

Solitary Osteochondroma of the Scapula in a Young Male: A Case Report

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Learning Point of the Article:

Although rare osteochondroma should be considered as a differential diagnosis in young patients presenting with painless or painful swelling over scapula.

Abstract

Introduction: Osteochondroma is a type of cartilaginous tumor. It is the most common benign tumor of axial skeleton usually arising around the knee, proximal humerus, and pelvis. Solitary osteochondroma of the scapula is relatively rare and usually incidental finding accompanied by pain and dysfunction. These lesions can easily be followed radiographically with plain radiograph. Computed tomography (CT) is used to determine the precise location and its relationship with the surrounding soft tissues and enable accurate surgical removal.

Case Report: In this report, we present a rare case of a symptomatic scapular osteochondroma in a 18-year-old male who presented with the complaints of swelling over the left scapula. X-ray showed a bony outgrowth along the posteromedial border of the left scapula. CT scan was done to know extent of the growth. MRI was performed to rule out soft-tissue involvement. Despite the young age of the patient, surgical excision was performed. The outcome was good, the patient noticed disappearance of swelling and a normal profile of the scapula was gained.

Conclusion: We have described a rare case of scapular osteochondroma associated with different signs, symptoms, and positive radiological findings. This lesion was removed surgically, and a follow-up indicated complete symptom relief with no history of recurrence. By reporting this case, we aim to increase the awareness of unusual manifestations of osteochondroma, particularly in terms of site, age of onset, and atypical presenting signs and symptoms.

Keywords: Osteochondroma, scapula, tumor.

Introduction

Osteochondroma are most common benign tumor of bone. They account for 35–46% of all benign tumors of bone [1]. Osteochondromas are usually found on metaphyseal region of long bones such as distal femur, tibia, humerus, and pelvis but are rarely seen on flat bones [2, 3, 4]. Most common benign tumor of scapula is osteochondroma. About 14.4% of scapular tumors are diagnosed as Osteochondromas and scapula account for 3–4.6% of all osteochondromas [5].

Osteochondromas are usually found in second decade of life when cartilage solidifies into bone and growth generally ceases

when skeletal maturity is reached. Incidence of osteochondroma under the age of 30 is more common in males as compared to females [1]. Osteochondroma of ventral aspect of scapula is more common than dorsal aspect of scapula. Osteochondromas are generally asymptomatic but severity ranges from mild pain to severe neurovascular compression depending on the size, location, fracture, bursa formation, and impingement of various structures such as adjacent tendon, blood vessel, nerves, and spinal cord. It is characterized as cartilage-capped osseous stalk with a bone marrow cavity in continuity to underlying bone [6].

There are two different morphological types of

Author's Photo Gallery



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Figure 1: Uniform and round swelling present over the posteromedial aspect of the left scapula.

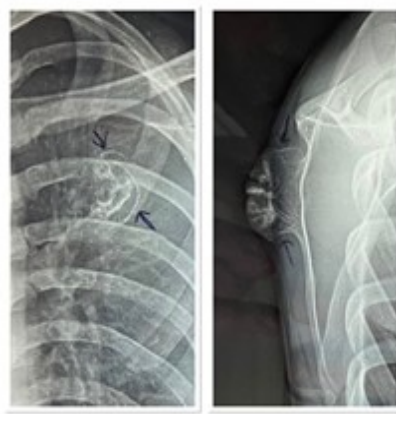


Figure 2: Pre-operative right scapula X-ray in anteroposterior and lateral view showing pedunculated mass arising from the posterior medial aspect of the left scapula.

On examination, there was no visible wound, hematoma, scars, or sinuses over the back. The swelling was uniform, rounded, and protrubent, seen, and palpated in the posteromedial region of the left scapula just caudal to medial end of spine (Fig. 1).

