

An Unusual swelling in Tibia: Osteochondroma in an Adult

Nareshkumar Satyanarayan Dhaniwala¹, Sohael Khan¹, Shashank Jain¹, Mukund Naresh Dhaniwala¹

Abstract

Introduction: Osteochondroma is the most common benign tumor of skeletal system arising in a young child and growing during childhood to adolescence. Its growth ends when epiphyseal plate closes. Growth of an osteochondroma in an adult suggests the possibility of malignant transformation. Onset of osteochondroma in an adult is very rare [1].

Case Report: The case report here under describes an unusual swelling in a 40 years female in upper metaphyseal part of tibia. The tumor was excised from its base and did not show any recurrence at 6 months follow up. Histopathological diagnosis was Osteochondroma. The case is reported for its rarity in adult population.

KeyWords: Osteochondroma, adult

Introduction

Osteochondroma is a common skeletal tumor seen mostly in children. It presents with swelling, cosmetic problem, mechanical blockade or rarely malignant transformation. The tumor is mostly treated by adolescent age and is rarely seen in adults. Its common complications are bursitis, snapping tendon, mechanical blockade to movement, rarely pressure on neural & vascular structures, pathological fracture and malignant transformation. It is rare in adult, though untreated or recurrent tumors may be seen. We describe an adult onset osteochondroma in upper tibia due to its rarity.

Case Report

A 40 years female presented with slow progressive swelling in front of right knee for 3 years. The swelling had started spontaneously and gradually progressed from peanut size to the size of a small ball. The patient consulted a private practitioner 1 year after the onset of the swelling when X-ray and CT scan were done and she was advised surgery. The patient then went to an ayurvedic practitioner who advised application of ointment over the swelling after which the patient felt severe irritation and developed wound which healed with superficial scarring of the skin overlying the swelling. There was no history of trauma, fever, loss of weight or appetite or swelling in any other part of the body. There was no history of any swelling present in the past at the site of present swelling. Examination revealed an average built and average height lady without any abnormal findings on general and systemic examination. Local examination of the right knee showed single swelling in front of upper third right tibia, size approximately 8cm x 8cm situated obliquely from shin of tibia

toward medial aspect and going upto the knee joint level (Fig.1). The skin overlying the swelling was scarred and thin, and certain areas were having blackish discoloration. Local temperature was slightly raised, and mild tenderness was present all over the swelling. Swelling was oval in shape and its margins were well defined. Surface was lobulated and consistency was uniform and hard. Swelling was attached to the anteromedial aspect of tibia with a wide base. Skin was free from swelling and swelling could not be moved from bone. Knee and ankle movements were normal. X-ray right knee (Fig.2) showed dense sclerotic mass arising from anterior aspect of upper tibia and extending medially towards the knee. There was no joint involvement. There was no differentiation of cortex and marrow in the swelling as seen in normal cases of Osteochondroma. Blood investigations were within normal limit. CT scan of the right knee (Fig.3) showed large irregular pedunculated bony outgrowth arising from proximal metaphysis of tibia projecting anteriorly without any soft tissue involvement typical of Osteochondroma. The tumor was managed by excision from its base along with the overlying periosteum. The postoperative period was uneventful. Histology of the excised specimen (Fig.4&5) showed benign spindle nuclear cell proliferation intervened by areas of collagenization and hyalization. Small round areas of ossification were seen in the areas of proliferation. The spindle cells were seen proliferating in between bony trabeculae without any destruction. There were no osteoclastic or malignant cells. The findings were suggestive of Osteochondroma. The case did not have any postoperative complication. At 6 months follow up there is no complaint or recurrence. The patient continues in further follow up.

Discussion

Osteochondroma are developmental lesion rather than true neoplasm. These may occur as solitary or multiple lesions as part of multiple exostosis [1]. These tumors are most common around knee [2]. 70% to 80% of these lesions are described in age less than 20 years and osteochondroma growth into adulthood is rarely reported [3,4]. Osteochondroma in an

¹Department of Orthopedics, Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences (Deemed University), Sawangi (M), Wardha

Address for correspondence:

Dr. Nareshkumar Satyanarayandhaniwala,

M2/2, Meghdoot Apartments, Paloti Road, Sawangi (M), Wardha 442107

Email: nsdhanawala@gmail.com



Figure 1: Clinical photograph of the knee showing swelling and scarred skin

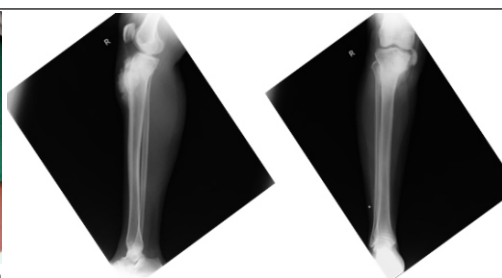


Figure 2: Shows dense sclerotic swelling arising from anteromedial aspect of tibia

childhood, thus excluding multiple exostosis or untreated osteochondroma. Post traumatic ossification can also be excluded in the absence of any trauma, local massage or decrease in the size of swelling with time. Reactive periostitis leading to new bone formation or Bizarre Parosteal Osteochondromatous proliferation (BPOT) also known as Nora's lesion are other rare possibilities. Clinically the tumor had classical features of



