

Solitary Osteochondroma Of The Ilium: A Case Report

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Citation

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Abstract

Osteochondroma, also known as exostoses, is the most common benign bone tumor. Most of the cases occur around the knee. Pelvis is a rare site for osteochondroma. The authors report a case of iliac osteochondroma in a 21 year old male which was managed by en bloc resection.

INTRODUCTION

Osteochondroma is the commonest of all benign bone tumours [1]. Approximately 40% of osteochondromas are found around the knee and the most commonly involved site is the distal end of the femur [2, 3]. Ilium is a rare site for osteochondroma. The authors report a case of osteochondroma of the ilium in a 20 year old boy which was managed by en bloc resection.

CASE PRESENTATION

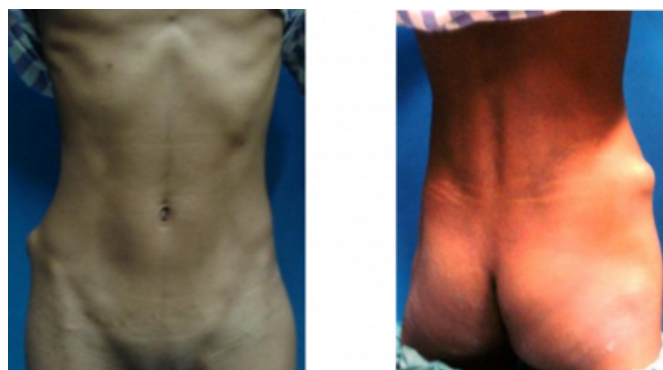
A 21 year old Indian male, student by occupation, presented with chief complaints of a swelling in the right iliac region for the last one year. This was a solitary, painless swelling which was initially the size of an almond and had slowly increased to its present size. Patient did not complain of swelling in any other part of the body. There was no history of fever, loss of appetite or loss of weight. The past medical history was insignificant; there was no history of antecedent surgery, trauma or radiation exposure. The family, occupational, recreational and drug histories were insignificant.

The general physical and systemic examinations were within normal limits.

On local examination, there was a solitary, globular swelling measuring 4x3 cm, emanating from the middle one third of iliac crest. The skin overlying the swelling was normal. The local temperature was not raised. The swelling was non tender, well defined, bony hard in consistency and continuous with the iliac crest (Figures 1&2). Regional lymph nodes were not enlarged. Examination of the ipsilateral and contralateral lower limb joints and spine was within normal limits.

Figure 1

Figures 1 & 2: Clinical photographs of the patient showing a swelling emanating from the right iliac crest.



Anteroposterior radiographs of pelvis revealed a sessile bony out growth from the right iliac crest without any evidence of focal radiolucencies or cortical destruction (Figure 3).

Figure 2

Figure 3: Anteroposterior radiographs of pelvis showing a sessile bony out growth from the right iliac crest without any evidence of focal radiolucencies or cortical destruction.



The haematological and serum biochemical tests were within normal limits.

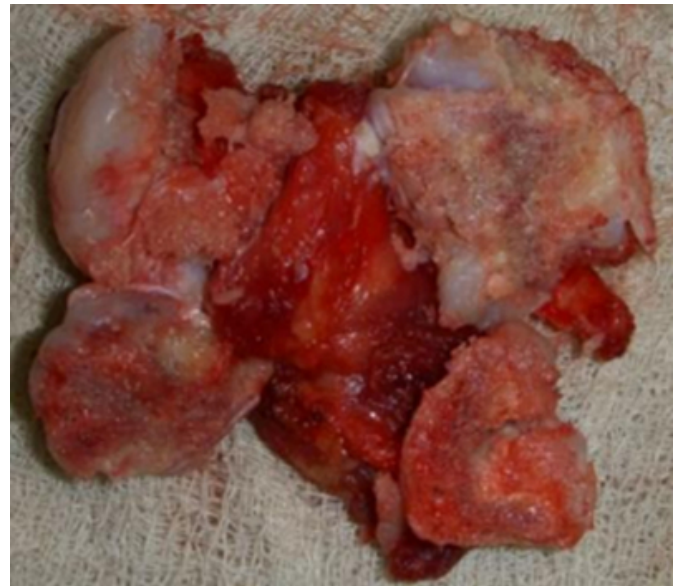
A provisional diagnosis of osteochondroma was made on the basis of clinical and radiological findings. Patient was advised MRI of pelvis, however he was from a poor socio economic background and opted not to have it done.

