Research Paper

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Benign Chondroblastoma of Patella Treated with Curettage and Bone Grafting: A Case Report

Medical Science

KEYWORDS : Chondroblastoma, Patella, Curettage, Bone Grafting, Benign

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ABSTRACT

Chondroblastoma is a rare tumor, representing only 1- 3 % of all primary bone tumors ,with Local pain and swelling lasting for several months as the most important symptoms. Patella is an uncommon site for Chondroblastoma.

Highlighting a case of a 21 year male presenting with pain in the right knee and inability to walk after trivial trauma. He had pain and mild swelling in the anterior aspect of the right knee for one year.

The purpose is to present a rare tumor at an unusual site which is generally treated with patellectomy, managed in this case with curettage and bone grafting, with complete cure post operatively with one year follow up showing no signs of recurrence.

INTRODUCTION

Ewing first described the "calcifying giant cell tumor" in 1928. Subsequently in 1931 Codman described it as "epiphyseal chondromatous giant cell tumor".Jaffe and Lichtenstein investigated the histogenesis of this tumor which is derived from cartilage germ cells, called it as "benign chondroblastoma". Chondroblastoma is a rare tumor, representing only 1- 3 % of all primary bone tumors ,with Local pain and swelling lasting for several months as the most important symptoms. It is usually seen as a lytic lesion involving the epiphysis with a thin border of sclerosis and central punctuate calcification in half of the cases in radiographs.It usually causes expansion or enlargement in the affected site.Primary patella lesions are categorized into benign and malignant tumors and metabolic disorders. Giant cell tumor is the most likely differential diagnoses with tumors of the patella.Patella is an uncommon site for Chondroblastoma. Both radiologic and histologic appearance of the patella are indistinguishable from chondroblastoma of other sites. Chondroblastoma characteristically arises in the epiphyses of long bones in young adults.4,5 Occurrence of chondroblastoma in the patella is still rare with only case reports being reported in the English language literature

CASE REPORT

A 21 year male presented with pain in the right knee and inability to walk after trivial trauma. He had pain and mild swelling in the anterior aspect of the right knee for one year.

Xray showed lytic lesion involving most of the patella. MRI revealed well defined lobulated lesion(18*22*24 mm in AP, transverse, and cranio caudal extent) within the patella. There was no evidence of periosteal reaction or any significant cortical break. The articular cartilage along the facets and the ridge were spared. (figure 3)

CT sections showed mild thinning of articular and anterior cortex.

Histopathology revealed trabecular bone admixed with proliferating chondroid tissue at places admixed with myxoid and fibrous tissue with focal areas of calcification. Focal areas showed osteoclastic giant cells with areas of hemorrhage suggestive of chondroblastoma (figure 1,2)

This patient was managed by performing Bone curettage and grafting. Graft was taken from the iliac crest (Figure 4,5).

Post operatively, patient recovered fully, and has regained full mobility (Figure 6,7).

DISCUSSION

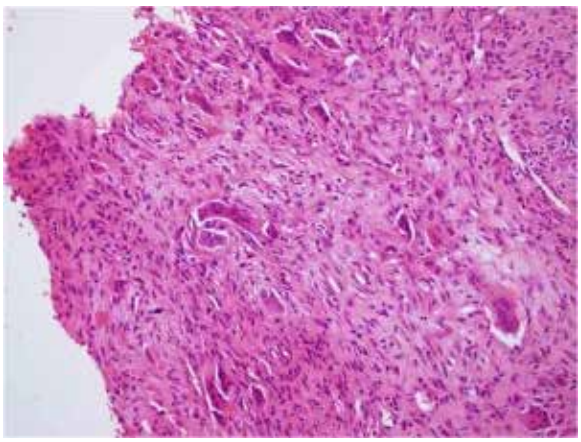
Chondroblastoma is being reported as 1-3% of all primary benign bone tumors.1–4 This tumor arises from immature cartilage cells. Patella though a sesamoid bone, is formed from a cartilage focus.3,4 It most often presents in the second and third decade, almost always in the distal epiphysis of the femur, proximal humerus and proximal tibia. Occurrence of chondroblastoma in a site like the patella is very rare with an estimated occurrence of 2%.9 The localization and radiographic findings are similar to giant cell tumor of bone, so the tumor was categorized as an epiphyseal chondrogenic giant cell tumor by Codman1 and as a benign calcifying giant cell tumor by Ewing until Jaffe and Lichtenstein reported the entity of chondroblastoma in 1943.3

