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Case Report

Chondromyxoid Fibroma of Patella: A Rare Case

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ABSTRACT

Introduction: Chondromyxoid fibroma is a rare benign tumor with aggressive behavior accounting for less than 0.5% of all bone tumors. There are several case-reports of this tumor occurring in different bones. **Case report**: Here we report a case of 19 years old male with the tumor arising from the inferior pole of right patella which was treated by complete excision of the lesion. The histopathology report was consistent with chondromyxoid fibroma. **Conclusion:** Chondromyxoid fibroma is a benign but locally aggressive tumor which may occur at unusual sites.

Key words: Chondromyxoid fibroma, Osteochondroma, Patella, Tumor

INTRODUCTION:

Chondromyxoid fibroma is one of the rare benign bone tumors. It accounts for less than 0.5% of all biopsied primary bone tumors.[1] The common sites of involvement are metaphysis of long bones in young adults and children, the most common location being proximal tibia.[1] Though benign, local recurrence rate varies from 10% to 80% after intralesional treatment.[2] Histologically, it is composed of chondroid, fibrous, and myxoid areas in varying proportions in cartilage-like matrix. [1]

We present here an unusual case of chondromyxoid fibroma arising from the inferior pole of patella.

CASE REPORT:

A 19 years old male presented with the history of pain and swelling over his right knee for the past one year. Pain followed direct low energy trauma over the knee. He also noticed the swelling of the same knee which gradually increased in size over one year. On examination, there was a bulge inferolateral to the inferior pole of patella. The quadriceps was moderately wasted with an extensor lag of 15 degrees. Radiographic examination (Fig. 1) showed a mass arising from the inferior pole of patella, growing towards the joint.

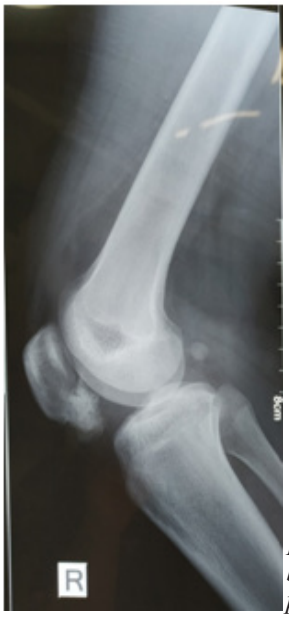

Fig 1: X ray lateral view showing bony outgrowth from the inferior pole of patella.

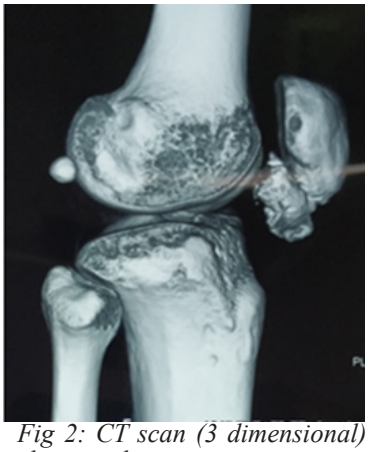

Fig 2: CT scan (3 dimensional) showing the same mass

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A computed tomography (CT) scan (Fig. 2) showed a well-defined osseous outgrowth from the inferior pole of patella, with a size 4x3x1.5 cm and a pedicle of 1.8x1.5 cm. The surface of the growth was irregular. The direction of growth was behind the patellar tendon extending towards the infrapatellar fat pad with an 18 mm thick smooth outlined soft tissue density lesion suggestive of osteochondroma with thick cartilaginous cap. Magnetic Resonance (MR) images showed 5x3.5x2.5 cm sized mixed signal intensity lobulated mass growing towards Hoffa's fat pad connected to inferior pole with 1 cm wide stalk (Fig. 3).

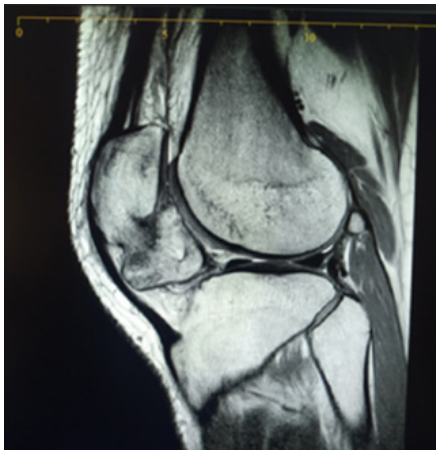

Fig 3: MRI shows a definite pedicle connecting inferior pole to the mass.

Probable diagnoses suggested with MRI were chondroblastoma, and osteochondroma with thick cartilaginous cap. The patient underwent excisional biopsy. The tumor was removed in two pieces measuring 3.8x2.2 cm with cartilaginous cap: 1.7 cm and 2.5x2.2 cm bony component (Fig. 4).

The histopathology reports showed hypocellular lobules of poorly formed hyaline cartilage composed of chondroblasts. In the myxoid areas, stellate cells with long processes were noted with areas of calcification. The final diagnosis after histopathological examination was chondromyxoid fibroma. The patient was under regular follow up examinations and we saw no signs of recurrence till two months of follow up.

