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A Calcaneal Osteochondroma an Atypical Localization

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Abstract: Calcaneal osteochondroma is extremely rare, less than 1% osteochondromas which arise from tarsal bone. We are reporting a case of osteochondroma of calcaneum in a 33years old male who presented with chief complaints of mass over left heel and difficulty in walking from two years. The patient had traumatic injury two years back over left heel and after that he noticed swelling which was gradually increasing in size. There was no history of fever and spontaneous regression during the entire period of presentation. On clinical examination he was found to have swelling over calcaneal bone. On radiographic evalution an irregular, sessile, lytic mass which arose from calcaneum? The patient was offered surgery in view of duration and severity of his symptoms. On histopathological examination on gross it was 8x6cm in size with 0.5cm smooth cartilage cap over it and microscopically it is dignosed as osteochondroma. Osteohondromas of the skeleton are common in age group of 30 years but osteochondromas which involve calcaneum are relatively rare presentation. Cartilage cap thickness greater than 1-2cm in adults suggests malignant transformation. It is therefore necessary to manage these lesions through an appropriate, surgical, timely intervention, to prevent malignant transformation.
Keywords: Calcaneum, Osteochondroma, bone, lytic, cartilage.

INTRODUCTION

Osteochondroma are most common benign osseous neoplasm. Osteochondroma are seen in 2% to 3% of general population and they represent approximately 36% to 41% of the cases with benign bone tumours [1], about 60% of these occur in patients who are below 30 years of age and about 63% of the pateints are male [2]. Osteochondroma or exostoses are abnormal growths of the cartilage on the surface of bone, which are inherited as an autosomal dominant trait. Some have multiple exostoses that carry a more significant risk of a malignant transformation [3]. In the foot and ankle, osteochondromas are uncommon. calcaneous is one of the most unusual regions for an osteochondroma. In this study we describe the clinical and radiological findings of a calcaneal osteochondroma.

CASE REPORT

We are reporting a case of osteochondroma of calcaneum in a a 33years old male who presented with chief complaints of mass over left heel and difficulty in walking from two years. The patient had traumatic injury two years back over left heel and after that he noticed swelling which was gradually increasing in size. There was no history of fever and spontaneous regression during the entire period of presentation. On clinical examination he was found to have swelling over calcaneal bone, there was no family history of such swelling. As shown in Figure No. 1 & 2, on radiographic evaluation an irregular, sessile, sclerotic mass of size 9x6cm with lytic areas, which arose from calcaneum? The patient was offered surgery in view of duration and severity of his symptoms. On histopathological examination on gross it was 8x6cm (shown in figure 3) in size with 0.5cm smooth cartilage cap over it and microscopically it is diagnosed as osteochondroma as shown in Figure No. 4.

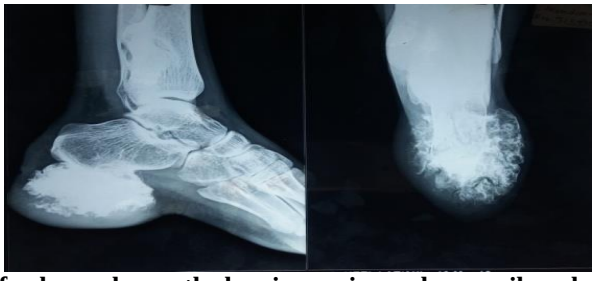

Fig-1: Radiological picture of calcaneal growth showing an irregular, sessile, sclerotic mass of size 9x6cm with lytic areas, which arose from calcaneum

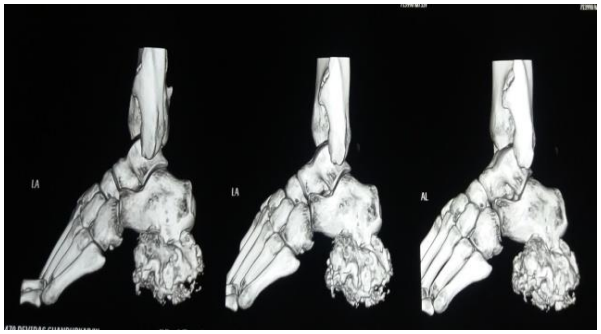

Fig-2: Radiological picture, a three dimensional reconstruction of growth on CT showing cartilage cap thickness of 0.5 cm surrounding sclerotic growth

Fig-3: Gross pictures of calcaneal growth shows whitish cartilaginous cap covering hard bone

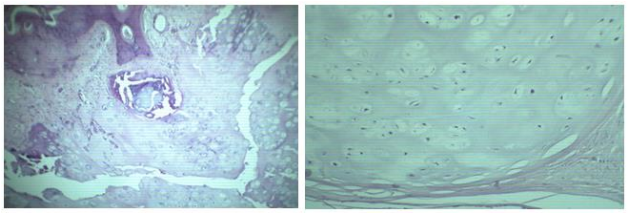

Fig-4: Microscopic picture of calcaneal growth showing fragments of cancellous bone, with cartilaginous cap suggestive of osteochondroma

DISCUSSIONS

Osteochondromas are developmental lesions rather that true neoplasm, there presentation may be solitary or as multiple lesions seen in multiple hereditary disorders [5]. The most common symptom is a nontender, painless cosmetic deformity secondary to the slowly enlarging exophytic mass. Additional complications that cause symptoms include osseous deformity, fracture, vascular-nerve compression, neurologic sequelae, bursa formation, and malignant transformation [6, 7]. Histological examination of cartilaginous cap is suggestive of a malignant transformation if it is more than 2cm thick. Malignant transformation is seen in less than 1% to 2% of patients of solitary osteochondroma and in 5%-25% of patients with multiple hereditary exostoses [8, 9]. Clinical features suspicious for malignant transformation comprise new onset of pain in a previously stable lesion, rapid or new growth, growth after skeletal maturity, and/or large lesions.These lesions are usually a low-grade chondrosarcoma or less often a secondary osteosarcoma [10, 11].

The treatment of osteochondromas is conservative or surgical (excision). Stable, small asymptomatic lesions can be treated conservatively. If the lesion is large and causes discomfort in daily activity or exhibits signs of malignant transformation should be treated surgically. A marginal resection is adequate and shows a low rate of recurrence. Any remaining cartilage cap may result in recurrence, especially in growing lesions. The histological finding guides for assessing the risk of recurrence as recommended by Blitz *et al*. [3] in his case series.

Nogier *et al*. [8] suggested the need of a surgical intervention (excision) for these tumours, for relief from pain.

CONCLUSION

Benign osteochondromas can represent symptomatic growth in skeletally mature patients without malignant transformation and surgical excision gives complete symptomatic relief. Histopathological confirmation of the lesion and aggressive search for malignant transformation zone is the key to prevent recurrence.

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