There was no tenderness and local rise of temperature on palpation. There was no restriction in range of movements. There was no evidence of winging of scapula. Neurovascular structures were intact on examining both the upper limbs. Radiograph of the left scapula was taken in both anterior-posterior view and lateral view was suggestive of bony outgrowth in the posteromedial border of scapula (Fig. 2).

osteochondromas: Sessile and pedunculated. The risk for malignant transformation into chondrosarcoma is <1%. Osteosarcoma transformation is very uncommon [3]. The choice of treatment for osteochondroma is surgical excision. Following excision symptoms disappearance and fully recovered functions are generally expected [7]. Here, we report a rare case of atypical, large, solitary, pedunculated, and asymptomatic osteochondroma of dorsal aspect of scapula in a 18 year young male.

Case Presentation

A healthy 18-year-old male presented to outpatient clinic with chief complaints of painless protrusion on the left side of his upper back for the past 4 years. Protrubence was first noted by his mother at the age of 13 years which had slowly grown in size till the age of 17 years after which it arrested. No history of trauma was reported. There were no constitutional symptoms of fever or any other illness. He reported that his main reason for visiting was cosmesis.

Computed tomography (CT) was done to know the extent of the growth (Fig. 3). MRI revealed hyper-intense pedunculated osseous lesion on T2-weighted images measuring 45 × 40 × 40 mm (craniocadual × anteroposterior x transverse) over posteromedial aspect of the left scapula (Fig. 4).

Imaging showed solitary protuberance of cortical and medullary bone from the underlying bone which was pathognomonic but histopathology was done to confirm the diagnosis. Histology findings were consistent of osteochondroma. Surgical excision of the swelling was planned for cosmetic reasons and future mechanical complaints. Patient was operated under general anesthesia in prone position. A longitudinal incision parallel to medial scapular border was taken where the protrusion was most prominent. Sharp dissection was carried out to the level of fascia of trapezius muscle and fibers of rhomboid muscles were splitter bluntly for full exposure of the protuberance (Fig. 5).

The stalk was excised at the base with osteotome. There was no free body in the space or palpable indurations over the wall (Fig.

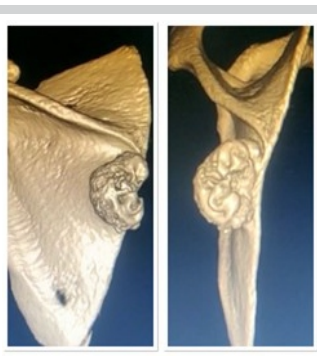


Figure 3: 3 dimensional computed tomography images (reconstructed) showing large bony tumor arising from posteromedial aspect of the left scapula.

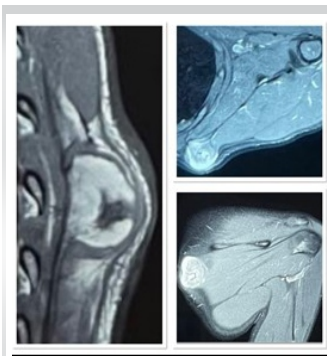


Figure 4: T2-weighted MRI images suggestive of hyper intense pedunculated osseous lesion arising from posteromedial aspect of the left scapula with no soft-tissue involvement.

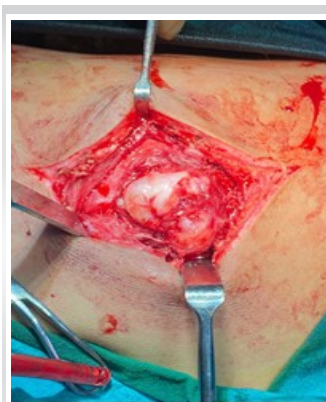


Figure 5: Intraoperative picture of the right scapula showing exposed osseous mass.



Figure 6: Intraoperative picture of the right scapula after excision of pedunculated mass.



Figure 7: Post-operative follow-up picture of patient showing suture line and active range of motion in all directions.

