

CASE REPORT

A RARE CARTILAGINOUS TUMOR OF THE TALUS

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ABSTRACT: The present report describes an unusual and rare tumor originating from the talus. A 21 years old female presented with a swelling over the right ankle 4x3.5cms in size for one year. The lesion was osteolytic with surrounded peripheral rim of bone sclerosis. Subsequent pathological study confirmed the case as chondroblastoma. The lesion was curettaged and the resultant defect was filled by autogenous bone graft. Such tumors are as chondroblastoma usually originate from epiphyseal and apophyeal regions of long bones. Thorough clinical, radiological and histological assessment is required for appropriate management.

KEYWORDS: Cartilaginous Tumor, talus, chondroblastoma.

INTRODUCTION: Chondroblastoma is an uncommon tumor of cartilaginous origin, usually seen in epiphyseal and apophyeal regions of long bones.¹ The tumor only accounts for approximately one to 2% of all primary bone tumors.² Most common site of involvement is distal and proximal femur, proximal tibia and proximal humerus.³ Only 12.7% cases has been reported from small bones of the foot during a period of three decade from a referral institution.⁴

CASE REPORT: A 21 years old female complained of swelling of the right ankle for one year. The swelling was gradually increasing, having a size of 4x3.5cms at presentation and had involved the soft tissue. There were associated pain and which affected normal walking.

A confined lytic lesion involving the superior aspect of the body of the talus by X- ray study, which was enclosed by narrow rim of sclerotic bone (Figure 1). Subsequently the CT scan showed confirmed a rim of bone in the periphery of the lesion (Figure 2).

FNAC of the tumor revealed only clusters of cartilaginous cells. Suggesting a cartilaginous tumor. The lesion was then managed by curettage and autologous bone grafting.

Histological study of the lesion identified a highly cellular neoplasm. Tumor cells have sharply defined cytoplasmic borders with single eccentric nuclei, sometimes having a nuclear grooves signifying the chondroblastic nature. Osteoclastic type of giant cells were randomly seen amid chondroblasts. (Figure 3). There was no obvious cytological features of malignancy like cellular atypia, mitotic figures. Final histopathological diagnosis was chondroblastoma.

DISCUSSION: The peak incidence of chondroblastoma is in the second decade of life with a male predominance.¹ Pain is the most common symptom and is usually present for less than a year.⁵ All these characteristic features of chondroblastoma were present in the present case.

Chondroblastomas usually originates from epiphyseal and apophyeal regions of long bones like humerus, tibia or femur. Rarely this tumor originates from small bone of foot like talus and only a few cases have been reported.⁶⁻⁹ All these sporadic cases including ours noted in young adults and pain with swelling were chief complains.

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Chondroblastomas are typically located in the epiphysis, having a relative circumscription simulating giant cell tumors (GCT) of bone. Clinically, GCT occurs after skeletal maturity. Radiologically, presence of a sclerotic rim signifies a chondroblastoma. Microscopically, presence of fibrochondroid matrix, fine calcifications, smaller, unevenly distributed giant cells, and mononuclear cells with nuclear grooves supported such lesion to be a chondroblastoma. All these features were observed in the present case.

In contrast GCT is characterized by a fairly dense mononuclear cell population, amid which uniformly distributed multinucleated giant cells are placed. Mononuclear cells have round to oval nuclei, granular chromatin with one or two nucleoli. The nuclei of the giant cells are identical to the mononuclear cell. The possibility of an aneurysmal bone cyst should also to be excluded. Such lesion typically does not involve the epiphysis contains collagenous septa with hemosiderin and lacks chondroid differentiation and nuclear groove.

