



## Unraveling Osteomyelitis Mimics in Paediatrics: A Case Report

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### **INTRODUCTION:**

Osteomyelitis is a common condition in the pediatric population that can result in significant morbidity if treatment is delayed (1). When osteomyelitis is accompanied by a hematological malignancy with musculoskeletal manifestation, it can become even more complicated. We present a case study of a patient with acute lymphoblastic leukemia who exhibited symptoms of osteomyelitis.

### **REPORT:**

A 4-year-old girl presented with bilateral ankle pain, erythematous changes in the surrounding skin, and refusal to weight bear. She had a history of recurrent respiratory tract infections. A plain radiograph showed no abnormalities, and she was treated as cellulitis and started on antibiotic.

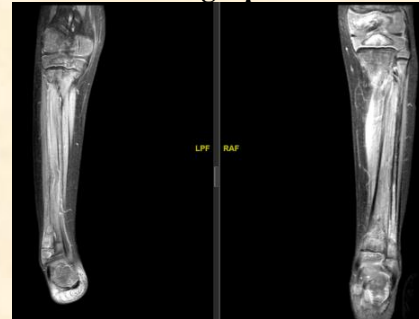
Two weeks later, although the redness in the bilateral lower limb had resolved, the child continued to refuse weight bearing. Tenderness was noted in the distal fibula region upon palpation, and a repeat plain radiograph revealed osteolytic changes in the bilateral distal fibula region. Blood tests revealed bicytopenia (Hb: 5.2 g/dl, TWC: 2.15) and elevated C-reactive protein (>100). Intravenous cloxacillin was started.

A skeletal survey showed multiple aggressive lytic bone lesions involving the bilateral distal fibula and ulna. An MRI of the bilateral ankle revealed altered bone marrow signal intensity involving the tibial shaft and fibula, with no evidence of periosteal reaction, collection, or muscle abnormalities.

A bone marrow aspiration was performed, which confirmed the diagnosis of B-acute lymphoblastic leukemia with bone marrow fibrosis. Subsequently, chemotherapy was initiated.



**Figure 1: Plain radiograph of bilateral ankle**



**Figure 2: MRI bilateral ankle**

Multiple overlapping symptoms posed a diagnostic challenge in this case. Relying solely on clinical presentation in cases of overlapping symptoms has limitations. Imaging and other diagnostic tools can aid in identifying underlying pathology for an accurate diagnosis (2). In this case, MRI features can aid in differentiating osteomyelitis and its mimickers.

### **CONCLUSION:**

A comprehensive assessment and a well-coordinated multidisciplinary team approach are essential in achieving an accurate diagnosis and timely management when dealing with diseases with overlapping symptoms and signs.

### **REFERENCES:**

1. Stone, Brad, et al. "Pediatric tibial osteomyelitis." *Journal of Pediatric Orthopaedics* 36.5 (2016): 534-540.
2. Tannenbaum, Melissa F., et al. "Imaging musculoskeletal manifestations of pediatric hematologic malignancies." *American Journal of Roentgenology* 214.2 (2020): 455-464.