



Tuberculous Tenosynovitis

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ABSTRACT

A 30-year-old woman presented with mild swelling, pain on the dorsal aspect of the hand and wrist. Radiography was non significant. Ultrasonography suggested diffuse thickening of tendon sheath in extensor tendons. Thickness measured was 6-9 mm. Magnetic resonance imaging showed synovial fluid collection and changes of tenosynovitis. Laboratory test results were normal, except for an elevated erythrocyte sedimentation rate (67 mm/h). Surgical exploration of the lesion revealed rice bodies in the extensor tendon synovial sheath, Removal of the rice bodies and thorough excision of the sheath was performed. Patient was immobilized for 1 month with below elbow cockup slab, started on Anti-Tuberculous Treatment and regularly followed up.

KEYWORDS

ganglion cyst, Hand, Rice Bodies

INTRODUCTION

Although frequently reported by rheumatologists, rice bodies are an uncommon finding for most hand surgeons. We present a case of 30-year-old woman with rice bodies found with in compound dorsal ganglion.

CASE REPORT

In May 2014, a 30-year-old woman presented to the Civil hospital at Ahmedabad with a 1 year history of mild Swelling, pain on the dorsal aspect of the hand and wrist. Radiography was non significant. Ultrasonography suggested diffuse thickening of tendon sheath in extensor tendons. Thickness measured was 6-9 mm. At wrist, Magnetic resonance imaging showed synovial fluid collection and changes of tenosynovit



Figure 1.1



Figure 1.2



Figure 1.3

Figure 1.1,1.2,1.3--X-RAY findings --NAD for TB or any other bony or soft tissue pathologies.

The differential diagnosis included dorsalganglion, synovial chondromatosis and giant cell tumour of tendon sheath.

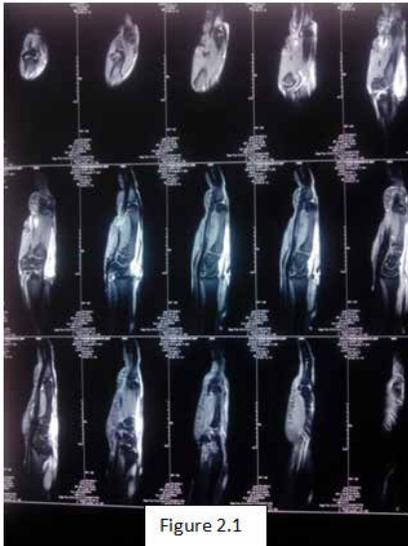


Figure 2.1

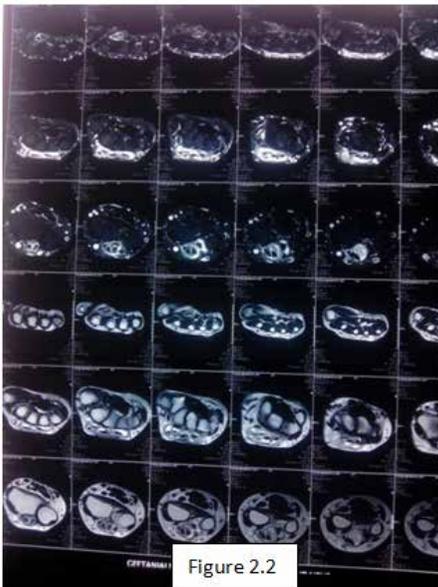


Figure 2.2



Figure 2.3

Figure 2.1,2.2,2.3--MRI S/O synovial fluid collection and hypertrophy of synovium of dorsal tendons s/o tenosynovitis.



Figure 3.1



Figure 3.2

Figure 3.1,3.2--Intra operative RICE BODIES found on incising synovial sheath of extensor tendons

Surgical exploration of the lesion was performed. Numerous shiny soft corpuscles consistent with rice bodies were found in the extensor tendon synovial sheath, mainly in the index finger tendon sheath. The sheath was notably thickened. Removal of the rice bodies and thorough excision of the sheath down to the wrist joint with respect to the neighbouring neurovascular structures was performed.

- ❖ Laboratory test results were normal, except for an elevated erythrocyte sedimentation rate (67 mm/h).
- Histopathological investigation shows tuberculous inflammation.
- ZN stain is negative for mycobacteria.
- Culture of rice bodies is negative for mycobacteria.
- Sample sent for TB culture.
- Digital Chest xray is negative for gohns' complex or any other TB findings.

The patient was started with Anti tuberculous treatment with regular follow up.

DISCUSSION

Rice bodies occurring in joints affected by tuberculosis were first described in 1895.^[1] Rice bodies are a common finding in many rheumatic diseases such as rheumatoid arthritis,^[2,3] systemic lupus erythematosus, and seronegative arthritides, as well as infectious diseases such as nonspecific arthritis, tuberculosis,^[4,5] and atypical mycobacterial infections.^[6-8] They may also be found in osteoarthritic joints.^[9,10]

The cause of rice body formation remains obscure, but is most likely an unusual complication of chronic bursitis.^[11] Some investigators have suggested microinfarctions after intra-articular synovial inflammation and ischaemia, with subsequent synovial shedding and encasement by fibrin derived from synovial fluid as a possible cause.^[4,12] Nonetheless, de novo formation and progressive enlargement by fibrin is also a possible mechanism,^[3] and an alteration in fluid viscosity and fibrinogen content of the synovial fluid has been implicated.^[13]

Rice bodies have been reported as a cause of subacromial bursitis of the shoulder^[14] and have been identified during exploration of a large intrapelvic synovial cyst.^[15] Rice bodies have also been reported as a cause of painless effusion and synovial hypertrophy in the knee joint of an 11-year-old boy.^[16] In none of these cases was any underlying pathology reported.

The sheath of the tendons of the wrist and hand has been reported as a site for rice body formation.^[6-8,17,18] Rice bodies have been detected in the flexor tendon sheath of a patient with carpal tunnel syndrome during open neurolysis. Cultures of synovial tissue revealed *Mycobacterium tuberculosis*.^[18] Atypical mycobacterial tenosynovitis of the hand and wrist and subsequent rice-body formation has been reported.^[6,7]

Synovial chondromatosis was a differential diagnosis in this case. This rarely involves a synovium-lined bursa^[19] and has an

unmineralised metaplastic cartilage (20%).^[20] Rice bodies are evident in plain radiographs when mineralisation occurs; otherwise, magnetic resonance images and T2-weighted images should be obtained for an accurate diagnosis.^[11]

Pigmented villonodular synovitis or Giant cell tumour of tendon sheath has a similar clinical manifestation and was another differential diagnosis. Foci of signal voids reflecting haemosiderosis and the difference in intra-operative findings should provide clear distinction between these diagnoses.^[21]

Retrospective interpretation of the magnetic resonance images of our patient strongly supported the diagnosis of rice bodies. Thorough excision of the affected tendon sheath was essential to prevent recurrence. As histological examination does not always reveal a definitive cause for this disorder,^[11,16,17] regular re-examination of the patient is recommended.

CONCLUSION

Although frequently reported by rheumatologists, rice bodies are an uncommon finding for most hand surgeons. Rice bodies are a common finding in many rheumatic diseases as well as infectious diseases such as nonspecific arthritis, tuberculosis and atypical mycobacterial infections. As histological examination does not always reveal a definitive cause for this disorder, regular re-examination of the patient is recommended.

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