The matrix of chondromyxoid fibroma may sometimes resemble chondroblastoma, and both lesions can contain numerous osteoclast-like giant cells. However chondromyxoid fibroma is almost never epiphyseal, having a distinct lobular growth pattern, lacks nuclear characteristics of chondroblastoma. Radiologically clear cell chondrosarcoma may show an epiphyseal lesion with calcifications and relative circumscription. However the characteristic histopathological appearance (large, clear cells having well-defined cytoplasmic borders, prominent macronucleoli and delicate osteoid matrix,) differentiate this tumor from chondroblastoma.¹⁰

Management is directed at removal of the tumor with preservation of the articular cartilage.⁸ Present case was treated with curettage and filling up the area with bone graft. One such case was managed by transfer of an osteochondral autograft from the ipsilateral femoral condyle.⁸ Recurrence rate was 13.8% in the series by Schajowicz et al¹ while it was 6.6% in the study by Dahlin et al.¹¹ Such complication was not noted in the present case and the patient was asymptomatic in two years of follow up. The local recurrence occur usually within two years.¹²

The present case represents a rare cartilaginous tumor that has occurred in an uncommon skeletal location. The tumor was diagnosed histopathologically with the support of clinical and radiological features after excluding similar kind of lesions that may occur in this site and facilitated its appropriate management.

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Figure 1: Body of the talus showing a lytic area surrounded by a thin rim of sclerotic bone as depicted in by X-ray.

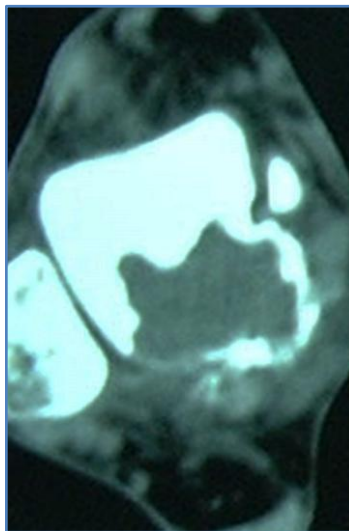


Figure 1

Figure 2: A thin rim of bone in the periphery also seen in CT scan.

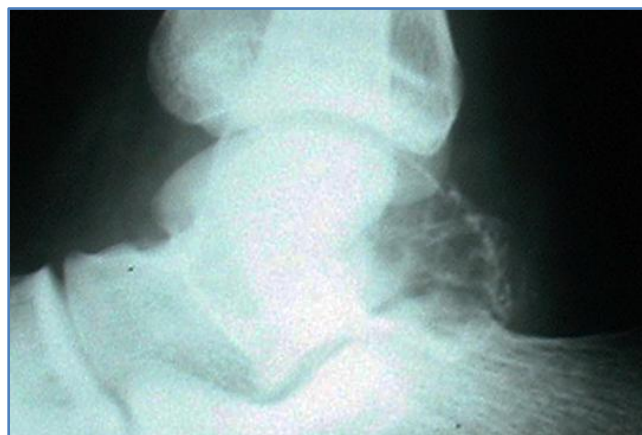


Figure 2

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Figure 3: Microscopically the mass is highly cellular along with nodules of chondroid material along with Osteoclastic type of giant cells dispersed among chondroblasts (H&E x 50).

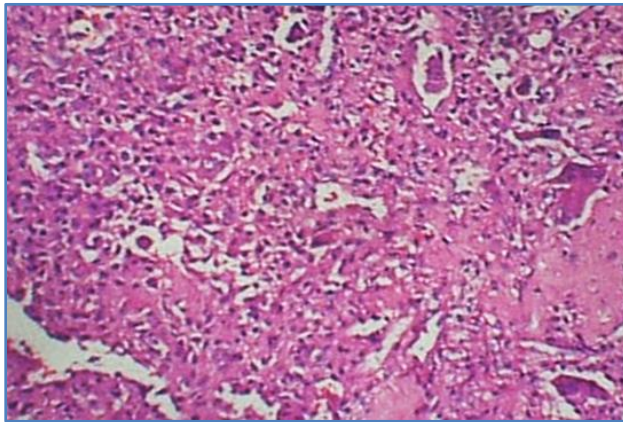


Figure 3

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