahajan² and Adit Maniar³

¹Associate Professor, Department of Orthopaedics, Dr Vasant Rao Pawar Medical College Hospital and Research Centre, Nashik, India

²Assistant Professor, Department of Orthopaedics, Dr Vasant Rao Pawar Medical College Hospital and Research Centre, Nashik, India

³Resident Doctor, Department of Orthopaedics, Dr Vasant Rao Pawar Medical College Hospital and Research Centre, Nashik, India

***Corresponding Author:** Satyen Joshi, Associate Professor, Department of Orthopaedics, Dr Vasant Rao Pawar Medical College Hospital and Research Centre, Nashik, India.

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Abstract

Tuberculosis is a commonly encountered disease in developing countries. India bears 1/4th of the burden of tuberculosis which commonly affects the pulmonary system. 1 - 3% of tuberculosis is skeletal, of which more than 50% affects the spine so shoulder tuberculosis is a rare presentation. Shoulder tuberculosis usually presents as caries sicca which is the dry form causing glenohumeral arthritis. In this report we discuss a case of tuberculosis of the shoulder with cold abscess which has been described as caries exudata; the wet form, which is a rare presentation.

Keywords: Caries Exudata; Tuberculosis

Introduction

Tuberculosis is a commonly encountered disease in third world countries till date. As per the WHO global report 2015, more than 1/4th of Tuberculosis burden is in India. Tuberculosis most commonly affects the pulmonary system. Skeletal tuberculosis is seen in 1 - 3% of all tubercular cases and about 11% of extrapulmonary tuberculosis [1]. More than half the skeletal tuberculosis affects the spine.

Clinical Presentation

A 59 year old male, farmer by occupation presented to the out-patient department with complaints of pain in the left shoulder since 1 and half year. Patient had a swelling in the left shoulder region associated with restriction of movements of the shoulder joint. There were no constitutional symptoms or history of tuberculosis.

On examination, the patient had severe wasting of the supraspinatus, infraspinatus and deltoid muscles. There was a soft non-tender swelling approximately 5 x 6 cm over the left shoulder region. No active movements were possible. Passive abduction of 30 degrees and forward flexion of 20 degrees was possible. There were no sinuses present.

On radiological examination, X-ray (Figure 1) revealed destruction of the head of the humerus with cystic changes in the greater tuberosity region. There was arthritis of the shoulder joint with destruction of both humeral head and glenoid. There were marrow changes in the proximal humerus. Chest X-ray revealed no abnormalities. MRI (Figure 2) of the shoulder joint revealed a hyperintense swelling in the lateral part of the proximal shoulder with involvement of the humeral head. It was well capsulated. There was synovial hypertrophy with destruction of articular cartilage of humeral head and glenoid. There was edema in the muscle bellies of deltoid supraspinatus and infraspinatus. MRI report was suggestive of abscess secondary to suppurative arthritis.



Figure 1: Pre-op X-ray showing Glenohumeral arthritis and humeral head changes.

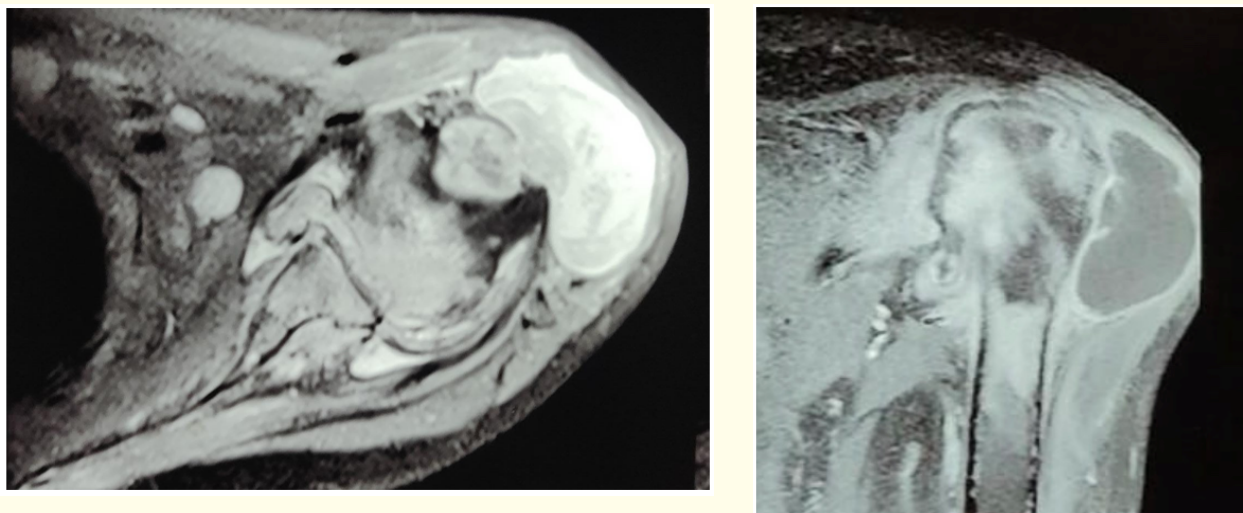


Figure 2: MRI showing cold abscess.