Figure 3: CT scan cuts showing size and location of swelling

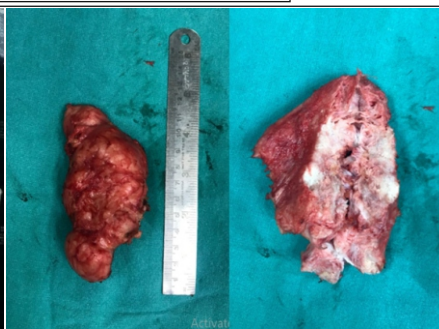


Figure 4: Excised specimen and its cut surface showing lobulated surface and osseocartilaginous tissue

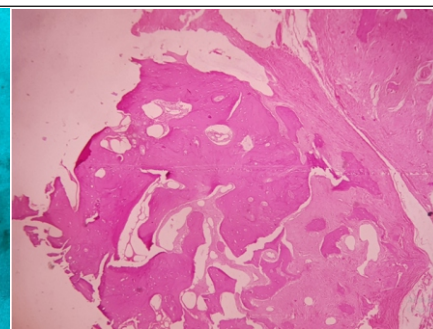


Figure 5: Histology slide showing bony and cartilaginous components

adult are commonly seen as part of multiple exostosis or untreated osteochondroma in childhood. The tumor starts in childhood and grows with the growth of child. Its growth ceases on skeletal maturity. However, growth of an osteochondroma in an adult may occur due to malignant transformation or due to overlying bursitis. Vivek AN described an osteochondroma arising from talus bone in a 60-year-old[5]. Benign osteochondromas have been reported to show symptomatic growth in skeletally mature patient without malignant transformation[3, 6]. Recurrence of osteochondroma is also described and recurrent tumor may not show features of malignancy[7]. The present case is rare as the patient did not have any swelling at the involved part or in any other bone since

osteochondroma, though on x-ray it did not show differentiation of cortex and medulla. This feature is seen in Ossifying fibroma also [8]. CT scan showed typical findings seen in Osteochondroma. Histological picture reported as Osteochondroma is also similar to Ossifying fibroma which is commonly seen in jaw bones. Review of histological slide by different pathologist also indicated the possibility of Ossifying fibroma. Treatment for both these tumors remain excision and follow up. Thus, this case can be considered as a rare adult onset Osteochondroma unlike the cases described earlier in which growth in adult was seen either due to recurrence or complications already known[3,5,6,7]. However, further long-term follow-up is needed to note any recurrence or complication.

References

1. Murphey MD, Choi JJ, Kransdorf MJ, Flemming DJ, Gannon FH. Imaging of osteochondroma: variants and complications with radiologic-pathologic correlation. *Radiographics*. 2000;20:1407-1434[PubMed]
2. Blitz NM, Lopez KT. Giant solitary osteochondroma of the inferior medial calcaneal tubercle: a case report and review of the literature. *J Foot Ankle Surg*. 2008;447:206-212[PubMed]
3. Nogier A, De Pinieux G, Hottya G, Anract P. Case reports: enlargement of a calcaneal osteochondroma after skeletal maturity. *Clin Orthop Relat Res*. 2006;447:260-266[PubMed]
4. Gregor G, Catanzariti AR. Osteochondroma: review of the literature and case report. *J Foot Surg*. 1992;31:298-300[PubMed]
5. Vivek AN. An Unusual Swelling at Ankle: An Osteochondroma in Adult? *Indian Journal of Clinical Practice*. 2013;24:65-68
6. Krieg JC, Buckwalter JA, Peterson KK, el-Khoury GY, Robinson RA. Extensive growth of an osteochondroma in a skeletally mature patient: a case report. *J Bone Joint Surg*. 1995;77:269-273.[PubMed]
7. Mustafa Koplay, Serdar Toker, Levent Sahin, Volkan Kilincoglu. A calcaneal osteochondroma with recurrence in a skeletally mature patient: a case report. *Cases Journal* 2009;2:7013.
8. Dhaniwala NS, Dhaniwala MN. Atypical ossifying fibroma of forearm bones. *Indian Journal of Orthopedics Surgery*: 2018;4(2):214-216

Conflict of Interest: NIL
Source of Support: NIL

How to Cite this Article

Dhaniwala N S, Khan S, Jain S, Dhaniwala M N. An Unusual swelling in Tibia: Osteochondroma in an Adult. *Journal of Trauma and Orthopaedic Surgery* July-Sep 2018;13(3): 23-24