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Osteochondroma of Neck of Femur- A Case Report

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Abstract : Osteochondromas are benign tumors containing both bone and cartilage, usually occurring near the end of a long bone. Osteochondromas of the femoral neck are somewhat atypical and rare. They are usually asymptomatic. We present a rare case report of femoro acetabular impingement, the cause being osteochondroma of neck of femur. A 44 year old male presented with complaints of pain left hip for three months and inability to lie down flat on bed. Examination revealed restriction of extension, abduction and external rotation of left hip. No other palpable masses in the body. Radiograph revealed a fluffy pedunculated mass arising from femoral neck. CT scan showed the precise location and extent of the mass. Through posterior approach to hip, mass was removed and intraop full range of movements achieved. Femoral neck was intact. Excised specimen sent for Histopathology examination. Patient was symptom free from immediate post operative period. Histopathology report came as Osteochondroma confirming our clinical diagnosis. Full weight bearing was started immediately. Patient explained about possibility of recurrence as tumour was removed piecemeal. A rare possibility of osteochondroma of neck of femur should be included in the differential diagnosis of femoro acetabular impimgement. Although rare after skeletal maturity, this possibility should be thought of even in adults. Histopathological confirmation is mandatory to rule out secondary chondrosarcoma in these lesions.

Keyword :osteochondroma, femoral neck, Femoroacetabular impingement, adult.

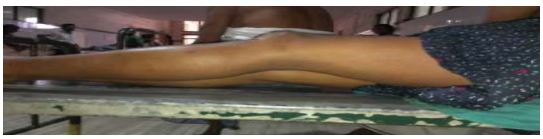

Fig.1

Introduction :

Osteochondroma, also known as Osteocartilagenous exostosis is the most commom benign tumor of bone, accounting for 35% to 50% of benign bone neoplasms and 10% to 15% of all primary bone tumors. It consists of a bony base or stalk and a cartilage cap. They usually project from the metaphyseal end of a long bone growing away from adjacent joint. Most common sites are distal femur, proximal tibia, proximal

Fig.2

humerus, distal tibia, distal fibula and proximal femur 2 . They also can develop from flat bones of the pelvis and scapula. Osteochondromas can be solitary or multiple. When multiple the condition is known as Multiple Hereditary Exostosis (MHE). They arise from atypical locations of our body. Average age of presentation of osteochondroma is 2nd decade. Osteochondromas stop growing with skeletal maturity. Symptoms caused by Osteochondromas include intolerable pain, neurologic compromise, abnormal growth, skeletal deformity, or decreased motion of the adjacent joint2. Solitary Osteochondromas arising from the femoral neck is an atypical and rare entity5. They represent an intraarticular lesion. Most osteochondromas of femoral neck are asymptomatic depending on their size and location. Osteochondromas of the femoral neck may lead to mechanical restriction of hip motion. Mechanical blocking can occur through direct contact of the osteochondroma over the acetabular rim5 . This mechanism can lead to pain and damage to the hip labrum and the adjacent articular cartilage. Nonskeletal extrinsic complications can also occur from an oteochondroma of the femoral neck. This scenario can result due to mass effect on the adjacent tissues including muscles, tendons, nerves, and vascular structures. Nerve compression is rare and presents in <1% of all cases of osteochondromas5.

Case Report:

A 44 year old man, bus driver by occupation presented to our intitution with complaints of pain in the left hip for the past three months and difficulty in extending his left lower limb in supine

Fig.3

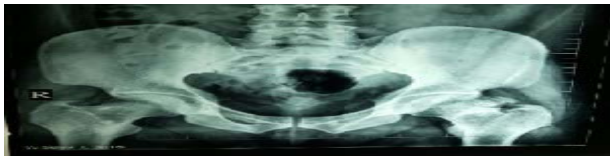

Fig.4

position for the past three years. There was no previous history of trauma, tuberculosis, steroid or alcohol intake. There was no history suggestive of inflammatory pathology either. On General examination he was moderately built and nourished, not anaemic/ icteric no generalised lymphadenopathy. On examination of left hip proper in supine position, relevant findings include exaggerated lumbar lordosis, no obvious muscle wasting or limb length discrepancy, scarpa triangle tenderness present, no palpable mass, fixed flexion deformity of 30o (Fig.1) with further flexion upto 100o restricted hip abduction (Fig.2) and external rotation (Fig.3). No distal neurovascular deficit. Clinically the differential diagnosis included arthritis and femoro acetabular impingment. Plain Radiograph of the patient showed heterogenous fluffy mass arising from neck of left femur (Fig.4). Articular surface of femoral head and acetabulum were normal and joint space was maintained. This ruled out arthritis. To further evaluate the mass, advanced imaging modality was suggested to the patient. CT scan of left hip (Fig.5) showed well defined pedunculated bony mass arising from posterior surface of neck of femur and projecting above and towards the lateral acetabular rim. Axial sections showed cortico medullary continuity of the mass with neck of femur. This clinched the radiological diagnosis as Osteochondroma of the neck of femur.

