

## Chondro Myxoid Fibroma Of Proximal End Of Tibia

### A Case Report

Dr.Siddaram Patil<sup>1</sup>, Dr.Sankar Rao .P<sup>2</sup>, Dr.Raju<sup>3</sup>, Dr.Veera shekar<sup>3</sup>, Dr.Pavan<sup>3</sup>, Dr. Nimisha<sup>4</sup>

Professor<sup>1</sup>, Associate Professor<sup>2</sup>, Post-Graduate<sup>3</sup>, Jr.Resident<sup>4</sup>

Department of Orthopaedic , Mamata Medical College. Khammam.Telangana State. India

[drsnp\\_2006@yahoo.co.in](mailto:drsnp_2006@yahoo.co.in)

#### Abstract:

*Chondromyxoid fibroma (CMF) is a rare, benign and potentially aggressive cartilage forming bone tumour and accounts for less than 1% of primary bone tumour. It usually affects the metaphysis of long bones in first or second decades of life. It occurs in males more often than females. Because of rarity of CMF and its varied morphology, it can be confused with malignant tumour and adds difficulty in diagnosis. Herein, we report a case of CMF in a 22 year old male involving the proximal end of tibia.*

**Key words:** Chondromyxoid fibroma, Cartilage, Tibia.

#### INTRODUCTION:

Chondromyxoid fibroma (CMF) was described by Jaffe and Lichtenstein[1] as a distinctive entity in 1948. Jaffe HL, Linchtenstein L[1] in the masterly paper, not only set out a system of grading based on stromal differentiation, but also emphasized that the so-called variants have little in common with genuine giant-cell tumors or with one another. These “variants” have subsequently been defined as the benign chondroblastoma, CMF and aneurismal bone cyst, while the so-called giant-cell tumors of tendons and synovia are probably granulomata rather than neoplasms.[2,3,4]. It occurs mostly in the second and third decades with no difference in the sex incidence. It presents like most benign bone tumors with pain, In long bone, the tumor is found in or near the metaphysis

and sometimes crosses the epiphyseal line only rarely and in advanced cases. Proximal end of tibia is by far the most common site reported.

Radiologically the lesion is radiolucent, eccentric, space occupying, and is located in the metaphysis, margins are usually well-defined with surrounding sclerosis with ill defined margins between sclerosis and the host bone. The cortex is expanded considerably, peripheral bony margins often become hazy and poorly defined. Unlike other cartilaginous neoplasms calcification within the lesion is very uncommon. Computed tomography (CT) scan imaging may be necessary to delineate a cortical margin in the expanded soft tissue mass. The radiologic differential diagnosis includes giant cell tumor, aneurysmal bone

cyst, unicameral bone cyst, chondroblastoma, and fibrous dysplasia.[5]

**CASE REPORT**

A 22 year old male patient presented with complaining of pain at upper end right leg since 2 years, there is history of trauma 2 years back due to fall from bike, since then complaining of pain, which is dull aching type and aggravated on walking uphill and running. It is associated with localised swelling at upper end leg which is relieved by NSAIDS usage for 10 days. There is no history of previous aspiration or pathological fracture or operative procedure at leg or knee. Physical examination revealed bony tenderness at lateral aspect of upper end tibia, without any local rise of temperature, scars, sinuses and dilated veins. Laboratory examination revealed normal CBP, ESR, CRP, ALP, RA factor and normal CT and BT.

Radiologically the lesion is radiolucent, eccentric, space occupying, and is located in the metaphysis, margins are usually well-defined with surrounding sclerosis with ill defined margins between sclerosis and the host bone. The cortex is expanded considerably, peripheral bony margins often become hazy and poorly defined. Unlike other cartilaginous neoplasms calcification within the lesion is very uncommon. Computed tomography (CT) scan imaging may be necessary to delineate a cortical margin in the expanded soft tissue mass. The radiologic differential diagnosis includes giant cell tumor, aneurysmal bone cyst, unicameral bone cyst, chondroblastoma, and fibrous dysplasia.[5]

Radiograph(FIG.1) shows an well defined eccentric intramedullary lesion with lobulated margins and endosteal sclerosis with no evidence of calcifications at proximal tibial metaphysis showing wide zone of transition. CT scan revealed

eccentrically well defined intramedullary lesion with lobulated margins with endosteal sclerosis and wide zone of transition with matrix showing increased density 65-70hu involving proximal tibial metaphysis with no evidence of calcification in its matrix. From clinical and radiological findings diagnosis of aneurysmal bone cyst, osteoid osteoma and chondromyxoid fibroma were suspected.



FIG.1 X-Ray & CT Scan Showing Osteolytic Lesion at Proximal Tibia

Under C-ARM guidance FNAC done which revealed osteoma, chondromyxoid fibroma and metaphyseal fibrous defect. Curettage along with

cancellous bone grafting was done and sample sent for histopathological examination.

Gross examination revealed multiple grey white cartilaginous bony bits altogether measuring 2 x 1 x 0.5. histopathological section studies shows hyaline cartilage, fibrous tissue and peripheral myxoid tissue (FIG.2).

