

Case study

RICE GRAIN BURSITIS- RARE MANIFESTATION OF TB IN WRIST JOINT

Abstract:

This case report highlights about rice grain bursitis- rare manifestation of TB in wrist joint. Subacromial-subdeltoid bursitis of a shoulder with rice bodies is relatively uncommon. The understanding of the pathogenesis of rice body formation is yet approximate only but some clinical conditions like rheumatoid arthritis, tuberculous arthritis, seronegative inflammatory arthritis, juvenile rheumatoid arthritis and osteoarthritis are related to it. A 30yr Male patient presented with complaints of pain and swelling in the wrist joint, which was insidious in onset. It was associated with evening rise in temperature. Frequently erosion of the underlying bone, secondary osteomyelitis and median nerve encasement are present.

Keywords: swelling, morbidity, pulmonary Koch's, sinus

Introduction

*The hand and wrist are very **rare sites** for tuberculosis (TB) and account for < 1 percentage of all skeletal TB. Though rare, TB of the wrist is a cause of **major morbidity**.⁽¹⁾*

*It has **a prolonged onset** and is rarely diagnosed before developing into severe arthritis. This delay in diagnosis is contributed by a non-directional misleading presentation of patients such as malaise and constitutional symptoms. Hence the delay in initiation of treatment can result in the destruction of the bones and joints. Therefore, **tubercular arthritis** is to be understood clearly by its manifestation, diagnosis establishment and treatment.⁽²⁾*

Case Report:

*A **30yr Male** patient presented with complaints of pain and swelling in the wrist joint, which was insidious in onset. It was associated with evening rise in temperature.*

The swelling extended over palmar aspect of left wrist and hand with local tenderness and warmth.

*The patient was a known case of **active pulmonary Koch's** and was on treatment with anti-tubercular drugs for 2 months. There was no history of trauma or discharging sinus.*

*The blood markers were TWC 11,000/UL, ESR 70 mm/h, and CRP 48 mg/L. The Mantoux test & serum polymerase chain reaction (PCR) for tuberculosis (TB) was **positive**.*

Imaging:

