The Professional Medical Journal
www.theprofesional.com

DOI: 10.29309/TPMJ/2019.26.09.4029

CASE REPORT
PROF-0-4029

GIANT CELL TUMOR CUBOID: A RARE CASE REPORT.

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Article received on:
22/09/2018
Accepted for publication:
20/02/2019
Received after proof reading:
28/08/2019

ABSTRACT: Osteoclastoma (Giant Cell Tumor) of Cuboid bone is a rare bone tumor. GCT is primarily seen in metaphyseo-epiphyseal region of long bones after skeletal maturity. This patient is a 17 years old female, presented with painful swelling of the right foot. On conventional radiographs, there is osteolytic lesion in Cuboid bone of right foot. En bloc resection and autologous bone grafting (iliac crest) was done. Patient's pain and swelling disappeared following the procedure and there is no evidence of recurrence at 18 months follow up.

Key words: Adolescent, Bone Neoplasm, Cuboid, Giant Cell Tumor of Bone, Human Tarsal Tumor.

Article Citation: Kumar M, Ahmed M, Saleem M, Sahar K. Giant cell tumor cuboid: a rare case report. Professional Med J 2019; 26(9):1597-1599. **DOI:** 10.29309/TPMJ/2019.26.09.4029

INTRODUCTION

Giant cell tumor (GCT) is not a very common non malignant bony tumor usually involve the epiphysis of long bones after closure of physis. It is labeled as benign aggressive tumor[1] and its location in small bones of foot is very low (< 1.2%) (8). In the small bones, it behaves more aggressively compared to other common locations and it has preponderance to female gender.[2]

We present a case of a giant cell tumor of the right Cuboid bone with en bloc resection and bone grafting.

CASE REPORT

A 17 year old, unmarried female came in outpatient department with h/o swelling over right foot since 2 years. Examination shows small 4x 4 cm, tender, non fluctuating, uneducable, non transilluminating, hard, fixed swelling, with overlying skin mobile and smooth, present on lateral border of foot just at the base of 5th metatarsal. X-ray shows an osteolytic lesion involving Cuboid of right foot with clear margins visible. Bone scan shows increased tracer uptake in right foot at right Cuboid bone showing primary pathology with no mets. MRI with contrast shows, abnormal solid to cystic components measuring 3.1x 4.7 x 3.6 cm in its AP, Transverse and craniocaudal dimension, abutting adjacent tarsal and metatarsal without evidence of their infiltration. Excision biopsy performed with iliac bone grafting was done. Histopathology shows GCT of Cuboid with secondary areas of aneurysmal bone cyst. Patient followed with MRI for 18 months and no recurrence is seen.

Pre op X-ray **Post op/follow up 12 months**

DISCUSSION

Giant cell tumors usually seen in age 20-40 years. About 70% present at distal femur or upper tibia it is also commonly seen in distal radius.[1] About less than 1% of all musculoskeletal neoplasia are found in foot mostly affecting epiphysis of tubular bones and about less than 2% emerged in small bones of the foot.[11,16] An incidence of 4% and 2.9% has been reported by O'Keete et al[12] and Biscaglia et al.[3] About 50 % cases of GCT in foot is located in Talus bone.[8,14] Phalangeal bones of the foot are also been reported in our literature.[6,10] Osteoclastoma of foot have tendency to occur in a younger age groups and unlike other tumors it has preponderance to female gender. Clinically and radiologically, this tumor behaves more aggressively in the small bones compared to other sites.[2,8,12,13] Patients usually present with rapid progression of pain and swelling of the foot, and they tend to diagnosed late as treated initially for non specific foot problems.[13] GCT, when involves long bones especially femur/tibia, it is present eccentrically into metaphysis / epiphysis reaching upto articular margin and there is no periosteal reaction until it breach the cortex (Campanacci grade III)[17] However, radiologically other location demonstrates non specific patterns.[9] It is critically important to differentiate GCT histologically from other lesion which also contains giant cells (Aneurysmal bone cyst, chondroblastoma etc) affecting foot.[13] Histologically, Osteoclastoma has giant cells with multiple nuclei (upto 50 per cell) admixed with oval/ round stromal cells.[7,8] The most effective treatment option in GCT is curettage and filling the defect with iliac cortio-cancellous bone graft, fibular graft (middle 1/3rd)[5,13,16] or with Polymethyl methacrylate (PMMA) bone cement in non cortical breached cases and it is also found to be effective procedure that provide immediate stability for early post operative rehabilitation.[15] High recurrence rates of 40-60% has been reported if the tumor is treated with extended curettage and bone grafting only[3,8,12] It has been reduced after use of phenol[4], Hydrogen peroxide treatment, cauterization of cavity[9] or en bloc resection of the affected bone.[2] We chose en-bloc resection of Cuboid bone with iliac crest cortical bone graft because of suspicion of malignancy.

CONCLUSION

Cuboid bone is a very uncommon location for Giant cell tumours. Osteoclastoma in foot, predominantly affecting females especially younger and shows aggressive behavior. Due to high incidence of local recurrence, an aggressive curettage or en bloc resection with or without bone grafting is treatment of choice.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Mukesh Kumar	Cheif author, Main concept.	
2	Masroor Ahmed	Review of literature, reification and review	
3	Muhammad Saleem	Analysis and interpretation.	
4	Khurram Sahar	Verification of findings.	