The condition, its prognosis and treatment were discussed at length with the patient and a decision to perform en bloc resection of the tumour was taken.

The resected specimen demonstrated a cartilaginous cap overlying the bony swelling (Figure 4).

Figure 3

Figure 4: The resected specimen, showing cartilaginous cap.



Histopathological examination confirmed the swelling to be an osteochondroma. The patient was satisfied with the cosmetic effect of the surgery and there were no instances of recurrence at one year of follow up.

DISCUSSION

Osteochondromas, also known as exostoses, account for 43.7% of all the bony neoplasms [1]. However, these are not true bone tumours since they represent developmental lesions of the bone [4]. Majority of the patients present within the second decade or earlier with a male: female ratio of 1.6 – 3.4: 1 [5].

Cytogenetic analysis has revealed that inactivation of both the copies of EXT 1 tumor suppressor gene is required for their development [3, 6]. A typical osteochondroma begins as a small overgrowth of the cartilage at the edge of the physal plate in which endochondral calcification occurs and it ultimately develops into a bony protuberance covered by a cartilaginous cap. Its growth usually parallels that of the growth plate and ceases with skeletal maturity [4]. Some osteochondromas may also arise a result of iatrogenic injury to the growth plate in the form of prior surgery or irradiation [7, 8]. They have also been reported to develop after hematopoietic stem cell transplantation [9, 10].

Osteochondromas may involve any bone that develops in the cartilage. Most frequently, these occur in the long bones of lower extremity with a maximum predilection for distal femur [4]. Less commonly, they may also be seen in short tubular and flat bones.

Pelvic osteochondromas are rare. Most of the patients present with a painless bony swelling. However, they may also present with signs and symptoms of lumbar nerve root compression [11, 12, 13].

Plain radiographs are often diagnostic, the most characteristic feature being the extension of the medullary canal of the parent bone into the osteochondroma. Radiologically, two distinct forms can be recognised i.e. sessile and pedunculated, the latter being more common and accounting for 88.2% of the cases [2].

CT scan serves as a very good modality for demonstrating the cortical and medullary continuity, measurement of thickness of the cartilaginous cap and to evaluate for signs of malignancy.

MRI is the imaging modality of choice for evaluating the thickness of the cartilaginous cap. Normally, the cap is only a few millimetres thick in adults and any thickness more than 2 cms should be viewed suspiciously [4].

Definitive diagnosis is usually established on histopathological examination. The presence of cortical and cancellous bone, both of which are continuous with the corresponding components of the parent bone, covered by a hyaline cartilaginous cap is diagnostic.

Malignant transformation into secondary chondrosarcoma can be seen in about 1% of cases with solitary osteochondromas and 5% of cases with multiple hereditary exostoses. Sudden and rapid enlargement, continued growth after skeletal maturity and development of pain in an otherwise painless swelling are important clinical signs indicative of malignant transformation. Radiological signs of malignant transformation include focal radiolucencies and destruction of the adjacent bone [4, 5].

Most of the osteochondromas can be managed by observation alone. Surgical treatment in the form of en bloc resection is usually indicated for pain, cosmetic reasons, neurovascular compromise, abnormal growth, skeletal deformity, decreased motion of the adjacent joint or in cases

with evidence of malignant transformation. Recurrences after complete surgical resection are rare and are probably caused by failure to remove the entire cartilaginous cap [4].

ABBREVIATIONS

AP = Antero Posterior CT Scan = Computed Tomographic Scan MRI = Magnetic Resonance Imaging.

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