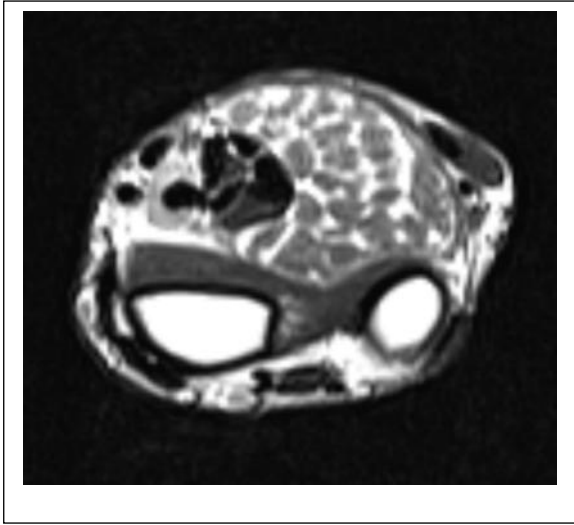


IMAGE 1 : Pre Contrast FS Transverse

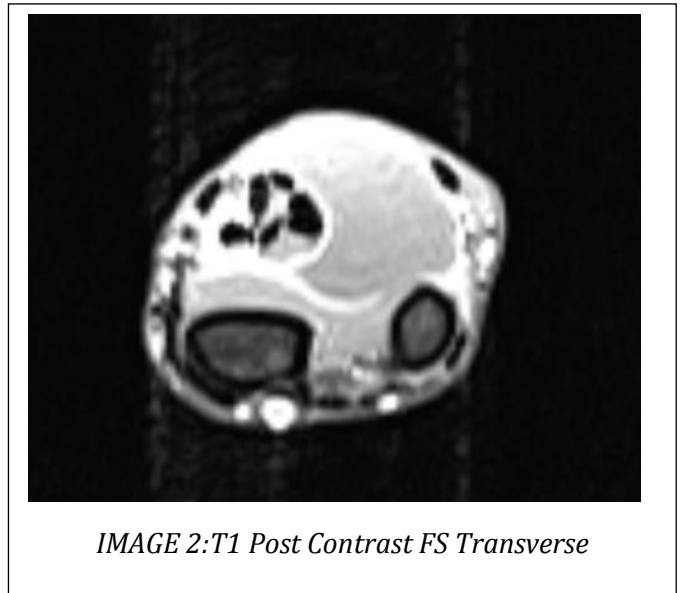


IMAGE 2:T1 Post Contrast FS Transverse

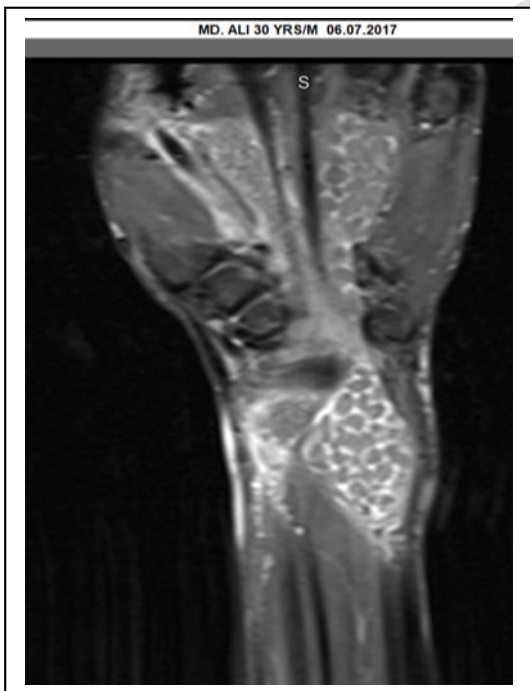


IMAGE 3: Xray imaging 1



IMAGE 4: Xray imaging 2

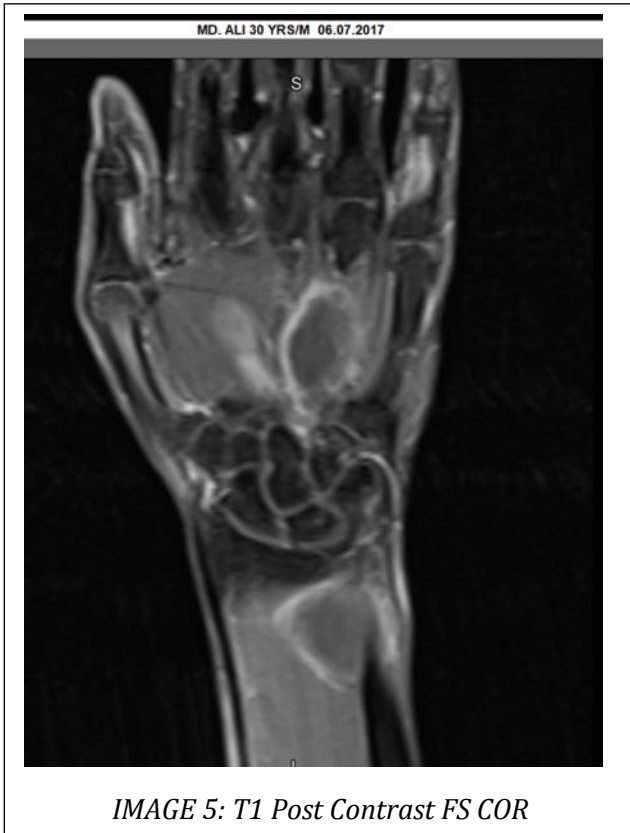


IMAGE 5: T1 Post Contrast FS COR



IMAGE 6: T2 SAG

DISCUSSION:

The images shown above reveal marked thickening of the synovial lining around the tendons of flexor compartment near wrist joint and thenar aspect of hand.

There is an altered signal intensity lesion in flexor aspect insinuating along the flexor tendons and extending to involve radial and ulnar bursa. The lesion is showing peripheral post contrast enhancement with multiple small T2 hypo intense round lesions (RICE GRAIN LOOSE BODIES) within it leading to distension of radial and ulnar bursae(Bursitis).

The underlying bones appear normal

PATIENT COURSE

*Since the patient was a known case of **pulmonary koch's**, it led to a high index of suspicion for **TB of the wrist joint** on imaging and a prompt diagnosis was made.*

Debridement was done and the wrist tissue stained positive for **Acid Fast bacilli**. The patient continued ATT medication and the symptoms were relieved over the course of 9 months.

CONCLUSION:

Articular TB is a chronic and worsening disease that often affects the load-bearing joints. Small joint presentations are not common and diagnosis is usually delayed due to low suspicion. ⁽²⁾

Articular TB can mimic a wide range of pathologies with multiple possible differential diagnoses linked, such as subacute or chronic suppurative arthritis, rheumatoid arthritis, benign bone tumors, osteochondrosis, and Kaposi sarcoma, which further makes it difficult to come to a conclusive diagnosis. ⁽²⁾

MRI findings of tuberculous infection of the wrist include **thickening of the synovial lining around the flexor and extensor tendons and fluid collection that contains small low-signal and nonenhanced foci (rice grain)** within in the tendon sheath.

Frequently erosion of the underlying bone, secondary osteomyelitis and median nerve encasement are present. **These characteristic manifestations along with clinical profile of the patient are helpful in diagnosing this disease entity.**

CONSENT

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

REFERENCES:

- 1) "Wrist swelling – Is it tuberculosis?" By **Miti Aatish Shah et al**
- 2) "Tuberculosis of the Left Wrist Joint and Spine" by **Parthiban Sivasamy et al**