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Dr.Mazharuddin Ali Khan., Dr.Chinnala Srujan Kumar
and Dr.Sarosh Haidry



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Case Report

OSTEOCHONDROMA PRESENTING AT A RARE SITE: A CASE REPORT

Dr.Mazharuddin Ali Khan^{1*}, Dr.Chinnala Srujan Kumar² and Dr.Sarosh Haidry³

1Department of Orthopaedics, Professor and Head of the Department,
Deccan Collage of Medical Sciences

2Department of Orthopaedics, Post-Graduate, Deccan Collage of Medical Sciences

3Department of Orthopaedics, Post-Graduate, Deccan Collage of Medical Sciences

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ABSTRACT

Osteochondromas are the most common benign tumours of the bone with an incidence of 30% to 40% [1]. These lesions are thought to arise due to congenital defect in perichondrium [1] or due to some deficiency in containment of the physis. However the discovery of the cytogenetic aberrations involving the EXT genes (in both sporadic and hereditary forms, and in solitary as well as multiple lesions) it became clear that this is another developmental bone lesion that is now best regarded as neoplasm. Literature describing involvement of other anatomic sites is scarce. These can arise in any bone which is formed from cartilage [2]. These generally occur near the growth plates of long bones and most commonly form around the shoulder or knee [1]. Osteochondromas around small bones of foot are rare as seen in our case.

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INTRODUCTION

Case presentation

A 12 year old male child presented to the outpatient department with swelling over the left foot dorsum with mild pain. Swelling was insidious in onset and slowly progressive in nature. On local examination there was a small, hard, non-tender swelling with diffuse margins, with irregular surface over the dorsum of left mid foot region proximal to fourth toe, of size 4 X 3 cm, with no surrounding engorged vessels (Fig 1).



Figure 1 Surface examination of the swelling over the left dorsum of foot.

Both anteroposterior and lateral view of plain radiographs revealed a sessile lesion covering a wide area over the proximal and dorsal cortex of fourth metatarsal bone metaphyseal region, causing scalloping and mild erosion over the adjacent cortical surface, with partial calcification near dorsal surface the lesion seen(Fig 2a,b).



Figure 2a Radiograph of an antero-posterior view of the left foot showing a sessile lesion covering a wide area over the proximal cortex of fourth metatarsal bone.

*Corresponding author: Dr.Mazharuddin Ali Khan

Department of Orthopaedics, Professor and Head of the Department, Deccan Collage of Medical Sciences



Figure 2b Radiograph of a lateral view of the left foot showing a sessile lesion covering a wide area over the proximal and dorsal cortex of fourth metatarsal bone.

MRI showed lobulated mixed intense areas predominantly hyper intense in proximal part of fourth metatarsal causing scalloping of adjacent cortical surface with normal ligaments around the ankle joint (Fig 3).



Figure 3 Plain MRI of left foot dorsum showing lobulated mixed intense areas predominantly hyper intense in proximal part of fourth metatarsal.

A benign lesion was suspected with possibilities of periosteal chondroma, osteochondroma, non-ossifying fibroma, chondro fibroma and aneurysmal bone cyst, rest of the investigations including serum uric test, urine examination, serum alkaline phosphatase, thyroid profile, liver, renal function tests and nerve conduction studies were normal. The lesion was properly excised and thoroughly lavaged and bone wax was placed. On gross examination there was a bony lesion covered with cartilage measuring about 3 x 2.5 x 1.5 cm was observed (Fig 4). Histologically sections of specimen showed elevated growth of bone having thick perichondrium at the surface with cartilage cap having well organized chondrocytes and focal enchondral ossification. The underlying bone showed thin bony trabeculae widely separated by mature adipose tissue,

suggestive of osteochondroma (Fig 5). The postoperative period was uneventful and pain gradually subsided, with healed wound and no discharge, at follow up after a month wound healed completely with any signs of recurrence.



Figure 4 Gross examination showing a bony lesion covered with cartilage measuring about 3 x 2.5 x 1.5 cm.

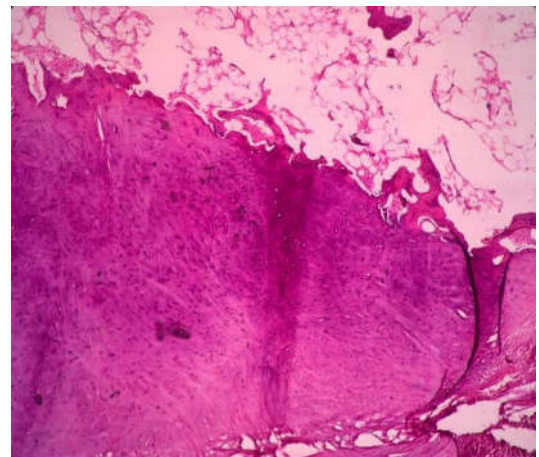


Figure 5 Histopathology identifies swelling as osteochondroma.

DISCUSSION

Osteochondromas are cartilage-covered bony out growth and has a marrow containing medulla that is in continuity with the medulla of the bone from which it arises. Osteochondromas or exostoses are benign bone tumours. They are usually asymptomatic and commonly they present as painless bony hard swellings around the growing ends of long bones like femur and tibia [3]. Most frequently treatment s done for cosmetic reasons. Pain presents secondary to fracture through stalk of pedunculated osteochondromas, malignant change or pressure at the local area that is over surrounding nerves and vessels [4]. In our case with dorsal foot osteochondroma, patient had difficulty that is mild pain while walking. X-rays are usually diagnostic which show cortex and medulla of swelling continuous with that of parent bone. CT scan may be needed in certain situations where swelling is not easily visible as in case of volar scapular osteochondromas to make diagnosis [3]. Osteochondroma always grows away from the joint and never has structures attached to it. Histopathological examination also confirmed the diagnosis [5]. Extraperiosteal resection is the treatment of choice. Recurrences are usually common. Osteochondroma around metatarsals are very rarely

encountered. Only few case reports have published about metatarsal osteochondromas till date. Yildirim *et al* [9] in 2010 reported solitary giant osteochondroma of fifth metatarsal in army recruit. Shtofmakher *et al* [10] in 2015 and Molitor [11] in 1997 reported symptomatic osteochondroma arising from first metatarsal. All of these patients presented with pain on weight bearing. We also had a similar experience. Our patient also had dull aching pain on dorsal aspect of left foot on weight bearing.

CONCLUSION

Osteochondromas have different symptoms, depending on the site of occurrence. This case is primarily presented due to its presence in a rare site, the importance lies in the differential diagnoses of Osteochondroma in a rare site which resembles tumor either benign or malignant based on gross and radiological examination. So in patients presenting with bony swellings around small bones of feet, differential diagnosis of osteochondromas should be kept in mind. Radiology and histopathological examination plays a vital role in diagnosis of Osteochondroma and hence helps in appropriate treatment plan of the case.

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