

Enchondroma - A Case Study

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Abstract: *History: A 62 year old female patient, presented with pain in left thigh. Duration of pain: 3 months. Insidious in onset, dull aching type, moderate degree, non- radiating. Aggravated on standing/walking and partially relieved on taking rest and analgesics. No h/o trauma, any other bony pain or similar history in the past. No co-morbid conditions. On Examination: No swelling, scar, sinus seen. No skin changes. No local rise of temperature. Tenderness + over lateral condyle of left femur. No other bony or joint line tenderness. Full range of movement present but terminal 10 degrees painful. No distal neuro-vascular deficits. Investigations: xrays, mri and Ct done. Treatment: curettage, excision & bone grafting done. Postoperatively patients were followed up to 3 months. Review of literature: Chondromas are benign lesions of hyaline cartilage. Chondromas are usually asymptomatic and are frequently discovered incidentally during an unrelated radiographic examination. They also can be discovered after a pathological fracture. It is caused by failure of normal enchondral ossification. Chondromas are more common between 10-50 years of age. Most common locations are small tubular bones of hands and feet. Radiographically, Enchondromas are benign-appearing tumors with intralesional calcification. The calcification is irregular and has been described as "stippled", "punctate", or "popcorn". Microscopic appearance is that of a mature hyaline cartilage. The differentiation of benign from malignant cartilaginous tumors is one of the most difficult problems in bone pathology. All available tissue must be examined, and even then the diagnosis may depend more on the clinical and radiographic features than on the microscopic changes. Treatment of patients with solitary enchondromas usually consists of observation with serial radiographs. If a lesion grows, or becomes symptomatic, extended curettage with or without bone grafting usually is curative. Peculiarities in the case: Age of the patient- 62 years, Location of tumour: Distal Femur (small tubular bones of hands & feet), Benign lesion in 7th decade.*

Keywords: age, distal femur, benign lesion, excision, bone grafting

1. Introduction

An Enchondroma, also known as Chondromyxoma¹ is a benign tumour occurring in the central location of bone in young adults, usually the phalanx and the humerus. It causes destruction of the cancellous bone. Its main importance lies in its potential for malignant transformation, particularly when situated in the large long bones or the pelvis.²

2. Case Report

History:

A 62 year old female patient, presented with pain in left thigh.

Duration of pain: 3 months.

Pain was insidious in onset, dull aching type, moderate degree, non- radiating. Aggravated on standing/walking and partially relieved on taking rest and analgesics.

No h/o trauma, any other bony pain or similar history in the past.

No co-morbid conditions.

Examination:

No swelling, scar, sinus seen.

No skin changes. No local rise of temperature.

Tenderness present over lateral condyle of left femur.

No other bony or joint line tenderness.

Full range of movement present but terminal 10 degrees painful

No distal neuro-vascular deficits.

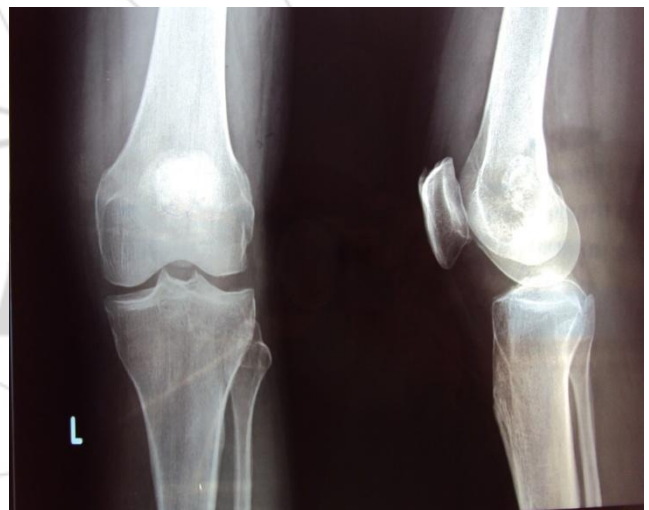


Figure 1: X-RAY- reveals an island of calcification in the distal end of femur



Figure 2: MRI-Irregular Island of calcification (Popcorn appearance)