DISCUSSION:

Chondromyxoid fibroma is a rare tumor and its occurrence in patella is a rarer incidence. It was first described by Jaffe and Litchenstein in 1948 as a lesion derived from cartilage forming tissue, composed of chondroid, myxoid and fibrous tissue in various proportions. It accounts for less than 0.5% of all bone tumors.[1].It may occur at any age but most commonly occurs in patients from 10 to 30 years of age[3]. Radiological features include well circumscribed lesion with a rim of sclerosis in the metaphysis of a long bone and may have a bubbly appearance mimicking a nonossifying fibroma.[1]

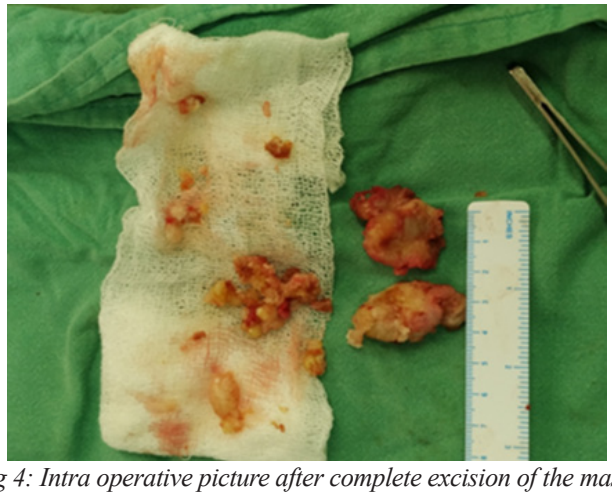

Fig 4: Intra operative picture after complete excision of the mass.

Various treatment options have been suggested including simple curettage, curettage with phenol application and en bloc resection with bone grafting.[2] Our case had an unusual presentation as an outgrowth from the inferior pole of patella. Thus, there was no role of grafting and complete excision of the tumor was performed. Several cases of chondromyxoid fibroma have been reported in the literature. Durr H R et al. reported

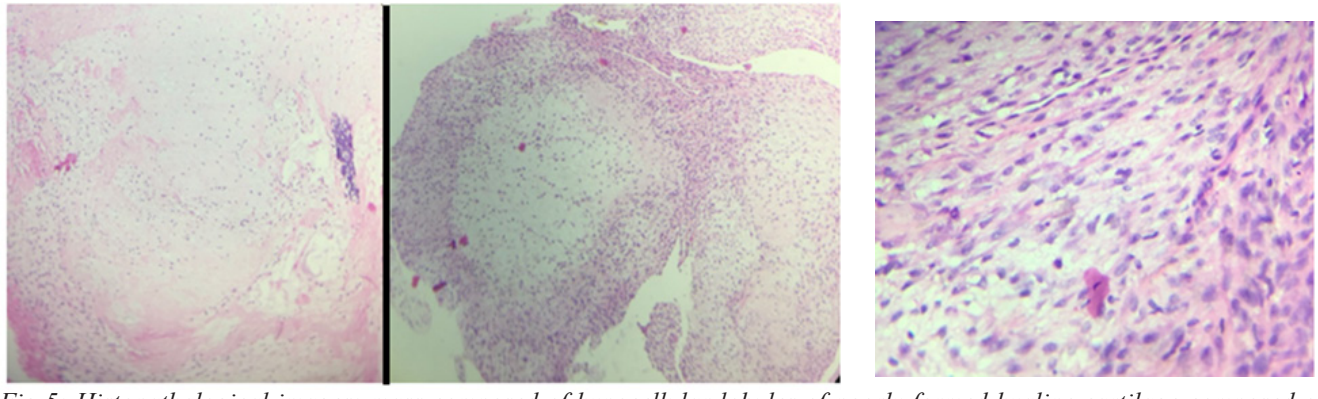

Fig 5: Histopathological images: mass composed of hypocellular lobules of poorly formed hyaline cartilage composed of chondroblasts. Periphery is more cellular. Myxoid area: stellate cells with long process. Areas of calcification seen.

three cases with involvement of proximal tibia, proximal humerus, and proximal femur.[4] All the three cases were diagnosed by radiology as well as incisional biopsy. The first patient underwent marginal excision and phenol application. For the second patient, en bloc resection and bone graft was done. Both the patients healed without recurrence one and three years postoperative respectively. The third patient refused any treatment and no change was seen in three years. Khan .M A et al. reported a case of 12 years old female with the lesion in right proximal ulna which was treated by en bloc excision and Polymethyl methacrylate (PMMA) grafting. [5] Soni R et al. reported a 15-year-old male with juxtacortical chondromyxoid fibroma in proximal tibia, which was treated with en bloc excision and bone grafting with no recurrence in one year follow up.[6] Immunohistochemichal analysis for Sox9 suggests chondrogenic component of tumor and may aid in case of doubtful diagnosis.[7]

CONCLUSION:

Chondromyxoid fibroma is rare, benign but locally aggressive tumor with a tendency to recur. It is often misdiagnosed as osteochondroma or chondroblastoma and diagnosed only after histopathological examination. It may present in unusual sites like patella. Proper pre-operative investigations, proper planning, counseling and regular follow up is required for the management of the patient.

Conflict of Interest: Authors declare that no competing interest exists.

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