Chondromyxoid Fibroma of Humerus[CMF] - A Rare Case Report

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Abstract

Introduction: Chondromyxoid Fibroma [CMF] is a rare, benign, slow-growing bone tumor of cartilaginous origin [1] It typically presents in the long tubular bones [2]. chondromyxoid fibroma with atypical radiographic findings may mimic more common tumors[3].

Case Report: We are hereby reporting a case of Chondromyxoid Fibroma at Distal end of Right Humerus in a 55yrs old Indian female. Patient reported us with swelling since 6 months distal end of Humerus is a rare site for CMF. It represents <0.5% of all bone tumors and is the least common benign tumor of cartilaginous origin [4] Cytological Details, Radiology Findings are discussed in our report.

Conclusion: Distal end of Humerus is a rare site for Chondromyxoid Fibroma which itself is a rare tumor. Tumor has a high recurrance rate. Our aim was to discuss the clinical presentation, diagnosis, prognosis and to show the treatment modality suitable.

Keywords: Chondromyxoid Fibroma, Cartilaginous Tumor, Tubular Bones.

Introduction

Chondromyxoid Fibroma [CMF] is a rare, benign, bone tumor with high recurrence rate [1]. The tumor is considered a physeal plate remnant and may involve the epiphysis, diaphysis, or both along with its metaphyseal origin. It may cause cortical expansion and destruction, but consistently respects the periosteal boundary with distal humerus being an unusual site [2]. Such a case in 55yr yr old female is discussed here where complete excision showed good results with full retur of movement at elbow joint.

Case Report

A 55 year old female, housewife, presented with history of swelling over right elbow sine 6 months, which was gradually increased in size over the time. Movements at elbow joint were painful and restricted. There was no history of any fever or any other systemic illness. Physical examination revealed bony hard, immobile, irregular, rough, non-adherent to skin or muscle,3 x 4 cm in size around right lateral condyle of humerus. Pain on movement at elbow joint. No local rise in temperature or distal neurovascular deficit or local rise of temperature. There was no scar, sinus or dilated veins. No significant finding on systemic examination.

The patient was seen by local physician and was neglected with prescription of analgesics. X-ray of right elbow AP/LAT view showed well-defined, oval to rounded lytic, eccentrically placed, expansile lesion with sclerotic rim in the epiphyseal region with cortex asymmetrically expanded over of lateral condyle of humerus. Surrounding soft tissue was not involved. CT and MRI was not done. Our clinical differential diagnosis were chondroma, chondromyxoidfibroma, chondroblastoma and chondrosarcoma. Considering the benign nature of history and radiograph a decision of excision biopsy was taken. Complete excision of tumour was done and tumour tissue was sent for histopathological examination for diagnosis which was confirmed as Chondromyxoid

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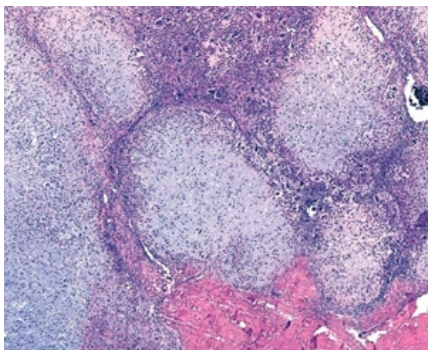

Figure 1. Low Power View Of Biopsy Specimen.

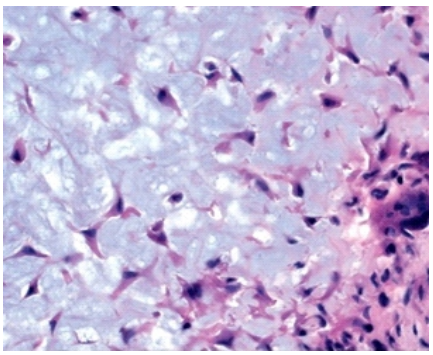

Figure 2. High Power View Of Biopsy Specimen.