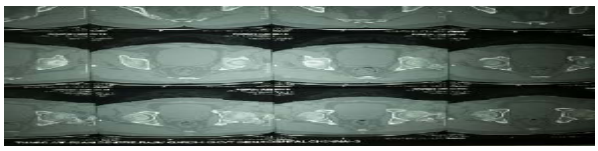

Fig.5

Preoperative planning was carried out. The indications for surgery in this patient are 1) to get relieved of symptoms and 2) to confirm the diagnosis by histo pathological examination. Hence an excision biopsy was planned. Prophylactic internal fixation was planned as standby. Since the mass was protruding from posterior aspect, a posterior approach to hip was planned. The added advantage of the approach is its extensile nature. Complete hemogram, renal and liver parameters were within normal limits. Chest x ray showed no abnormality. Pre operative consent for procedure and risk of injury to sciatic nerve were obtained from the patient.

Fig.8

Fig.6

Under spinal anaesthesia with the patient in right lateral position, the left lower limb was painted and draped. A 15cm long skin incision centering over the greater trochanter along its posterior border is made and extended towards posterior superior iliac spine superiorly and lateral border of femoral shaft inferiorly. Subcutaneous tissue and fascia were incised in line with the skin incision. Gluteus maximus insertion from linea aspera was released partially. Short external rotators were identified. Sciatic nerve was isolated and protected. After ensuring position of the sciatic nerve, short external rotators were incised1. Mass was identified and it was found that the stalk obscured the entire extent of the mass and the anatomical neck of femur. The mass was removed piecemeal along with normal periosteum. Complete hemostasis was achieved. The cortices of femoral neck were not breached, hence prophylactic internal fixation was not carried out. Intra operative range of motion was performed and was found satisfactory. Wound was closed in layers over suction drain and sterile dressing applied. Excised specimen was sent for histo pathological examination. Post operatively, recovery was uneventful with decreased pain, improved range of movements and satisfactory wound healing. Patient was allowed full weight bearing as tolerated from the next day. Post operative radiograph (Fig.6) and CT scan (Fig.7) showed complete excision of the tumour. Specimen report confirmed the diagnosis of Osteochondroma without any malignant transformation. Suture removal was done on 12th post operative day. Patient was advised to come for follow up after three months to check for recurrence.

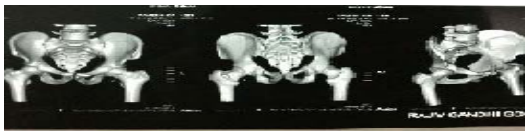

Fig.7

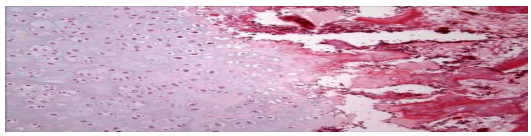

Fig.9

Discussion:

Osteochondroma of the femoral neck is rare and so far less than ten cases has been reported worldwide. During skeletal growth the lesions enlarge with the surrounding bone, and they stabilize with skeletal maturity. As the bone component of an osteochondroma forms by enchondral ossification, growing osteochondromas typically have a large cartilaginous component. As the lesions mature, the cartilage component decreases until the osteochondroma consists primarily of bone 2. The appearance on a plain radiograph establishes the diagnosis of an osteochondroma. The bony base of the mass extends directly from the medullary canal of normal bone2. Diagnosis is usually established before skeletal maturity. Adult presentation of a previously unidentified osteochondroma is even rare. Malignant transformation occurs more frequently in osteochondromas of flat bones, particularly the pelvis and scapula. This phenomenon should be suspected when an osteochondroma causes pain or enlarges in an adult. In our case it is a first time presentation of a benign lesion causing mechanical symptoms in an adult. Surgery (en bloc resection) is indicated when the lesion is large enough to be unsightly or produce symptoms from pressure on surrounding

structures, or when imaging features suggest malignancy1. Surgical approach is planned after careful pre operative planning using advanced imaging modalities such as CT. The strategic location of the mass in our case facilitated a posterior approach. In literature more complicated approaches have been described. Arthroscopic management of an intraarticular osteochondroma of the hip 4 has been described. Also Siebenrock and Ganz have described four patients with osteochondromas around the femoral neck 5. These authors used a well-described surgical dislocation approach for exposure of the osteochondromas. This approach is based on study of the vascular anatomy of the medial femoral circumflex artery and its major contribution to the femoral head. Posterior approach to hip has been used in our case. Its effect on vascularity of femoral head needs to be followed up. Also literature suggests en bloc resection of the mass, which was not possible in our case. Hence a close follow up of the patient is mandatory to look for recurrence.

Conclusion:

The possibility of osteochondroma should be kept in mind in uncommon age group and even in atypical locations with abnormal clinical presentation.

References:

1. Canale & Beaty: Campbell's Operative Orthopaedics, 11th ed.;
2. Weinstein, Stuart L.; Buckwalter, Joseph A. ; Turek's Orthopaedics: Principles and Their Application, 6th Edition
3. Chapman, Michael W.; Chapman's Orthopaedic Surgery, 3rd Edition; 3397-3399
4. Brian T. Feeley, Bryan T. Kelly ; Arthroscopic management of an intraarticular osteochondroma of the hipy.
5. Kimberly Yu, BS; John P. Meehan, MD; Anto Fritz, MD; Amir A. Jamali, MD ; Osteochondroma of the Femoral Neck: A Rare Cause of Sciatic Nerve Compression. Healio Orthopaedics ; August 2010 - Volume 33 · Issue 8

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