

# Osseous tuberculosis mimicking Kienböck's disease of the wrist

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Wrist is an uncommon site for tuberculosis and its description is limited to few reports or small series in the literature. Synovial soft tissue is usually involved more and before the skeletal pathology, making radiological presentation a late feature (1). The involvement of single focus may ultimately spread to multiple carpal joints, which can lead to serious morbidity. In endemic regions, tuberculosis can masquerade other disorders, and it thus warrants cautious approach to diagnose it early.



**Figure 1.** Radiograph of the wrist showing abnormal shape, irregularity, flattening, and decreased height of lunate with sclerosis (arrow) in anteroposterior and oblique views. Rest of the carpal bones appear normal

A 65-year-old female presented to us with mild atraumatic right wrist pain that was insidious at onset but had increased in severity in the last six months. The pain was located to the dorsal midline of wrist and she noticed mild swelling of the wrist for the past three weeks. There was limitation of terminal range of motion but she could still perform activities of daily living. There was no constitutional feature or relevant medical history suggestive of any chronic systemic disease. The radiograph of the wrist revealed abnormal shape of lunate bone with decrease height, radio-opacity, and flattening (Figure 1). She was diagnosed with osteochondritis of lunate, also known as Kienböck's disease, and was managed elsewhere for one month leading to no relief. Magnetic resonance imaging (MRI) was advised and showed abnormal signal



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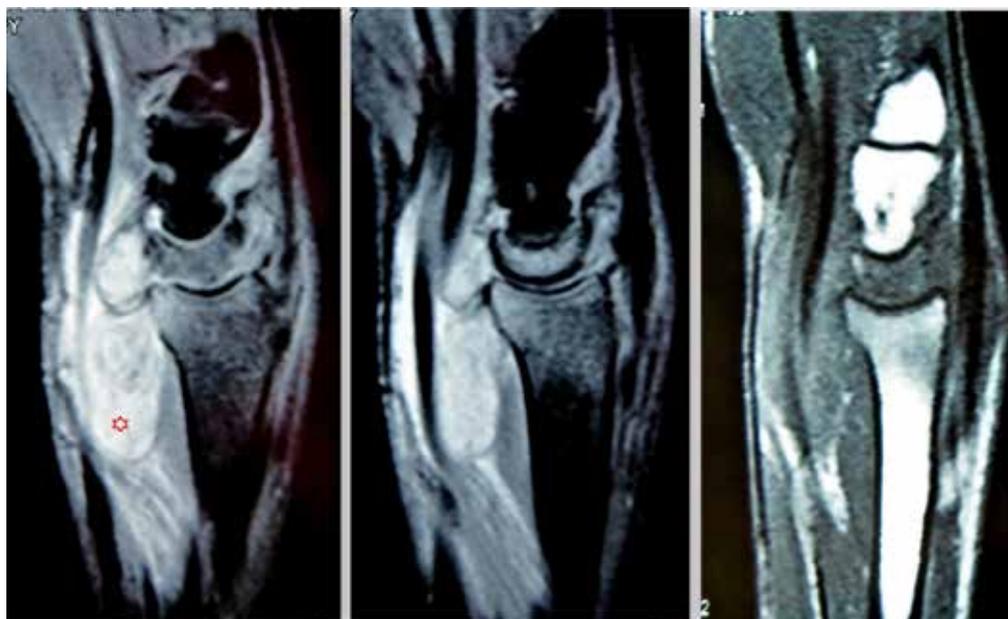
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**Figure 2.** Sagittal MRI scans showing hyper-intensities in lunate and distal radius suggesting edema and fluid collection in volar space (asterisk)



**Figure 3.** Coronal images showing multiple proximal carpal bone and distal radioulnar region edema and adjacent collection. The volar collection along with extensive flexor tendon tenosynovitis is also present

intensities in lunate and distal radius with soft tissue collection more in volar space (Figure 2). The non-contrast MRI revealed multiple bony erosions and edema was noted to be severe on proximal carpal row along with extensive tenosynovitis of flexor tendons (Figure 3). Provisional diagnosis of tuberculosis of the wrist was made. The synovial fluid that aspirated from the wrist showed the presence of mycobacterium tuberculosis in polymerase chain reaction (PCR) test. Appropriate anti-tuber-

cular therapy was initiated leading to gradual improvement in clinical-radiological profile in 6 weeks and the same was continued for a total of 18 months as per the institution protocol. No recurrence or further complication was noted regarding the course of disease and pharmacotherapy.

Osteonecrosis of lunate bone is termed Kienböck's disease and is a rare disease with no distinct etiology. Lunatomalacia and ischemic ne-

crolos of lunate are other terms for describing this disease. Progressive debilitation, however, is noted as it has a negative impact on wrist biomechanics. Trauma or stress injuries are etiological risk factors associated with this disease (2). Modalities such as MRI have made it readily identifiable in dubious cases. It usually affects men in the adult age group. There is a need to form well-defined diagnostic and intervention criteria for the disorder (3). Initial presentation of a sinister disorder like tuberculosis as Kienböck's disease is an uncommon event and has only been reported once to our knowledge (4). This short case snippet highlights the importance of careful assessment of radiographs and judicious use of MRI to confirm the diagnosis or to rule out other variables.

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