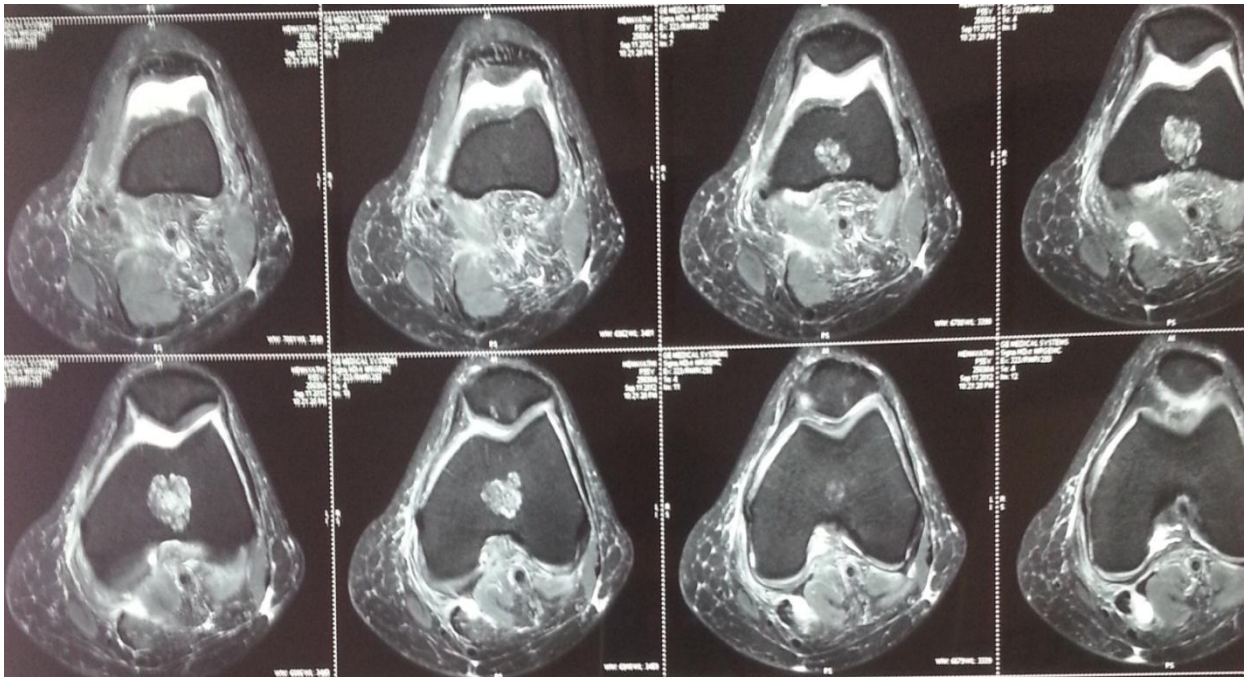
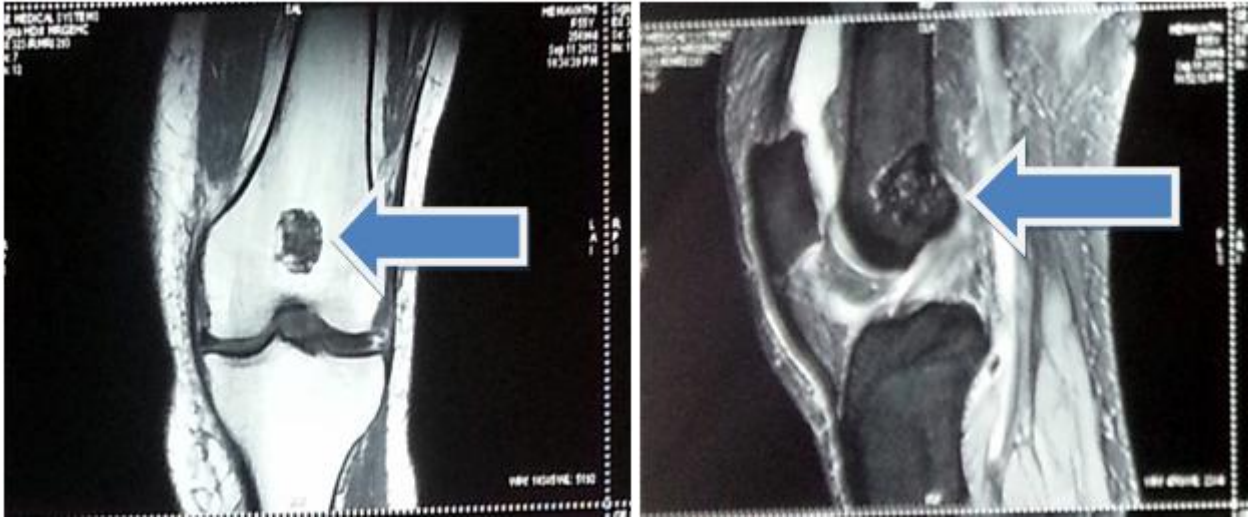


Figure 3: CT Images



Figure 4: Bone scan with Tc99m showed no evidence of osteoblastic skeletal metastasis