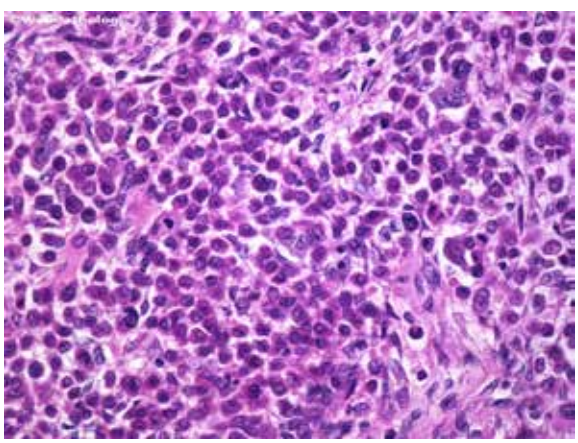
Primary patella tumors are very rare; the differential diagnosis includes benign and malignant tumors and metabolic disorders.1–4,7 Giant cell tumor is one of the likely differential diagnoses with tumors of the patella. There are several differences between chondroblastoma and giant cell tumor. Radiographically, chondroblastoma has clear boundaries whereas giant cell tumor has faded boundaries. Histologically chondroblastoma has calcification within the tumor, but giant cell tumor does not.7-9 The recommended treatment of chondroblastoma includes a biopsy to determine histology followed by curettage and bone grafting. Chemotherapy is not used in chondroblastoma.1,7,8

In our patient patellectomy was done as only minimal healthy patella was remaining. Complications of chondroblastoma include pathological fracture and rarely malignant transformation.5

CONCLUSION:

Chondroblastoma is a rare tumour, and patella is an unusual site for its occurrence with very few cases documented so far. The mainstay of the treatment modality has been patellectomy, which jeopardises the functions of the patella. In our case, however, though most of the patella was involved, the cortices were intact and hence, Curettage and Bone Grafting was done which gave excellent results after one year follow up without any recurrence.





Figures 1, 2

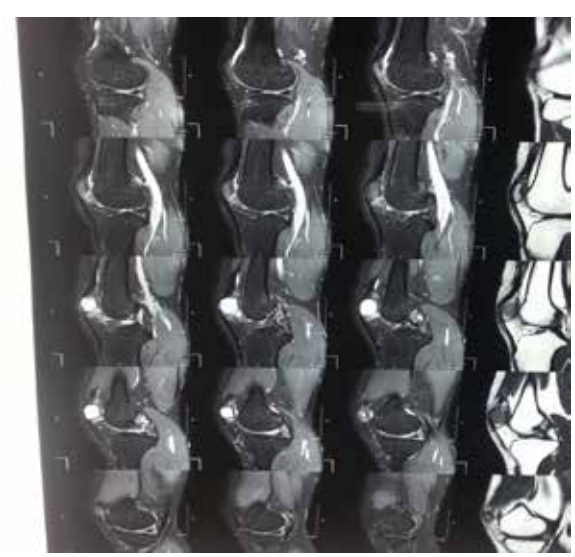


Figure 3



Figure 4



Figure 5



Figure 6

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Figure 7

REFERENCE

1. Ewing J. A treatise on tumors. 3rd ed. Philadelphia: WB Saunders; 1928. Neoplastic diseases; p. 293. | 2. Codman EA. Epiphyseal chondromatous giant-cell tumors of the upper end of the humerus. Surg Gynecol Obstet. 1931;52:543–8. [PubMed] | 3. Jaffe HL, Lichtenstein L. Benign chondroblastoma of bone: A reinterpretation of the so-called calcifying or chondromatous giant cell tumor. Am J Pathol. 1942;18:969–83. [PMC free article] [PubMed] | 4. Cohen J, Cahen I. Benign chondroblastoma of the patella: A case report. J Bone Joint Surg Am. 1963;45:824–6. [PubMed] | 5. Huvos AG, Michell J, Mcgrew LJ. Chondroblastoma and clear-cell chondroblastoma. In: Huvos AG, editor. Bone tumors diagnosis, Treatment and prognosis. 2nd ed. Philadelphia: WB Saunders; 1991. pp. 295–313. | 6. Rischke B, Engels C, Pietsch E, Werner M, Delling G. Chondroblastoma of the patella with pathological fracture. Unfallchirurg. 2000;103:898–902. [PubMed] | 7. Cole WH. Primary tumors of patella. J Bone Joint Surg. 1925;7:637–54. | 8. Lewis MM, Bullough PG. An unusual case of cystic chondroblastoma of the patella. Clin Orthop. 1976;121:188–90. [PubMed] | 9. Linschield RL, Dahlin DC. Unusual lesions of the patella. J Bone Joint Surg Am. 1966;48:1359–66. [PubMed] | |