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Case Report

Sessile solitary osteochondroma at dorsal scapula: a case report

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ABSTRACT

Osteochondroma is the most common benign tumor of the bone that occurs predominantly in metaphyseal regions of the long bones but rarely involves flat bones like scapula. However, this is often the most common primary benign bone tumor affecting scapula. These tumors usually occur in the growing age and cease to extend in size after skeletal maturity. Any increase in swelling of an asymptomatic swelling turning symptomatic should raise the suspicion of a malignancy. Here, we presented a case of swelling over the left scapula of a fourteen-year-old boy by his parents since the past three years, which showed no progress since last 1 year but however they presented to the hospital for cosmetic reasons. We performed an open extra periosteal resection of the osteochondroma using modified Judet's approach after diagnostic workup and ruling out malignancy and confirmation by post operative histopathological study of resected lesion. Patient was able to perform full range of motion at his left shoulder after 1 month. With no evidence of recurrence even after six months of follow-up post operatively.

Keywords: Osteochondroma, Sessile, Scapula, Extra-periosteal resection

INTRODUCTION

Osteochondroma is the most common benign tumour of the bone that occurs predominantly in metaphyseal regions of the long bones usually solitary (90%), but could also be multiple in the form of hereditary multiple exostosis (HME) in almost 10% of cases.[1] This tumour rarely involves flat bones like scapula. However, this is often the most frequent primary benign bone tumour affecting scapula. A scapular osteochondroma could be symptomatic mainly due to its mass effect as it may cause scapular pseudo winging, crepitus and snapping on scapulothoracic motion.[2] These tumours usually affect the growing end of skeleton and cease to extend in size after skeletal maturity. Any increase in swelling of an asymptomatic swelling turning symptomatic should raise the suspicion of a malignancy. To better of our knowledge, only a few cases of osteochondroma scapula have been reported in literature. Here, we describe a case of a 14-year-old patient who presented with a swelling on dorsal aspect of left scapula since 3 years. Diagnostic workup with management and postoperative confirmation by biopsy along with clinical pictures are being included in this case report.

CASE REPORT

A swelling was noticed over the left scapula on dorsal aspect of a fourteen-year-old boy by his parents since the past three years which showed no progress since last 1 year but however, they presented to the hospital for cosmetic reasons. There was no history of antecedent trauma, weight loss, loss of appetite, or any other constitutional symptom. No similar swellings were noted in his family. On General examination, no similar swelling was seen over the body. On local examination, a 5×4 cm bony swelling which arose from body of left scapula dorsally. The swelling was hard in consistency, non-transilluminating, it had a smooth surface and it was immobile, but it moved with scapula. Skin over the swelling was normal with no signs of inflammation and no neurological deficits. The swelling was not painful on touch. Forward flexion, extension and abduction of shoulder joints were restricted terminally.

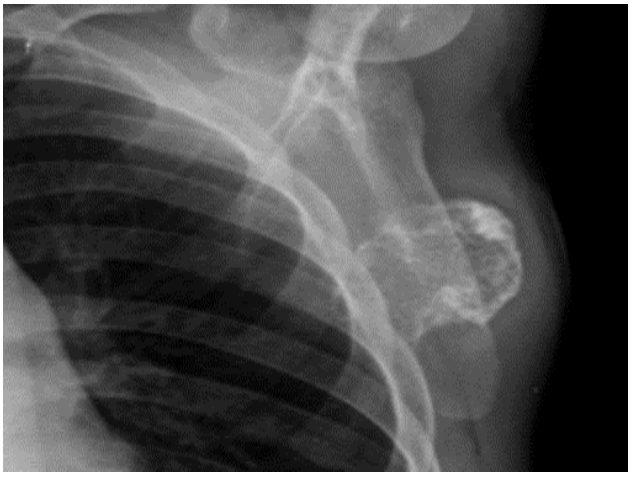

Figure 1: X-ray scapula showing sessile radio opaque mass with calcific foci arising from scapula.