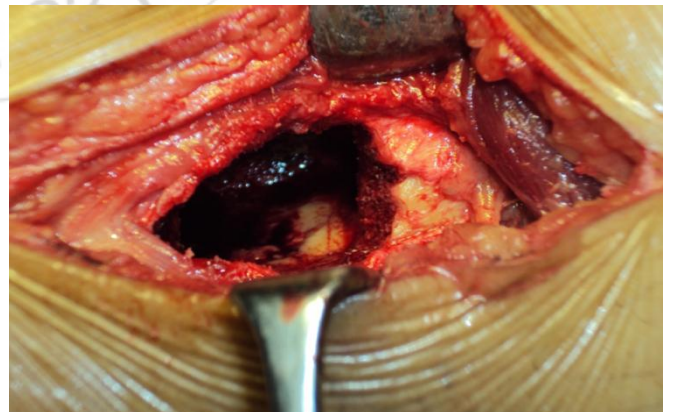


Figure 5: Intraoperative images

- All other routine investigations were normal.
- Patient was taken up for surgery.
- Curettage, excision and bone grafting was done.

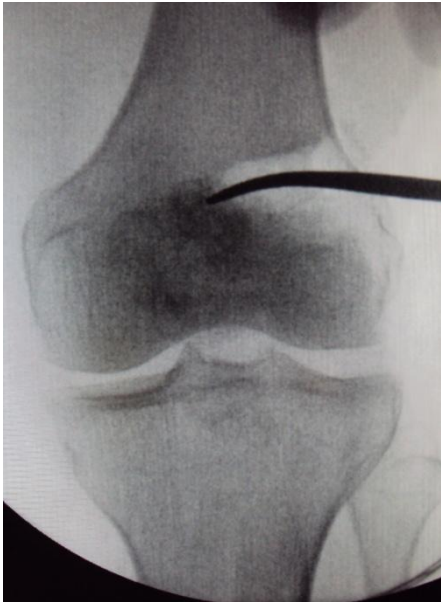


Figure 6: C-arm images

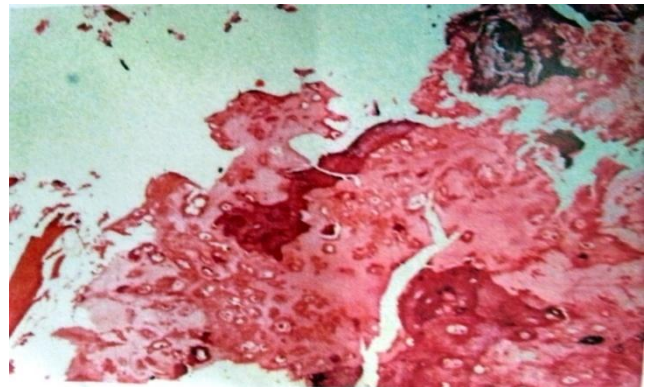


Figure 8: Biopsy showing mature adipose and cartilage tissue. No signs of malignancy



Figure 9: Postoperative X-ray



Figure 7: Gross Specimen



- Specimen was sent for biopsy.
- Biopsy report showed features consistent with enchondroma.



Figure 10: 3 months follow up- shows maximum flexion and extension movements



Figure 11: Follow up x-ray shows bone graft resolving. No signs of recurrence

3. Discussion

- Chondromas are benign lesions of hyaline cartilage.³
- Chondromas are usually asymptomatic and are frequently discovered incidentally during an unrelated radiographic examination.³
- They also can be discovered after a pathological fracture.³
- It is caused by failure of normal enchondral ossification
- Chondromas are more common between 10-50 years of age
- Most common locations are small tubular bones of hands and feet
- Radiographically, Enchondromas are benign-appearing tumors with intralesional calcification. The calcification is irregular and has been described as “stippled”, “punctate”, or “popcorn”.^{1,3}
- Microscopic appearance is that of a mature hyaline cartilage. The differentiation of benign from malignant cartilaginous tumors is one of the most difficult problems in bone pathology.³

- All available tissue must be examined, and even then the diagnosis may depend more on the clinical and radiographic features than on the microscopic changes.
- Treatment of patients with solitary enchondromas usually consists of observation with serial radiographs. If a lesion grows, or becomes symptomatic, extended curettage with or without bone grafting usually is curative.^{1,3}

References

- [1] Turek's Orthopaedics: Principles and Their Application, 4th Edition, Vol-1, Samuel L Turek, page 599.
- [2] Geshickter CF, Copeland MM: Tumours of Bone. Philadelphia, JB Lippincott, 1949.
- [3] Campbell's operative orthopaedics, 12th edition, Tumours: Benign Bone Tumours and Nonneoplastic Conditions Simulating Bone Tumours, Vol 1, S. Terry Canale, James H. Beaty, page 865