

**NON-OSSIFYING FIBROMA MASQUERADING AS ANEURYSMAL BONE CYST – A RARE CASE REPORT****Dr. N. V. Anurag**

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ABSTRACT Non-ossifying fibroma (NOF) is a benign fibrous bone lesion commonly seen in children and adolescents[1,2]. Although usually asymptomatic and incidentally detected, it may occasionally present with atypical clinical and radiological features, creating diagnostic confusion with other benign lytic lesions such as aneurysmal bone cyst (ABC). We report a rare case of an 8-year-old female child who presented with pain and swelling over the proximal tibia with difficulty in walking. Radiological findings were suggestive of aneurysmal bone cyst; however, histopathological examination confirmed the diagnosis of non-ossifying fibroma. The coexistence and overlapping features of NOF and ABC make differentiation challenging clinically and radiologically. Histopathological evaluation remains the gold standard for definitive diagnosis. The patient was treated successfully with curettage and excision, with no recurrence on follow-up.

KEYWORDS : Non-Ossifying Fibroma, Aneurysmal Bone Cyst, Benign Bone Tumor, Proximal Tibia, Pediatric Orthopaedics.

INTRODUCTION

Non-ossifying fibroma (NOF) is one of the most common benign fibrous lesions of bone occurring in children and adolescents. It is generally located eccentrically in the metaphyseal region of long bones, particularly around the knee joint. Most lesions are asymptomatic and discovered incidentally during radiological evaluation for unrelated complaints. However, larger lesions may become symptomatic and require surgical intervention.

Aneurysmal bone cyst (ABC) is another benign but locally aggressive osteolytic lesion characterized by blood-filled cystic spaces. ABC commonly affects children and young adults and frequently involves the metaphyseal regions of long bones such as the proximal tibia and distal femur. Clinically and radiologically, ABC may mimic other benign bone lesions including NOF.

Rarely, NOF may present with features resembling ABC, creating diagnostic uncertainty. Differentiation between these lesions is important because of differences in biological behavior and prognosis. Histopathological examination plays a crucial role in establishing the final diagnosis. We present a rare case of non-ossifying fibroma masquerading clinically and radiologically as aneurysmal bone cyst.

Case Report

An 8-year-old female child presented to the Department of Orthopaedics with complaints of pain over the posterior aspect of the right knee for 15 days and difficulty in walking for 10 days. There was a history of intermittent episodic fever. No history of trauma was noted.

On clinical examination, diffuse swelling was present over the posteromedial aspect of the proximal tibia. The swelling had a smooth surface with well-defined margins and was non-pulsatile. On palpation, the swelling was firm in consistency with localized tenderness over the posteromedial aspect of the proximal tibia.

**Preoperative X Ray**

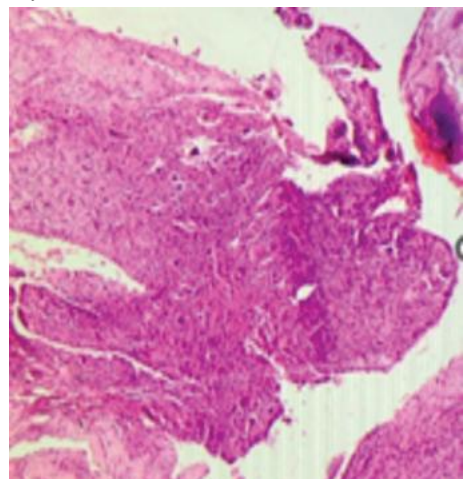
Routine blood investigations were within normal limits. Radiological evaluation with plain radiographs and computed tomography scan revealed an eccentric lytic lesion involving the metaphyseal region of

the proximal tibia. The lesion appeared multiloculated with sclerotic scalloped margins and cortical thinning, suggestive of aneurysmal bone cyst.

Considering the symptomatic nature of the lesion, surgical management was planned. Intraoperatively, a mass measuring approximately 2.5×2.5 cm was identified over the posteromedial aspect of the proximal tibia. The lesion was confined to the medial border of the proximal tibia without evidence of pus collection. Curettage and complete excision of the lesion were performed, and the specimen was sent for histopathological examination.

**Intraoperative Image**

Histopathological examination revealed bland spindle-shaped fibroblastic cells arranged in a storiform pattern within a collagenous matrix, consistent with non-ossifying fibroma. No evidence of malignancy was observed.

**Histopathological Image**



Postoperative X Ray

The postoperative period was uneventful. The patient was followed regularly for one year with serial radiographs, which showed satisfactory healing without recurrence. The child remained asymptomatic and resumed normal activities.

DISCUSSION

Non-ossifying fibroma is a benign developmental fibrous lesion commonly affecting children between 2 and 20 years of age. These lesions are usually located eccentrically in the metaphyseal region of long bones, particularly around the distal femur and proximal tibia. Most NOFs are asymptomatic and regress spontaneously with skeletal maturity.

Radiographically, NOF appears as a well-defined eccentric multiloculated lytic lesion with a sclerotic rim and cortical thinning. Histologically, the lesion is characterized by spindle-shaped fibroblasts arranged in a storiform pattern with scattered giant cells and hemosiderin deposits.

Aneurysmal bone cyst is a benign expansile osteolytic lesion composed of blood-filled spaces separated by fibrous septa containing giant cells and reactive bone[3,4]. ABC commonly occurs in patients younger than 20 years and may exhibit rapid growth with cortical destruction, occasionally mimicking malignant lesions clinically.

In the present case, the lesion exhibited radiological features suggestive of ABC, including eccentric metaphyseal location, cortical erosion, and multiloculated appearance. Clinically, the presence of pain and swelling further contributed to the diagnostic dilemma. However, histopathological examination confirmed the lesion as non-ossifying fibroma.

Very few reports describing NOF presenting with features mimicking ABC are available in literature. This case highlights the importance of considering NOF in the differential diagnosis of expansile lytic lesions in children. Histopathological confirmation is essential for accurate diagnosis and appropriate management.

The patient responded well to curettage and excision with no recurrence during follow-up.

CONCLUSION

Non-ossifying fibroma may rarely present with clinical and radiological features resembling aneurysmal bone cyst, making diagnosis challenging. Careful radiological assessment combined with histopathological examination is essential for definitive diagnosis. Although both lesions are benign and treated surgically when symptomatic, distinguishing between them is important for prognosis and follow-up. This case emphasizes the need to include non-ossifying fibroma in the differential diagnosis of lytic metaphyseal lesions in pediatric patients.

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