



Case Report

Osteochondroma patellae - A case report

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How to cite this article: Ashish Devgan, Amit Batra, Shivani Dua, Vivek Bansal, Sudhir Punia, Shubham Joshi, Harnam Singh Madan, Vinit Verma, NK Magu. Osteochondroma patellae - A case report. IAIM, 2015; 2(6): 227-231.

Available online at www.iaimjournal.com

Received on: 19-05-2015

Accepted on: 26-05-2015

Abstract

Patellar tumors are rare and are usually benign as opposed to malignant tumours. The most frequent benign lesions of patella are giant cell tumor (common in adults), chondroblastoma and osteoid osteoma. A solitary exostosis is the most common benign bone tumor which occurs around the growth plate of long bones. The treatment of choice is extra periosteal resection of exostosis and ensuring complete removal of cartilaginous cap. Indications of surgery are when the exostosis is interfering or disturbing the growth of extremity, malignant transformation, presence of bone erosion, neurovascular compression, interference with joint motion, bursitis, fracture through the stalk and cosmesis. We report a rare case in an adult patient with an extra-articular skeletal osteochondroma of the patella located antero- superiorly which presented as an enlarged bursa and a bony swelling over knee joint.

Key words

Osteochondroma, Patellae, Tumor.

Introduction

Patellar tumors are rare and are usually benign (73% to 90%) as opposed to malignant tumors

(27%). Few series have been described in the literature and radiographic diagnosis can be real challenging. The most frequent benign lesions

are giant cell tumor (common in adults), chondroblastoma and osteoid osteoma [1, 2]. As per our knowledge an osteochondroma arising from patella has not yet been reported in literature. Osteochondroma or solitary exostosis is the most common benign bone tumor which occurs around the growth plate of long bones. It occurs most commonly around distal metaphysis of femur, proximal metaphysis of tibia and humerus and it usually stops growing after the closure of growth plate [3, 4, 5]. We have reported here a patient with an extra-articular skeletal osteochondroma of the patella located antero- superiorly which presented as an enlarged bursa in prepatellar region of knee and a bony swelling felt on deep palpation just superior to it.

Case report

Thirty seven years old male presented with mild pain in his left knee and a swelling of about 9 X 7 cm located on anterior part of left knee since one year (**Figure – 1**). It started increasing slowly in size over past few weeks. There was no history of any other swelling elsewhere in body and also family history was insignificant. On examination the swelling was cystic and it was movable in both planes. On deeper palpation another swelling (just above the previous swelling) which was bony hard and tender was found attached to the patella at its superior and anterior part. Its exact dimensions could not be ascertained due its deeper location but it seemed to be globular in shape. There was no local rise of temperature or any other sign of inflammation. There was mild restriction of movements of left knee. Patient also reported similar history of swelling seven years ago at the same site, which was excised by a private practitioner but no histo-pathological report was available with the patient. On plain radiograph of left knee the bony swelling was seen arising from anterior and superior surface of the patella. (**Figure – 2**) The far end of the swelling

was seen to be away from the left knee joint and it seemed to be smaller than it was measured clinically.

Figure - 1: Clinical picture of the swelling over left knee.



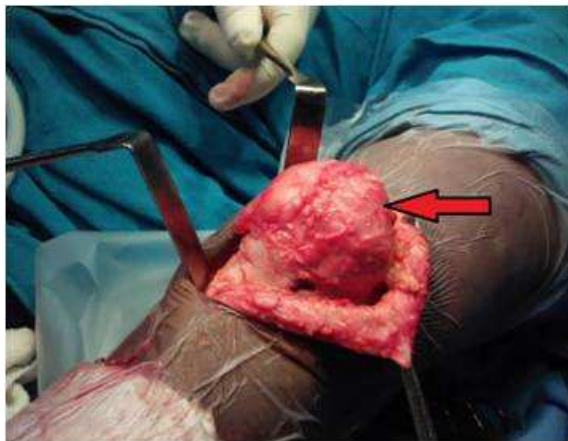
Figure - 2: Radiograph of left knee lateral view revealed bony swelling with a pedunculated base with far end away and cranially from the knee joint.



We planned to excise the swelling as it had started to increase rapidly in past few weeks. Its size was large size and was also causing some interference with movements of the knee and occasional pain. After routine investigations, through a medial parapatellar incision mass was exposed as the swelling was more towards medial part of the patella. It was covered over

by a thickened bursa (**Figure – 3**). The bursa was excised from the sides of the mass to expose the underlying mass. The mass had a rough, irregular and shiny surface (**Figure – 4**). The groove between the patella and the overlying mass was located. The swelling was excised en mass extraperiosteally and an effort was made to keep the anterior surface of the patella smooth so that it would not hurt the patient later on. The deeper portion of the swelling was arising from the anteromedial surface of the patella. The excised bony mass was sent for histopathological examination which confirmed the diagnosis of osteochondroma and there was no evidence of any malignant change (**Figure – 5**). The wound was sutured in layers over a negative suction drain. The wound had uneventful recovery and there was no reactive effusion of the joint after surgery. The patient was symptom free post operatively.