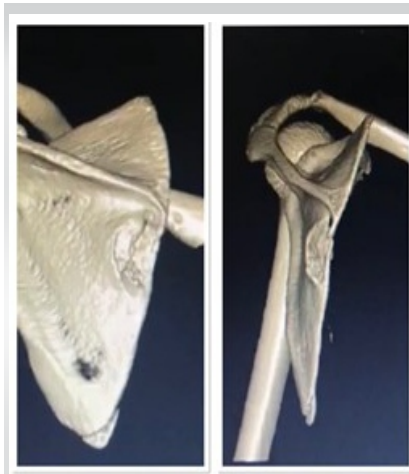


Figure 8: Post-operative computed tomography images showing complete excision of osseous mass.

6).

Wound wash was given, fascia of divided muscle was sutured, skin was subsequently closed, and sterile dressing was done. Post-operative course was uneventful and sutures were removed on post-operative day 14. Patient returned to pre-operative normal life 2 weeks after the procedure. On examination, scapulothoracic rhythm was symmetrical, no limitations of active range of movements (Fig. 7), or any associated crepitus. Six-month follow-up showed no signs of tumor recurrence both clinically and radiologically.

CT showed no residual mass (Fig. 8).

Discussion

Osteochondromas are benign tumors that commonly affect the proximal humerus, pelvis, and knee but are rarely seen on flat bones like scapula. They are usually asymptomatic and present with cosmetic complaints our difficulty while sleeping in supine position.

Osteochondroma is defined as cartilage-capped osseous stalk that arises from the external surface of bone, contains marrow cavity, and grows through endochondral ossification beneath the periosteum [8]. Although osteochondroma of scapula is a rare finding, it accounts for 3–4.6% of all the cases mostly occurring in second decade of life. Ventral surfaces are more commonly involved than dorsal surface. Osteochondroma follows course of bone growth until the closure of physis [6].

Nathan et al. performed a retrospective review of all osteochondroma excisions at their institution from 1994 to 2007. They found that out of eight reported patients, only two patients had lesion arising from dorsal aspect of scapula, five from ventral aspect, and one from inferior acromian. A single patient reported with signs of recurrence and underwent two

additional surgical procedures [9].

Salgia et al. presented a case of osteochondroma of dorsal surface of scapula whose main concern was cosmetic appearance [10].

Nekkanti et al. presented two patients with osteochondroma on the dorsal surface of the scapula. CT scan of the shoulder revealed pedunculated osteochondroma [11].

Our patient presented with dorsal surface scapular osteochondroma with only cosmetic complaints with pedunculated appearance on CT scan and when growth had seized after 17 years of age, for which surgical excision was planned after confirming with clinical, radiological, and histological parameters.

Osteochondromas in pediatric age group should be monitored carefully and managed conservatively. Conservative management includes immobilization, physiotherapy, anti-inflammatory, and local anesthetic injections [12]. Osteochondromas which cannot be managed conservatively should be managed by open or arthroscopic excision of tumor. Malignant changes in osteochondroma are very rare but sudden growth may warrant malignant suspicion and should be managed appropriately [5].

Conclusion

We have described a rare case of asymptomatic osteochondroma of dorsal side of scapula with a recognizable protuberance. The lesion was removed surgically, and follow-up indicated no history of recurrence. By reporting this case, we aim to increase awareness regarding unusual manifestation of osteochondroma regarding site and its atypical manifestations.

Clinical Message

Diagnosing osteochondroma at an unusual location such as the dorsal aspect of scapula can be challenging and an operative line of management must be undertaken only once the diagnosis is confirmed after a detailed clinical, laboratory, and radiological evaluation. Although it is a rare finding, it is recommended to include osteochondroma in differential diagnosis of swelling and pain over scapula.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his/ her images and other clinical information to be reported in the journal. The patient understands that his/ her names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Conflict of interest: Nil **Source of support:** None

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Content: The authors confirm that informed consent was obtained from the patient for publication of this case report

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