VOLUME - 10, ISSUE - 08, AUGUST- 2021 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Radiology

IMAGING FINDINGS OF ANEURYSMAL BONE CYST OF TIBIA

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ABSTRACT Aneurysmal bone cyst is a benign or pseudotumoral lesion involving metaphysis or metadiaphyseal region of long bones. They are locally destructive, blood filled lesions commonly effecting proximal humerus, distal femur and proximal tibia. Most often eccentrically located in the metaphysis. Diaphysis involvement is very rare.We present a case in a 13-year-old male who presented with a primary ABC of the distal tibial epiphysis.

KEYWORDS : Aneurysmal bone cyst, tibial lesions, lytic-lesions tibia

DESCRIPTION

A 13-year old male child presented with pain in his distal left leg for 6 months. It was not associated with overlying skin changes. General examination revealed no abnormalities. There was no history of fever and trauma.

• A plain X-ray of the left leg showed an expansile eccentric lytic lesion in the metadiaphyseal region of distal tibia (figure 1) which was well defined with narrow zone of transition. The margins were sclerosed, but there was no associated periosteal reaction or soft tissue changes. MRI confirmed the presence of the well defined eccentric lesion in metaphysis distal end tibia with endosteal scalloping and sclerotic margins with fluid fluid level (figure 2)

Figure 1 Anteroposterior And Lateral View Of Plain X-ray Showing

a eccentric osteolytic lesion in metadiaphyseal region of distal tibia.

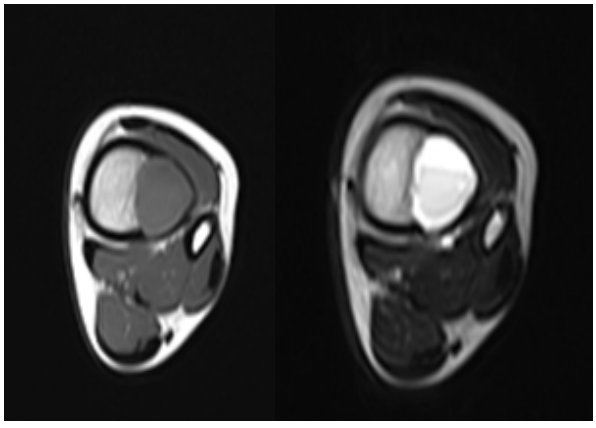

Figure 2 Axial T1- And T2-weighted Images Show Eccentric heterogenous T2 hyperintense lesion in distal tibial metadiaphyseal region

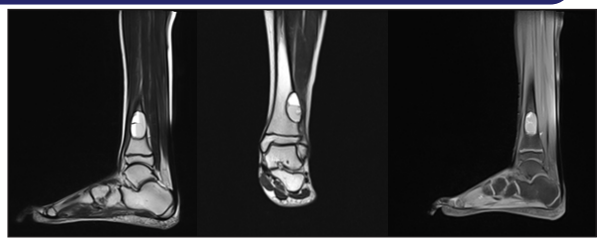

Figure 3 A. Sagttal T2-weighted image shows intermediate signal intensity mass.
B. Coronal T2-weighted image showing eccentric expansile lesion with fluid fluid lesion.
C. On sagittal contrast-enhanced T1-weighted image, mass exhibits diffuse heterogeneous enhancement.

DISCUSSION

Any bone may be affected by ABC, however, these lesions predominantly manifest in the metaphysis of long bones (65%), the pelvis (12%) and the arch of the spine (12%).[1] aneurysmal bone cysts is believed to have uncertain etiology, but aneurysmal bone cysts are believed to represent a reaction to a localized arteriovenous malformation. It most commonly occurs in the metaphysis of long bones during the first two decades of life and usually presents due to pain, swelling, or fracture.[2]Jaffe and Lichtenstein first described the ABC as a distinct pathologic lesion in 1942[3] Although the pathogenesis of ABC is still unknown, there exists 2 broad types: a primary type without preexisting or coexisting lesion (70%) and a secondary form associated with a preexisting lesion (30%). The most common of these associated lesions include giant-cell tumor, chondroblastoma, osteoblastoma, chondromyxoid fibroma, osteosarcoma, and fibrous dysplasia.[1]

All the cases of primary ABC exhibited a thinning of the cortex and an expansion of the lesion, as determined by X-ray imaging, which is known as the soap-bubble appearance .[4] T2-weighted MRI revealed multiple cystic lesions that were divided by a thin septum, and a fluid-filled cyst that indicated a collection of blood .[5,6]**Fluid-fluid level containing bone lesions** are best seen on MRI, although with narrow window width they can also be appreciated on CT. Their presence is non-specific, as they are seen in both benign and malignant lesions with secondary to lesions such as giant cell tumor,telangiectatic osteosarcoma .

CONCLUSION

To distinguish between primary and secondary ABCs based on the clinicopathological features of the patient, including tumor location and patient age is simple. A biopsy must be considered prior to curettage. In order to prevent local recurrence, an adjuvant therapy may also be considered during the surgery.

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