Figure - 3: Per operative picture showing the enlarged bursa (red arrow) overlying the swelling.



Discussion

An osteochondroma or exostosis is an osteocartilaginous proliferation in which the bony stalk is continuous with that of the bone of origin. It grows away from the nearest joint and is covered with a 1-3 mm thick cartilaginous cap [6]. Patients with solitary osteochondromas typically present with non-tender, slow-growing

masses. Most osteochondromas originate around the knee but can develop in any bone formed by endochondral ossification. They are commonly located at the peripheries of rapidly growing ends of long bones, the lesions are also frequently found in the vertebral borders of the scapulae, ribs, and iliac crests. They may be sessile or pedunculated and usually are solitary. Osteochondromas tend to enlarge in size, while the physis is open and the growth of the osteochondroma usually ceases at skeletal maturity. The progressive enlargement of an osteochondroma may cause tendon, vessel and nerve compression or a skeletal deformity [6, 7]. In upper extremity they may lead to ulnar deformation, radial head dislocation, and limitation of movements and coronal plane deformities, obliquity of tibio-talar joint line and limb length discrepancy may be the result in lower extremities. A fracture may occur through the stalk in pedunculated exostosis, pseudoaneurysm, bursitis, infection, ischemic necrosis, and a malignant transformation may be the source of symptoms in adults. A malignant transformation to a chondrosarcoma approximately 1% for solitary and up to 5% for patients with multiple lesions is unusual and should be suspected if there is sudden increase in size, pain and other symptoms in an adult who is more than 30 years of age. Malignant transformation is more common when the lesion involves, pelvis and proximal femur. In malignant transformation, the cartilage thickness is usually more than 20 mm and it is best evaluated by CT scan or MRI [8-11].

The diagnosis of osteochondroma is made by radiographic studies of affected areas. Histopathological examination shows a cartilage cap which is composed of hyaline cartilage, without cellular atypia and may show features of proliferation until the patient reaches skeletal maturity. Computed tomography and magnetic resonance are rarely required. Bone scans may

also be helpful for making a diagnosis, but they cannot differentiate between benign active exostoses and chondrosarcomas [6]. Indications of surgery are when the exostosis is interfering or disturbing the growth of extremity, malignant transformation, presence of bone erosion, neurovascular compression, interference with joint motion, bursitis, fracture through the stalk and cosmesis. The treatment of choice is extraperiosteal resection of exostosis and ensuring complete removal of cartilaginous cap. Recurrence after surgical excision, although rare, has been observed which may be attributed to incomplete removal of lesions that are contiguous with physis in growing children or incomplete removal of cartilaginous cap. Prognosis after excision is excellent [6, 7].

Figure - 4: Per operative picture showing the bony swelling (yellow arrow) and the separated bursa (black arrow).

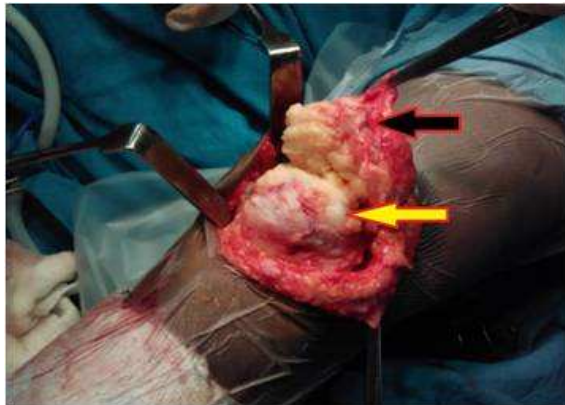
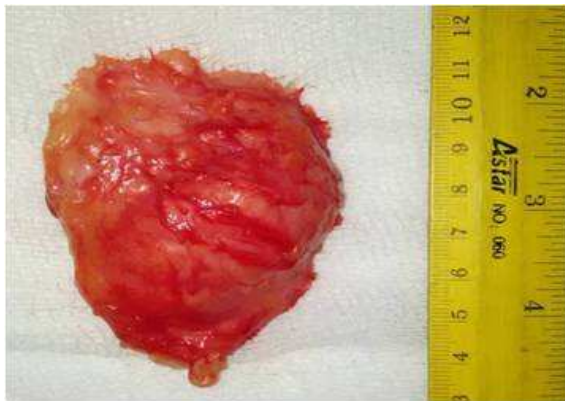


Figure - 5: Excised swelling with ruler showing its dimensions.



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Source of support: Nil

Conflict of interest: None declared.