Giant Osteochondroma lower end femur – A case report

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INTRODUCTION

Solitary osteochondroma (exostoses) are the most common benign bone disorders encountered most are benign in nature and treated with wishful neglect pain due to mechanical pressure on surrounding neurovascular structures or risk of malignant transformation is indications for surgical excision sudden increase in size associated with pain is indicator of possible malignant transformation, Treatment with surgical excision gives consistent results and relief of pain.

CASE REPORT

A 12 yr old boy presented with pain and bony swelling overlying left knee joint of 1 yr duration patient first noticed the swelling around 4 months back which the parents attribute it to a fall from a bicycle. Initially the swelling was small in size & painless and bony hard in consistency. There was no associated pain or limitation in knee movements. However since last 4 months there was pain and progressive increase in size of the swelling and associated pain on knee flexion above 90⁰ degree. There was also difficulty in running as the bony swelling rubbed against the normal knee. There was no associated fever or skin disorders or break dawn. Patient had not taken any treatment since noticing the swelling. no history of similar bony swellings was there anywhere else in the body.

Clinical Examination: Clinical examination revealed a 12 yr old male, moderately built and nourished with an oval shaped bony mass arising from the anteromedial aspect of lower end of left femur. skin over the mass was stretched but intact, on palpation the mass was pain full on deep palpation. The surface of the mass was irregular and bony hard in consistency arising from bone and immobile. The lateral knee joint line could be palpated independently suggestive of a bony swelling arising from lower metaphyseal area of femur. There were no local rise in temperature or abnormal pulsations and the edges of the mass were indistinct. The size of the mass clinically was 8 cm x 4 cm x 3 cm. Clinically there were no evidence suggestive of neurovascular compression. Range of movements at left knee was painless from 0-90 degrees. However when the patient flexed in knee beyond 90-100 There was pain and stretching of skin overlying bony mass. Clinical tests for ligaments & menisci around the knee were normal.

Investigation: Hb-15.0 gm% TC-8800/cumm DC-78/20/01/01 CRP-

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Negative Sickling –Negative

**X-ray**: X-ray of left femur with knee joint revealed a pedunculated bony mass arising from anteromedial aspect of left lower end femur.

**3DCT Scan**: 3DCT Scan of left femur with knee joint revealed a pedunculated bony mass arising from anteromedial aspect of left lower end femur.

- The modular canal of mass was continuous with that of femur cartilage cap of the mass was fluffy. Diagnosis was suggestive of osteochondroma lower end left femur.
- A skeletal survey was done to rule out multiple exostosis.

**Treatment**: We decided to treat the patient with surgical excision to confirm the diagnosis to rule out malignant transformation, to reduce pain & possible mechanical symptoms.

**Surgical Procedure**: The lesion was approached through a anteromedical approach vastus medial is muscle was blandly dissected and the bony mass with cartilage cap exposed. The lesion was excised with a cuff of normal periosteum flush with parent bone. The tumour measured 8cm x 4cm x 3cm with & cartilage cap of 1cm post operative X-ray revealed complete excision of tumour.

- The patient had an uneventful post operative period Histopathology confirmed the diagnosis of osteochondroma with no feature of malignancy. Patient had relief of pain and mechanical symptoms.

**DISCUSSION**

Osteochondroma are most common benign bone tumors encountered It is considered as a developmental physeal abnormality rather than a malignancy of primary bone. Metaphyseal end of long bones like femur, tibia and humerus are its principle location. In our case the age & location was consistent with solitary osteochondroma. The Patients & patients relative attributed the painless swelling of 1 year duration to an insignificant fall just before the appearance of swelling. The gradual & sudden increase in size and associated pain on knee movements over the last 4 months forced the patient to take medical opinion. several studies have documented the likehood of malignant transformation if there is sudden increase in size of solitary osteochondroma with associated pain.

- Due to large size of the exostoses, in addition to pain during knee movements, there was also associated mechanical obstruction to the other knee when the patient used to run for sporting or other activities. Although most solitary osteochondroma are asymptomatic, pain due to mechanical compression of surrounding neurovascular structures or fractures of the stalk are common symptoms to seek medical attention. In addition to pain, cosmetic deformity is also a major factor to seek opinion & to undergo surgical treatment. The main reason for seeking medical opinion in our patient apart from pain was the cosmetic deformity. The X-rays appearance was typical of osteochondroma However, the cartilage cap was small & indistinct various studies have mention about the size of cartilage cap as a predictor for malignancy with a cartilage cap of more
than 2 cm after skeletal maturity indicative of malignant transformation. In our case, the presence of pain, limitation of knee movements, cosmetic deformity and the rare possibility of malignant transformation prompted us to perform surgical excision of the tumor. The tumor was excised completely with a cuff of normal periosteum. Patient had complete relief of his symptoms post-op. Histopathology confirmed the diagnosis of osteochondroma with no malignant transformation.

**CONCLUSION**
Giant osteochondroma usually present for cosmetic deformity as well as symptoms produced due to mechanical compression of surrounding structures, sudden increase in size with associated pain should raise a suspicion of malignant transformation. The size of the cartilage cap should be measured and is a measure of malignant transformation. Surgical excision gives consistent relief of pain and cosmetic deformity and improves range of motion if restricted.

**REFERENCES**
2. Unni, K. K.: Osteochondroma (osteocartilaginous exostosis). In Dahlin’s Bone Tumors: General Aspects and
5. Bone and soft tissue pathology (pg331-335) -andrew l.folpe, carrie y .inwards- a volume in the series FOUNDATIONS IN DIAGNOSTIC PATHOLOGY, copyright 2010 by saunders an imprint of Elsevier, inc