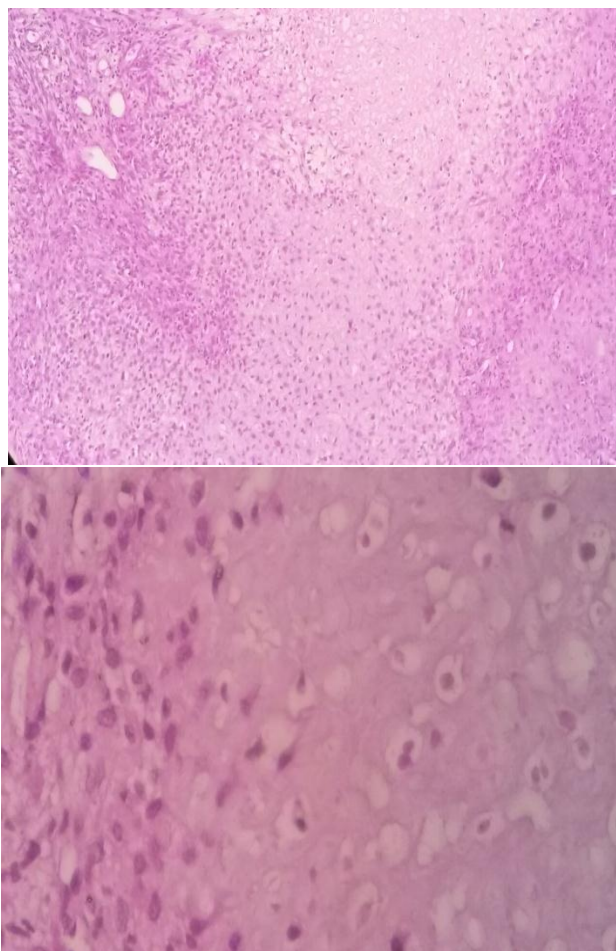


FIG.2. Histopathology showing chondroid and myxoid tissue (Low magnified & High Magnified)

## DISCUSSION

Chondromyxoid fibroma (CMF) is a rare, benign, although potentially aggressive tumour of cartilaginous origin and accounts for less than 1% of all bone tumour. The common site of the tumour is the metaphysis adjacent to the epiphyseal growth plate which is consistent with the hypothesis that the tumour arises from remnants of cartilage at these sites. World

Health Organization defined CMF as “a benign tumour characterized by lobules of spindle-shaped or stellate cells with abundant myxoid or chondroid intercellular material separated by zones of more cellular tissue rich in spindle-shaped or round cells with varying number of multinucleated giant cells of different sizes”. It may be misdiagnosed as other tumours such as chondrosarcoma because of some similarities and it is important to distinguish it by establishing the clinical, radiological and pathological features of CMF.

Clinically patients presented with pain, swelling or tenderness and duration may range from weeks to years. Our patient had similar symptoms. Radiologically the lesion is single, eccentric, radiolucent with lobulated margin, septations, cortical expansion and a sclerotic rim. Magnetic resonance imaging (MRI) examination is not helpful to confirm the diagnosis but helps in knowing the extent of spread of tumour. In our case, MRI was not done. We were not followed case for recurrence. Diagnosis of CMF is basically depends upon the characteristics histological appearance. The typical histological features of CMF are a lobular pattern with stellate or spindle-shaped cells in a myxoid or chondroid background. Lobules demonstrate hypocellular centres and hypercellular peripheries. Osteoclast like giant cells are often present at the lobular peripherie. Differential diagnosis of CMF includes chondrosarcoma, chondroblastoma, aneurysmal bone cyst, enchondroma but the characteristic histological features ruled out these lesions.

Treatment options of CMF include en bloc resection, simple curettage, and curettage with bone grafting or polymethylmethacrylate placement. CMF is a benign tumour but rate of recurrence is high when treated with simple curettage of lesion. But curettage with bone grafting has very low rate of recurrence. Gherlinzoni F *et al* reported curettage alone was

associated with 80% recurrence rate, but when curettage was combined with bone grafting the recurrence rate decreased to 7%. In our case, patient was treated by curettage along with bone grafting and has no follow up done for recurrence

#### CONCLUSION:

Chondromyxoid fibroma is very rare tumour and it is benign. Clinically and radiologically its diagnosis is difficult to confirm. Curettage and bone grafting is the choice of treatment.

#### Consent:

Patient has given his informed consent for the case report to be published

#### References

1. Jaffe HL, Linchtenstein L. Chondromyxoid fibroma of bone; a distinctive benign tumor likely to be mistaken especially for chondrosarcoma. *Arch Pathol (Chic)* 1948;45:541–512. Canale ST, Beatty JH, editors. 11th ed. Philadelphia, Pa: Mosby Elsevier; 2007. *Campbell's Operative Orthopaedics*.
3. Gherlinzoni F, Rock M, Picci P. Chondromyxoid fibroma. The experience at the Istituto Ortopedico Rizzoli. *J Bone Joint Surg Am.* 1983;65:198–204.
4. Schajowicz F. Chondromyxoid fibroma of bone; A clinico-pathological study of thirty two cases. *J Bone Joint Surg Br.* 1971;53:198–216.
5. Sutton D. 7th ed. Edinburgh: Churchill Livingstone; 2003. *Textbook of radiology and imaging*.
6. Takenaga RK, Frassica FJ, McCathy EF. Subperiosteal chondromyxoid fibroma: A report of two cases. *Iowa Orthop J.* 2007;27:104–7.
7. Scaglietti O, Stringa G. Aggressive chondromyxoid fibroma. *J Bone Joint Surg.* 1961;43:67.