

Clinical Image

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Multimodal imaging evaluation of femoral exostosis in a pediatric patient: A radiation-free approach

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Description

A 12-year-old girl presented with left knee pain following an accidental fall. Physical examination revealed local pain and restricted joint movement. The patient had no significant prior medical conditions or traumas.

Differential diagnosis ruled out musculoskeletal injuries and other orthopedic conditions.

Bilateral comparative knee radiography identified an exostosis at the distal third of the right femur incidentally.

To assess the relationship between the exostosis and blood vessels, lower limb CT angiography with contrast was performed. To explore the possibility of conducting future follow-ups without exposing the patient to ionizing radiation, experimental MRI sequences oZTEo and TOF without contrast were employed to evaluate the exostosis and adjacent structures without ionizing radiation exposure.

This multimodal imaging approach facilitated a comprehensive assessment of the exostosis and surrounding tissues using less invasive imaging techniques.

The bilateral comparative knee radiograph incidentally discovered an exostosis at the distal third of the right femur. This image vividly displays the bony prominence, offering insight into its location and appearance.

Utilizing MRI sequences oZTEo and TOF without contrast provided a detailed view of the exostosis and adjacent structures. These images illuminate the lesion's characteristics and its proximity to blood vessels, presenting a non-ionizing radiation approach for comprehensive analysis.

These images exemplify a multimodal diagnostic approach, enabling a thorough assessment of the femoral exostosis in a pediatric patient while avoiding ionizing radiation exposure.

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Figure 1: Radiography.



Figures 2,3: MRI Sequences (oZTEo and TOF)

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