

## Case Report

# Caries sicca: tuberculosis of glenohumeral joint

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### ABSTRACT

Tuberculosis is quite common in India. Shoulder tuberculosis although rare among the skeletal tuberculosis needs to be kept in mind for diagnosis and proper treatment of cases of Carries Sicca. Twenty year old female presented with non traumatic pain in right shoulder with severe restriction of shoulder Range of Movements (ROM), not responding to treatment. On detailed examination turned out to be a case of Caries Sicca. Thorough debridement along with sufficient immobilization and Anti Tubercular Treatment (ATT) gives excellent results. High suspicion is needed to diagnose the cases of Carries Sicca. Early diagnosis and proper treatment gives wonderful results. Only ATT with or without immobilization and debridement are sufficient enough in majority of cases.

**Keywords:** Caries Sicca, Tuberculosis shoulder joint, Musculoskeletal Tuberculosis

### INTRODUCTION

Tuberculosis is one of the leading causes of morbidity and mortality in India. The incidence of tuberculosis in India is 30-40 %.<sup>1</sup> Most common type of tuberculosis is pulmonary and only 18% cases are extrapulmonary tuberculosis. Among the extrapulmonary cases only 8% are skeletal tuberculosis and shoulder tuberculosis is still rarer, accounting to only 0.9 – 1.7 % of them.<sup>2,3</sup> Extrapulmonary spread of tuberculosis is mainly via hematogenous route from pulmonary foci. The common sites of extrapulmonary tuberculosis are abdominal, lymph nodes, skeletal tuberculosis etc. Skeletal tuberculosis can apparently occur in any bone but the most common sites are spine ( Pott's disease), knee joint, hip joint and less commonly in shoulder, wrist, elbow, small bones of hand ( Spina Ventosa ) etc. Shoulder tuberculosis can be of 3 types, Type 1- Caries Sicca, also called as atrophic form or dry form. In this type of shoulder tuberculosis there is severe pain and restriction of shoulder movements along with severe muscle

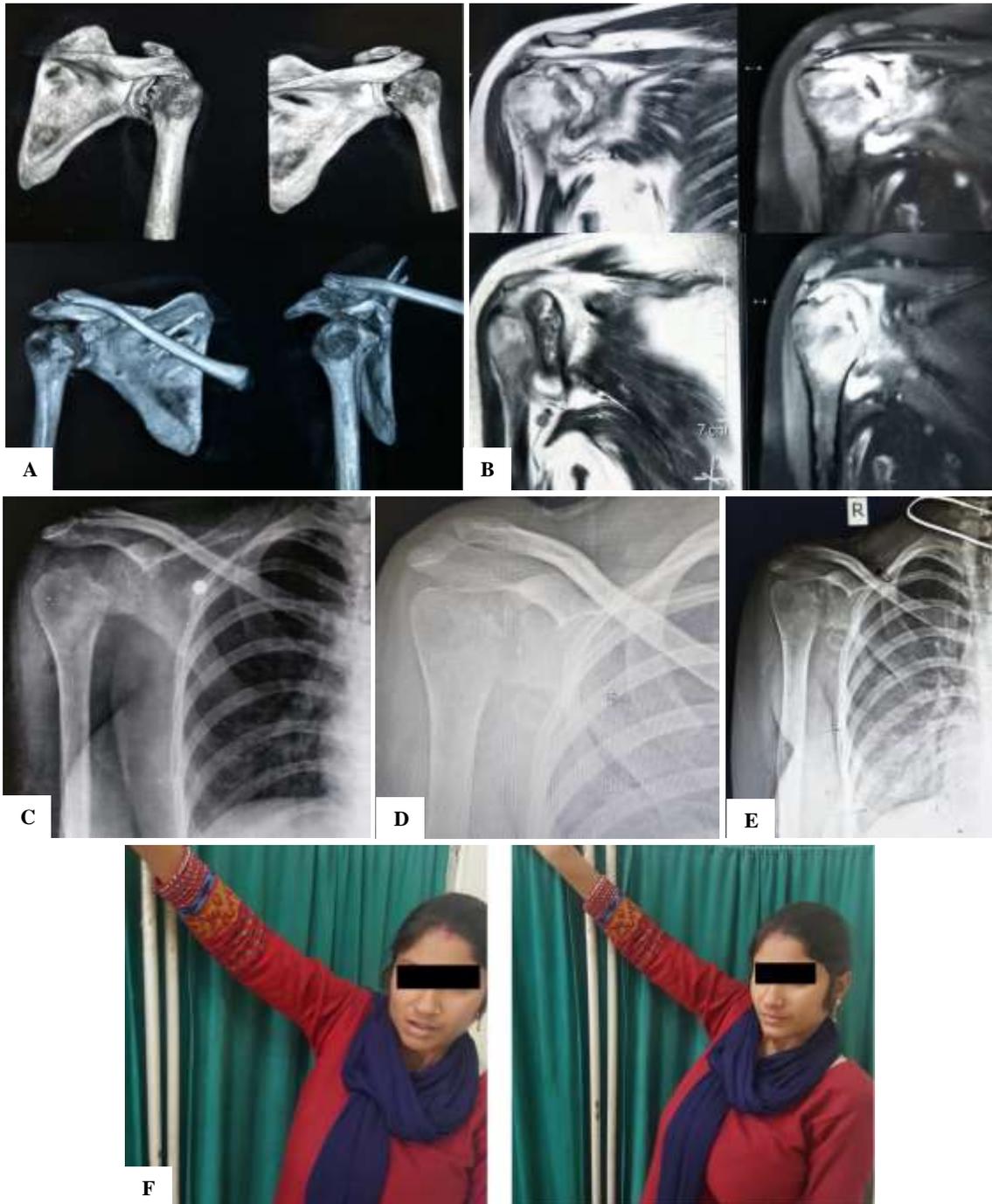
wasting. It is mainly seen in adults. Type 2- Caries Exudata, also known as florid or fulminating type. Commonly seen in children and presents with swelling and cold abscess with or without sinus formation. Type 3- Caries mobile, so called as there is good range of passive movements, although active movements are restricted.<sup>3</sup>

