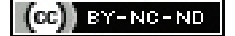
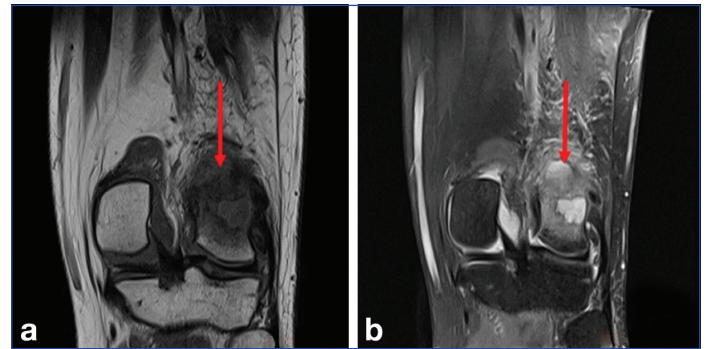


Tubercular Osteomyelitis of Femur: Imaging Findings

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Keywords: Infection, Knee joint, Magnetic resonance imaging

A 28-year-old male patient presented with chief complaints of pain in his left knee for one month, difficulty walking for three weeks, and on-and-off fever for the past month. He denied any history of weight loss or loss of appetite. There was no significant past medical history. Local examination of the left knee revealed swelling and tenderness over the lateral femoral condyle with restricted range of motion. Blood investigations were normal except for an elevated erythrocyte sedimentation ratio of 36 mm/hr. Initially, an X-ray was performed, showing multiple small lytic areas within the epimetadiaphyseal region of the lateral condyle of the lower end of the femur [Table/Fig-1]. Subsequent Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) scans were conducted, revealing a large lytic lesion with irregular margins in the posterolateral cortex of the lower end of the femur [Table/Fig-2], which appeared hyperintense on Proton Density Fat Saturated (PDFS) MRI images and hypointense on T1-weighted images [Table/Fig-3]. Severe surrounding marrow oedema was noted, along with mild reactive joint effusion. The tibia and fibula appeared normal, without synovial thickening or joint involvement. The knee joint ligaments were also normal. Based on the imaging findings, acute osteomyelitis was considered, with a primary bone tumour as a differential



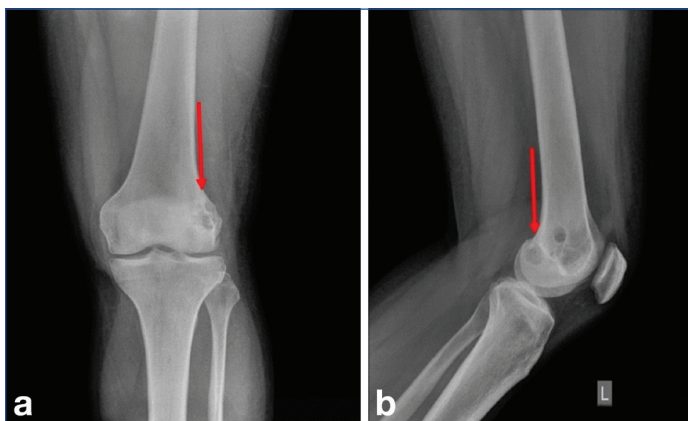
[Table/Fig-3]: Coronal T1 (a) and Proton Density Fat Saturated (PDFS) (b) MRI of the left knee shows the lytic area as hypointense on T1 and hyperintense on PDFS images with severe surrounding marrow oedema (red arrows).

diagnosis. The patient underwent excision biopsy and curettage under spinal anaesthesia, revealing a granulomatous infection with positive staining for acid-fast bacilli. The patient was prescribed antitubercular drugs and advised to undergo physiotherapy, knee bending, and static quadriceps exercises. The patient's condition improved, and he was subsequently discharged.

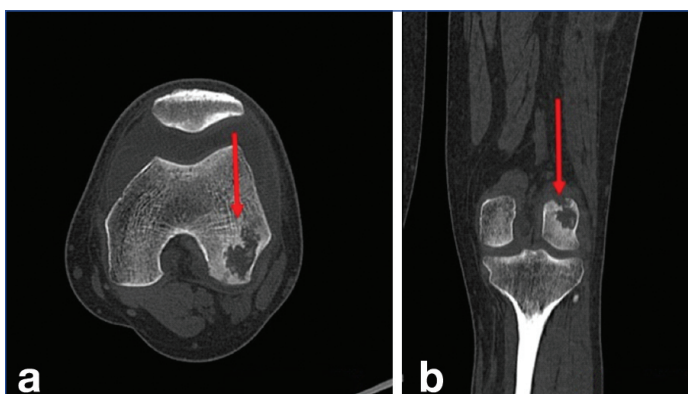
Tuberculosis is a mycobacterial infection that commonly affects the lungs. Primary osseous tuberculosis is rare. However, in osteoarticular tuberculosis, the knee is the third most common joint to be involved after the spine and hip. Tuberculosis of the knee joint can manifest as chronic, indolent pain, local tenderness, and progressive limitation of movements, which may lead to delayed diagnosis [1,2]. There are case reports of knee tuberculosis without joint involvement, like in present case, primarily presenting as osteitis of the femur, tibia, or patella [2-4]. In approximately 50% of cases, there will be no radiographic evidence of pulmonary involvement [2]. Esteban PL et al., reported a case of tubercular osteomyelitis of the tibia, which presented similarly to present case with a lytic lesion in the tibia, but included a large soft tissue component, unlike present case, where the affected bone was the femur [2]. Combalia A et al., reported a case of tubercular osteomyelitis with lytic foci in the medial condyle of the femur, similar to present case, but in present case, the involvement was in the lateral femoral condyle [3]. Tubercular osteomyelitis should be considered in the differential diagnosis of cases involving lytic lesions in the knee joint, as it can mimic a primary bone tumour [5]. Tubercular osteomyelitis can imitate various other diseases, and a high clinical suspicion, along with appropriate imaging modalities and histopathology, is necessary for an accurate diagnosis.

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[Table/Fig-1]: X-ray left knee anteroposterior (a) and lateral (b) view shows lytic areas in posterolateral femoral condyle involving the epimetadiaphyseal region (red arrows).



[Table/Fig-2]: CT Axial (a) and coronal (b) images of the left knee showing a lytic area in the posterolateral femoral condyle with irregular margins (red arrows).

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PLAGIARISM CHECKING METHODS: [Jain H et al.]

- Plagiarism X-checker: Feb 09, 2024
- Manual Googling: Mar 20, 2024
- iThenticate Software: Mar 22, 2024 (4%)

ETYMOLOGY: Author Origin**EMENDATIONS:** 5**AUTHOR DECLARATION:**

- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **Feb 09, 2024**Date of Peer Review: **Mar 19, 2024**Date of Acceptance: **Mar 23, 2024**Date of Publishing: **Jul 01, 2024**