Laboratory examination revealed a normal white blood cell count with an ESR of 80mm and a normal CRP.

Management

A lateral incision (Figure 3) was taken. After superficial dissection a well formed abscess (Figure 4) of about 4 x 5 cms was found in the deltoid muscle communicating with the bone. En masse removal was done. Thorough debridement of the bone was done.



Figure 3: Surgical approach.

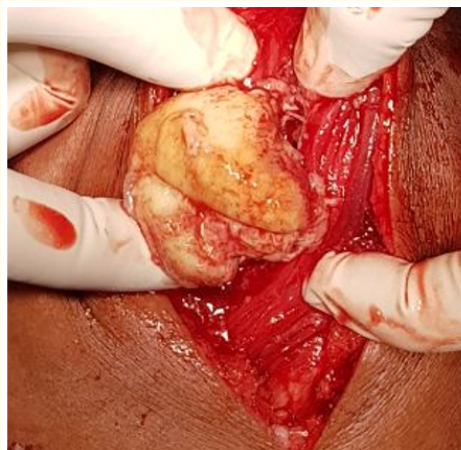


Figure 4: Macroscopic structure of abscess.

The Gram staining and ZN staining revealed no bacteria/fungus or Acid fast bacilli respectively. The bacterial culture showed no growth at 24 hours. Histopathological report (Figure 5) showed epithelioid cell granulomas, large area of caseous necrosis and langhans giant cells with dense lymphoplasmacytic infiltration This was suggestive of tubercular lesion.

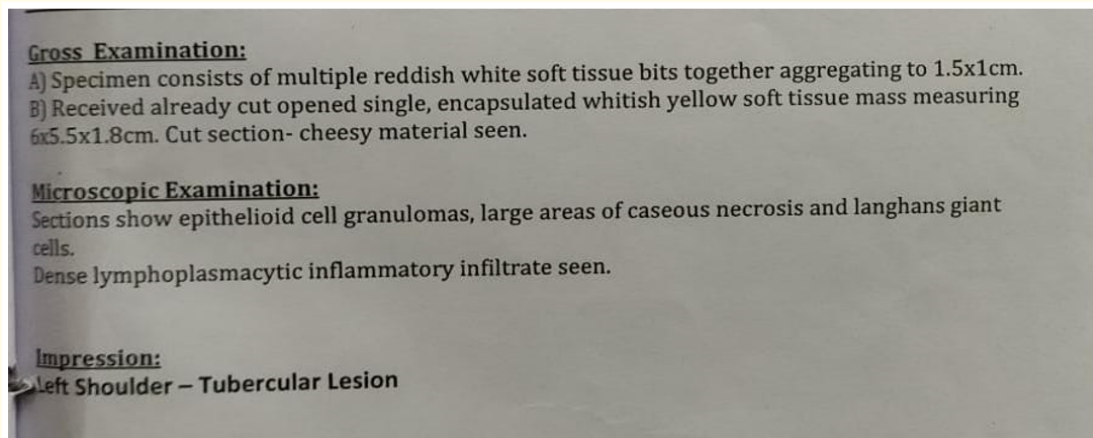


Figure 5: Histopathological report.

Patient was referred to a chest physician and started on Anti-tubercular Drugs as per latest government guidelines in India.

Follow-up

At 3 weeks post operatively, the surgical wound had healed with primary intention. Patient complained of no pain and was started on physiotherapy. Repeat ESR was 60 mm revealing a decreasing trend post starting anti-tubercular drugs. CRP and white blood cell count were within normal limits.

Discussion

Majority of skeletal tuberculosis is seen in the spine [2]. Approximately 0.9 - 1.7% of the skeletal tuberculosis occurs in the shoulder joint [3]. Tuberculosis of the shoulder joint usually presents with arthritis of the shoulder joint. Very rarely can it present as a synovitis of the shoulder joint [4].

Three forms of tuberculosis in the shoulder have been identified:

- **Type I:** Caries sicca which is the dry or atrophic form. It usually presents with shoulder joint stiffness and arthritis.
- **Type II:** Caries exudata which presents with cold abscesses or a sinus i.e. the wet form.
- **Type III:** Caries mobile with good range of passive movements.

Caries sicca is the most common presentation of shoulder joint tuberculosis. In a study it was found that only 2 out of the 12 cases of shoulder tuberculosis were of the caries exudate type [5].

Shoulder joint tubercular is a slowly progressive disease and often misdiagnosed as a degenerative condition or tendon tears. It can lead to severe disability with gross restriction of movements X-ray may show arthritic changes. MRI may be suggestive of arthritis, synovitis and abscess formation.

Effective anti-tubercular treatment is necessary to control the spread of the disease. Most cases can be managed conservatively if diagnosed early. In majority of cases a fibrous ankyloses is acceptable [6]. Some may require a shoulder arthrodesis or total shoulder replacement.

Conclusion

In the current era with increasing trend of extrapulmonary tuberculosis it is important to diagnose skeletal tuberculosis early to prevent permanent joint damage and loss of function.

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