### CASE REPORT

Twenty year old female patient who was 2 months postpartum, delivered baby 2 months back, presented with complaints of non-traumatic mild pain in right shoulder joint since 6 months. Patient had severe restriction of movements of shoulder joint. She took multiple treatments and was managed conservatively for adhesive capsulitis of shoulder joint, rotator cuff injury, shoulder joint arthritis etc. No X-rays were done as the patient was pregnant. No blood or any other investigations were done despite continuous worsening of the local symptoms. On examination, the patient had minimal swelling with no local redness. There was no local rise of temperature but there was tenderness over

the shoulder, more on the anterior aspect. There was no sinus or scar. There was marked muscle wasting and shoulder range of motion was severely restricted. The patient didn't have any constitutional symptoms like night sweats or fever but there was weight gain, which may be due to pregnancy. There was no history of respiratory or abdominal complaints. On detailed history there was history of exposure to tuberculosis; patient's father was diagnosed with pulmonary tuberculosis few

years back for which he took Anti Tubercular Treatment (ATT). Blood investigations had TLC 12800, Neutrophils 40 %, Lymphocytes 56 %, ESR 50, CRP positive, Montaux test positive, AFB sputum negative. The X-ray chest was asymptomatic. Shoulder X-ray showed generalized bone rarefaction with erosion of articular margin and cavitory lesion of head of humerus. Phemister triad was seen, lysis, perilesional osteoporosis and decreased joint space.



**Figure 1:** (A) Pre operative CT scan 3D reconstruction; (B) pre operative MRI scan coronal section showing severe destruction of humerus head and greater tuberosity; (C) immediate postoperative X-ray image; (D) Eight weeks post operative X-ray image; (E): 6 months post operative X-ray image; (F): 6 months post operative ROM clinical images.

MRI was done to confirm the diagnosis and evaluate the extent of disease. Surgical debridement of shoulder joint with open biopsy was done in which there was thick caseous material and bony debris. On histopathological examination, there were Langerhans giant cells with epithelioid granulomas. ATT was started under Category 1 RNTCP and shoulder was immobilized for 8 weeks. Then gradual gentle movements were started. After 1 year there was fairly good range of movement of shoulder joint with only restriction of terminal movements and X-ray showed healed lesions.

## DISCUSSION

Tuberculosis shoulder is a rare presentation of skeletal tuberculosis. Due to its uncommon occurrence it is often missed or misdiagnosed, nearly half cases of tuberculosis of shoulder are misdiagnosed as frozen shoulder, others as rotator cuff injury, infection, tumor or vaguely as shoulder joint arthritis etc.<sup>3</sup> Tuberculosis shoulder has an average delay of 15 months from the beginning of symptoms and diagnosis and many cases are diagnosed at a very late stage with pathological fracture or subluxation or advanced arthritis.<sup>4</sup> In a country like India, where tuberculosis is quite common, TB should be suspected in all the cases of long standing pain which is not responding to treatment.

There are a few studies in literature on TB shoulder. A case report by Majid Daraj on delayed presentation of shoulder TB in which the patient was diagnosed after 5 years of symptoms and responded well to operative drainage, debridement and Anti tubercular Treatment (ATT).<sup>5</sup> Umesh Birole et al reported a case of Tb osteomyelitis causing spontaneous pathological fracture of humerus in a middle aged female.<sup>6</sup> On open debridement and internal fixation with rush nail and ATT, the patient recovered after 1 year with acceptable shoulder range of motion. He recommends high degree of suspicion for diagnosis of Skeletal TB.

Study by Vipul Vijay et al on a 22 year old male with swelling, pain and restricted shoulder movements since 5 months which later turned out to be a case of caries sicca.<sup>7</sup> They managed conservatively with ATT and achieved good results, improved ROM, improved osteopenia and decreased soft tissue shadow on X-rays.

Study on Skeletal TB by PR Patel et al over a period of roughly 10 years on 306 patients of osteoarticular TB had around 12 patients of shoulder TB.<sup>3</sup> They were diagnosed mainly on the basis of clinical and radiological findings

and the histopathological confirmation was done in operative cases only. They found spinal TB in 49.3% of the total cases of Skeletal TB; knee TB in 13.3%, Hip TB in 13%, SI joint TB in 6.5%, Tarsus and Shoulder TB in 3.9%, Ankle TB in 2.2, Wrist TB in 1.9 and Elbow TB in 0.9% cases. They gave ATT to all patients for a period of 4 months - 2 years. They encouraged carrying out active gentle pendulum and rotator exercises for 5 minutes every hour. Passive stretching or manipulation was not advised. The results were 3 excellent, 2 good, 6 fair and 1 poor out of 12 patients of shoulder TB.

In our case thorough debridement and immobilization was advised for 8 weeks along with ATT. After 8 weeks gentle active movements were started. Six months after the treatment there were no symptoms and fairly good ROM.

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