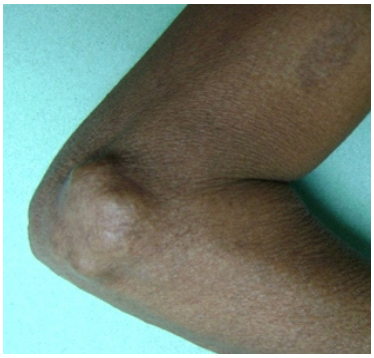

Figure 3. Clinical Picture.

fibroma. Histopathology report showed decalcified mass having perichondrium with an outer layer of cartilage as a cap revealing chondrocytic clusters patches of myxomatous tissue with delicate stellate cells, islands of hyaline cartilage and areas of fibrous tissue with cells having varying degree of maturity. No malignant changes were seen.

Postoperatively, the patient was fully recovered with no neurological deficit, with full range of flexion and extension at elbow joint without any varus or valgus deformity or any other post-operative complications. Postoperative X-rays showed appropriate joint space and no evidence of residual or recurrence of the tumor mass and patient was returned to full-activity at 1 month post-surgery. One year radiological and clinical follow up confirmed good function and no recurrence.

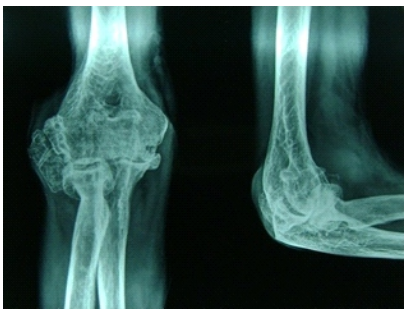

Figure 4. Preoperative Xray

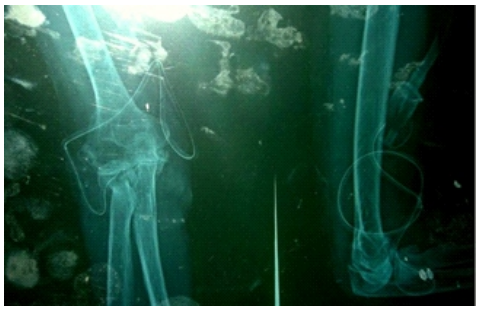

Figure 5. Post Operative Xray

Discussion

CMF was first described by Jaffe and Lichtenstein in 1948. Chondromyxoid fibroma is a rare, benign, slow-growing bone tumor of cartilaginous origin. Tumor has a high recurrence rate [1]. Classically occurring in the metaphyseal region of the long bones surrounding the knee, but also found with relative frequency in other long bones, the pelvis, ribs, and small foot bones.[2]

It accounts for less than 1% of all the primary bone tumors and less than 2% of benign bone tumors. Approximately 80% of the total cases occur in individuals aged 36 years or younger. There is no gender-related difference. To date, no definite etiologies have been documented. It is known that approximately 75% of the total cases of CMF affect the bones of the lower extremities. In particular, it occurs most frequently in the tibia and femur around the knee joint [3].

Clinically, CMF generally has a typical presentation. It usually affects the young with a peak incidence in the second and third decades of life and a slight male preponderance. The patients usually present with pain and swelling of long-standing duration. The sites of predilection are long tubular bones in about half the cases, particularly distal femur and proximal tibia, while in one third of cases flat bones, such as the ileum, are involved. Less common sites include ribs, vertebrae and the bones of skull and hands [4,5]. The tumor is considered as a physeal plate remnant and may involve the epiphysis, diaphysis, or both along with its metaphyseal origin. It may cause cortical expansion and destruction, but consistently respects the periosteal boundary [2]. Chondromyxoid fibroma (CMF) is one such tumor that is characterized by incomplete cartilage differentiation [6].

The helpful features of chondromyxoid fibroma are the peripheral intermediate signal band and central hyperintense signal on T2-weighted images, generally corresponding to the peripheral nodular enhancement and central non-enhancing portion on contrast-enhanced T1-weighted images, respectively [7].

Chonromyxoid tumor are mostly found in long bones and specifically seen in upper end of tibia. Humerus is a rare site but various authors do report it [8-12]. The presentation does not differ in terms of demography or radiology. The management option and prognosis also do not seem to differ. Rare presentation does demand a high index of suspicion for diagnosis and management decisions.

Conclusion

Excision and curettage with placement of cancellous bone graft is good choice of treatment. Post of follow up for at least 3 yrs should be practiced to monitor any recurrence.

Clinical Message

Although CMF is a rare tumor and even rare at distal end of humerus can be treated with good end results. Curretage with placement of cancellous bone graft is good treatment of choice.

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