

## Osteochondroma of Calcaneum – A Case Report

Dr. Christopher L Hmarj<sup>1</sup>, Dr. Sanjib Waikhom<sup>2</sup>, Dr. A. Mahendra Singh<sup>3</sup>

Dr. Santosha Koteshwara<sup>1</sup>, Dr. P.Hegin Tungdim<sup>1</sup>

<sup>1</sup>(Resident, Department of Orthopaedics, R.I.M.S, Manipur University, India)

<sup>2</sup>(Associate Professor, Department of Orthopaedics, R.I.M.S, Manipur University, India)

<sup>3</sup>(Professor, Department of Orthopaedics, R.I.M.S, Manipur University, India)

**Abstract:** Osteochondroma is the most common benign tumour of the skeleton. However calcaneal osteochondroma is very rare. They are known to grow during childhood through adolescence, but usually are arrested when the epiphyseal plates close. Growth in adults may suggest a malignant transformation. A 20 year old male with calcaneal osteochondroma is presented here. Excision and subsequent follow up for 2 years showed no malignant transformation nor recurrence.

**Keyword :** calcaneal osteochondroma

### I. Introduction

Osteochondroma is one of the most common benign tumor of the skeleton accounting for 36% to 41% of all such tumours<sup>1</sup>. It usually arises from metaphyseal region of long bones of appendicular skeleton. They are most commonly seen in the long bones of lower extremities usually in the lower end of femur and upper end of tibia<sup>2</sup>. They grow during childhood through adolescence but usually stops when the epiphyseal plates fuse. In an adult, growth of an osteochondroma may suggest a malignant transformation to chondrosarcoma. Calcaneus is one of the most unusual region for an osteochondroma<sup>3</sup>. We present a case of osteochondroma of calcaneum.

### II. Case Report

A 20 year old male presented to our hospital with a complaint of a swelling over medial aspect of the right foot since two years. It was slowly growing in size. Initially it was not associated with pain but since the last three months patient had pain at the site of swelling.

On examination, a bony hard swelling of 2x2 cm was found just below the medial malleolus of right heel. Swelling was non tender and immobile. Skin over the swelling was normal. Ankle and subtalar range of motion was within normal range.

Radiological examination revealed 2x2 cm sclerotic lesion with irregular margin arising from inferior aspect of sustentaculum tali. CT scan revealed a sclerotic lesion with irregular margin and a cartilage cap. The position was confirmed. (Fig. 1).

During operation, it was observed that the lesion arise from the inferior aspect of the sustentaculum tali and was deep to the posterior tibial nerve. A 2x2 cm bony mass was excised (Fig. 2) completely and send for histopathological examination.

Histopathology revealed a fragment of cancellous bone, with a cartilaginous cap suggestive of osteochondroma. On follow up, patient was pain free and no lesion was detected on radiological examination and no recurrence at 2 year follow up.

### III. Figures



Fig. 1

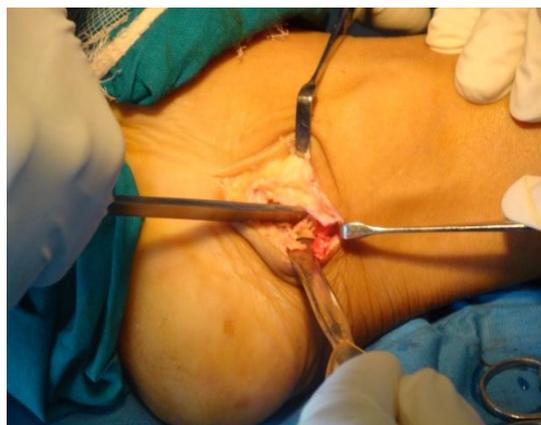


Fig. 2

#### IV. Conclusion

Osteochondromas are developmental lesions rather than true neoplasms and they may occur solitary or as multiple lesions, associated with the syndrome, multiple hereditary exostosis<sup>3</sup>. It grows by endochondral ossification. There have been many theories proposed to explain the occurrence of osteochondromas. Virchow's physaltheory<sup>4</sup>, Keith's defect in perichondral ring<sup>5</sup>, Muller's theory of presence of small nests of cartilage<sup>6</sup> are a few to mention. Current thought is that osteochondroma results because of misdirected growth of a portion of the physal plate. Osteochondroma may be sessile or pedunculated. The tumour often resembles a cauliflower and is covered by a cartilaginous cap usually 1 to 3 mm thick. The cartilaginous cap is composed of bland hyaline cartilage with no cellular atypia. Malignant degeneration should be considered if there is an increase in the thickness of cartilage which becomes evident in adult. Osteochondromas rarely become symptomatic after attainment of skeletal maturity, however secondary impingement of soft tissues (tendons, nerves, vessels), fracture through the stalk, pseudo aneurysm formation, infection, ischaemic necrosis and malignant transformation may result in appearance of symptoms in adults<sup>7,8,9,10,11</sup>. After attainment of skeletal maturity there is cessation of growth of most osteochondromas<sup>12</sup> or a very small amount of growth can still occur after physal closure<sup>13</sup>.

Small osteophytes are frequently encountered in the foot and ankle, and are not to be confused with osteochondromas, which are relatively uncommon in this region<sup>14</sup>. This report is to show that osteochondroma can occur in the calcaneum. It has a marrow and cortical continuity with the underlying bone.

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