

Leukaemic Arthritis mimicking Septic Arthritis

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INTRODUCTION:

Differential diagnosis for an adult with pain and swollen knee joint includes trauma, infection, rheumatologic disorders and malignancy. Chronic myeloid leukaemia is characterized by proliferation of haematologic cell lines in peripheral blood. Presentation with vague presentation which can be misidentified as septic arthritis.

REPORT:

Mr NH is a 25-year-old man presented with a 2-day history of right knee pain and swelling and unable to bear weight. There were no constitutional symptoms. This was his first episode of presentation. On physical examination, there was generalized warm, swollen right knee with limited range of motion of knee joint. Other joint and system examinations were normal with no lymphadenopathy and hepatosplenomegaly.

Interestingly, his white blood cell (WBC) count, $210.5 \times 10^9/L$; erythrocyte sedimentation rate, 5; C-reactive protein 24.8 mg/L; lactate dehydrogenase 723 U/L, and Uric acid 480. Despite repeating full blood count, his WBC, remained high. Then, decided for peripheral blood smear which revealed 67% neutrophils, blast cell 2% and suggestive of myeloid leukaemia. Bacterial serological test yielded negative results. Plain radiographs of right knee were unremarkable. MRI of right knee done and revealed heterogeneity of the distal femur and noted red marrow conversion at distal femur (Figure 1 and Figure 2). Based on available results, patient was treated as chronic myeloid leukaemia and was comanaged by medical team. A molecular study for B-cell receptor (BCL-ABL1) was then sent and turned out positive. Case was then referred to haematological department for co-management.

Leukaemic arthritis is an uncommon presentation. This often involves large joint and

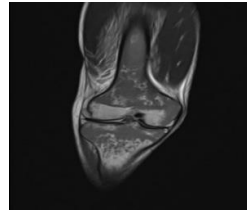


Figure 1: Abnormal marrow widespread as evidenced by hyperintense signal

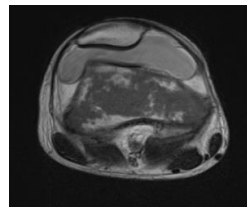


Figure 2 Heterogeneity of the distal femur

can occur at any time during the course of leukaemia. Based on Wolters Kluwer Health study in 2021, treatment of choice is treating the underlying leukaemia. Clinicians need to be aware of leukaemic arthritis to prevent delays in diagnosis and treatment. If left untreated, irreversible joint damage may occur.

CONCLUSION:

Leukaemic arthritis should be ruled out in patient presenting with septic arthritis features with abnormal white cell count.

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