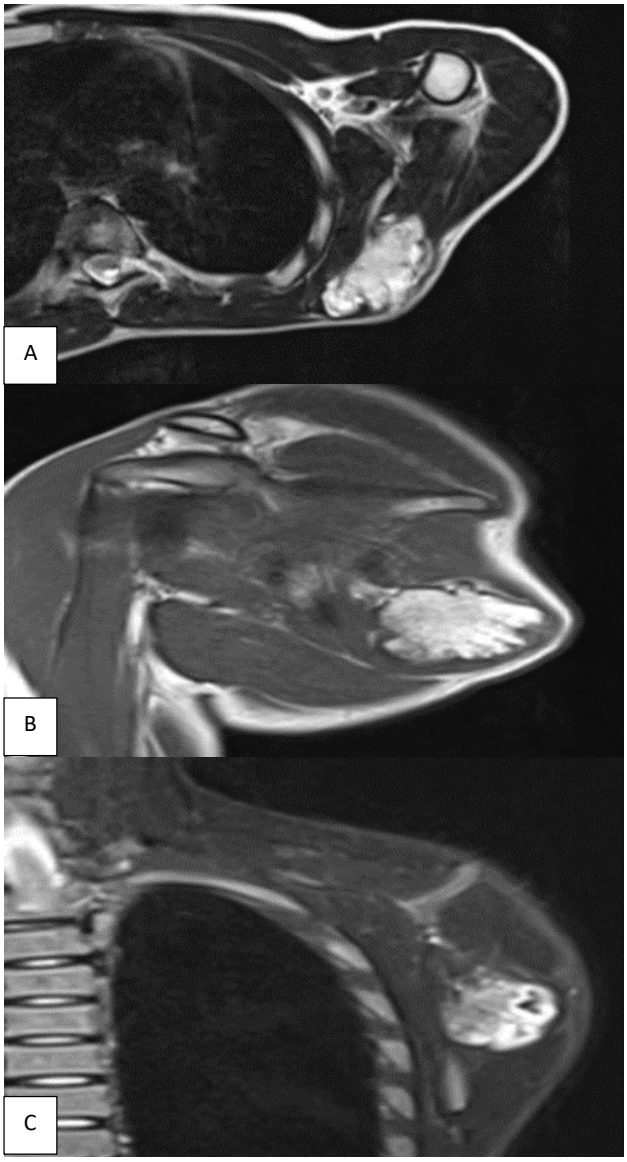

Figure 2 (A-C): MRI T2W axial, MRI T1W sagittal and MRI T2W coronal.

Figure 2 A. MRI T2 axial, Figure 2 B T1 sagittal and Figure 2 C T2 coronal showing lobulated exophytic mass lesion of approximate size 5.6 x 4.2 cm noted arising from dorsal aspect of scapula appearing hyperintense on T2 W and T1W images.

We performed an open excision of the swelling under general anaesthesia in prone position. Using modified Judet's approach, an incision was given along the medial border of scapula wherein it was most prominent. Sharp dissection carried out over fascia and infraspinatus muscle lifted from the dorsal surface of scapula and the osteochondroma was reached. Extra periosteal resection was performed and sent for biopsy. Histopathological examination confirmed our diagnosis (Figure 3) and ruled out any malignant transformation. Post operative course was uneventful and patient was able to perform full range of motion at his left shoulder after 1 month. There was no evidence of recurrence after six months of follow-up.

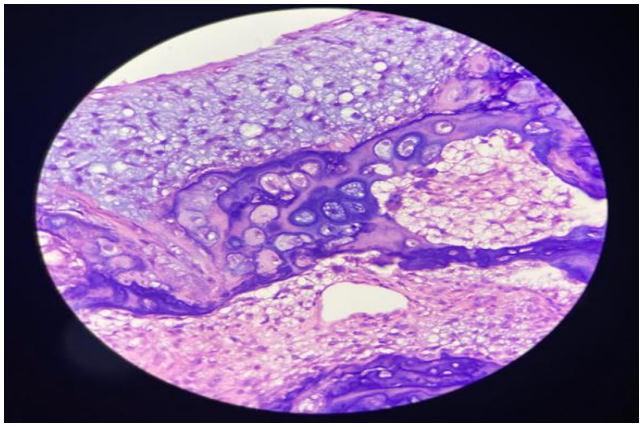

Figure 3: Microscopic 40X image by histopathological slide showed tumor composed of three layers. Fibrovascular perichondrium covering the thick cartilaginous cup. Cartilage shows lacunae with benign appearing 1 to 2 chondrocytes. Below cartilage there is immature and mature bony layer which is continued with underlying bony trabeculae in marrow spaces.

DISCUSSION

The osteochondroma is formed from aberrant cartilaginous epiphyseal growth plate tissue, which grows autonomously later gets separated from the normal growth plate near its edge. As the growth progresses, the aberrant tissue remains in a subperiosteal location, where it would either disappear through remodelling or proliferate as an early osteochondroma perpendicular to the orientation of the growth plate from which it was derived.[3]

Distal femur, proximal humerus and proximal tibia and are the most common sites and rarely involves scapula. Osteochondromas occur during growing age and can occur anytime till third decade of life. Malignant transformations are extremely rare in children and uncommon in adults as

well. The incidence of malignant degeneration in multiple osteochondromas is 5% and in solitary osteochondromas it is 1%. A malignant transformation should be suspected when there is a sudden increase in growth in an adult more than 30 years of age. Malignant transformations are best evaluated by CT scan or MRI, the cartilage thickness is more than 2 cm.[4-6]

Osteochondromas are the most common tumours of the scapula, which account for 4.6% of all bone tumours.[7] When it appears in the scapula, the most common location is the ventral aspect of the bone unlike the presented case that originated from the axillary border albeit with projection to the ventral surface.[8] Peak incidence is within the second decade of life, with a slight male predilection (M:F) 1.5:1.[8] Its presence on ventral side of the scapula leads to various complications like bursa formation, snapping syndrome, pseudowinging of scapula, and restricted shoulder movements. Resection of osteochondromas have relieved the symptoms in previously reported cases.[9-12] Surgical treatment could be done with open or arthroscopic techniques. Arthroscopic surgery for snapping scapula syndrome offers several theoretical advantages over open operative treatment. These include preserving muscle attachments and minimizing dissection, therefore eliminating the need for postoperative immobilization leading to potentially shortened rehabilitation period. Other advantages also include an improved cosmetic appearance and potentially decreased hospital stays. If there is osseous impingement, bone can be resected out with use of a high-speed burr.[13] In our case, we performed open extra-periosteal resection of osteochondroma using Modified Judet's approach and achieved full range of motion at 1 month with no signs of recurrence at 6 months of follow up.

CONCLUSION

In our case, the patient with scapular swelling demonstrated no increase in size or other features suggesting malignancy, but we still opted for radiological assessment since it helped both in the surgical approach as well as ruled out any chances of malignant transformation. Open surgical excision is a safe and definitive procedure. It is mandatory to get a biopsy for histopathological analysis, no matter how benign the swelling appears to rule out any traces of malignancy.

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