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Research Paper

Solitary osteochondroma of the scapula: a rare case report

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Abstract

Introduction: Osteochondroma is the most common benign bone tumor representing about 15 % of all bone tumors and 45.3 % of the benign bone tumors. They commonly arise from the metaphysis of a long bone with most common sites being distal femur, proximal tibia or proximal humerus. The occurrence of osteochondroma in flat bones particularly the scapula is uncommon.
Case Presentation: In view of its rarity, we report a case of solitary osteochondroma of the scapula in an 18 year old male arising from the postero medial aspect of the body of scapula which was managed by excisional biopsy. He presented with a painless swelling of 2 years duration over the left scapula. Histopathology confirmed the diagnosis with no evidence of malignant transformation.
Discussion: Osteochondromas are primary bone tumors rarely found arising from the scapula. Although the exact etiology of the growth is unclear, it is due to a portion of physis herniating through the growth plate. Complications like malignant transformation, winging of scapula and restriction of shoulder movements can occur. Thickness of cartilagenous cap is an important predictor of malignant change.
Conclusion: Solitary osteochondroma of the scapula is a rare entity .Timely diagnosis and complete excision of the tumor should be done in order to avoid recurrence and prevent complications.

Keywords: *Osteochondroma, Solitary, Scapula.*

1. Introduction

Osteochondroma is a cartilaginous excresence considered to be the most common benign bone tumour and amounting to 35-45% of all neoplastic benign lesions of osseous structure (Tomo et al.2005, Mohsen et al.2006). The true incidence is not known as most of them are asymptomatic.
Osteochondroma are usually found in the metaphysis of a long bone to the extent of 90 % with most common sites being distal femur, proximal tibia or proximal humerus of young males (K.Krishnan 2001). The incidence of osteochondroma in pelvis is about 5 % and in scapula is 4% (Calafiore G et al.2001).
Asymptomatic painless slow growing mass is the usual presentation of an Osteochondroma. However it may become symptomatic in case of associated complications like mass effect causing pressure, fracture of bony stalk, impingement of nerves, malignant transformation or bursitis (Mohsen et al.2006).
Scapular osteochondromas can present with pseudowinging of the scapula, restricted movements, abnormal scapulothoracic motion and crepitus with movement of the involved shoulder (Okada K et al.1999, Essadki B et al.2000, Mohsen et al.2006)
We report a case of solitary osteochondroma of the scapula in an 18 year old male presenting with gradually increasing size arising from the posteromedial aspect of the body of scapula which was managed by excisional biopsy.

2. Case Presentation

An eighteen year old male presented to us with a chief complaint of a painless swelling over the left scapular region since 2 years. It was insidious in onset but the patient complained of a gradual increase in the size of the swelling (Figure 1).There was no history of trauma or swelling elsewhere in the body. Family history was insignificant.



Fig. 1: Clinical Picture on Presentation Showing the Swelling over the Left Scapula

On examination the swelling was bony hard in consistency, measuring about 4*3 cm with a smooth surface arising from the left scapula. Swelling was immobile, non-tender and skin overlying the swelling was normal. There was no localized tenderness or signs of inflammation. Movement at the shoulder joint was restricted only terminally. Neurological status was normal.
Routine blood investigations, ESR, CRP and alkaline phosphatase were within normal limits. Plain radiograph revealed a growth over the postero medial aspect of the left scapula suggestive of a solitary osteochondroma (Figure 2). MRI confirmed the diagnosis and showed a pedunculated lesion arising from the posteromedial aspect of the body of scapula just above the spine measuring 15 *21 mm. Cartilage cap was 2.5 mm in thickness. There was no evidence of bursitis (Figure 3).There was no evidence of any soft tissue mass.

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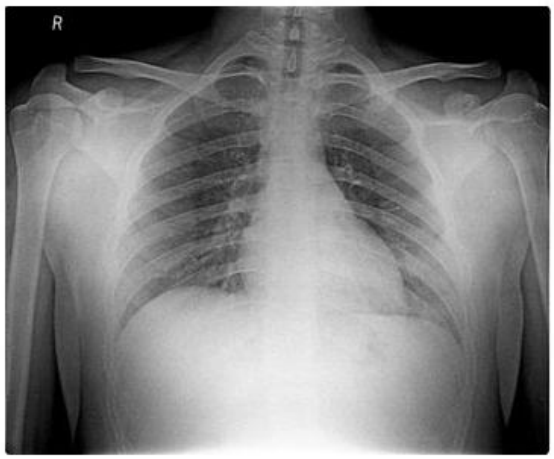


Fig. 2: Xray of Shoulder Showing a Solitary Osteochondroma of the Left Scapula



Fig. 3: MRI of Shoulder Showing a Solitary Osteochondroma of the Left Scapula

A decision was taken to do an excisional biopsy of the swelling as the patient complained that it was increasing in size and was unsightly.

Under general anaesthesia, patient was put in a prone position and an incision was made over the swelling. The entire tumor was excised and sent for histopathology (Figure 4). Histopathology results correlated with the diagnosis of a solitary osteochondroma. Section showed a lesion composed of many mature bony trabeculae located beneath a cartilagenous cap with no evidence of malignant changes (Figure 5). Post-operative period was uneventful. At 8 months of follow up patient has full range of motion of the shoulder with no evidence of recurrence.



Fig. 4: Intraoperative Picture of the Osteochondroma

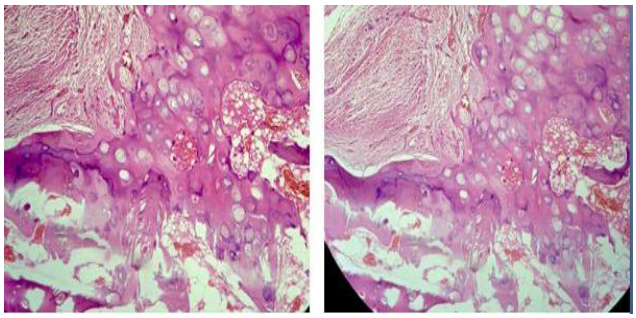


Fig. 5: Histopathology Section

3.Discussion

Osteochondromas is considered to be the most common benign bone tumour accounting for 35-45% of all neoplastic benign lesions of osseous structure (Tomo et al.2005, Mohsen et al.2006). Although the exact etiology of the growth is unclear, it is due to a portion of physis herniating through the growth plate. The metaplastic cartilage grows and forms exostosis which is connected with a thin stalk having a marrow cavity in continuity with the underlying bone (Essadki B et al.2000).Commonly found in young individuals usually in the second decade of life. They are most commonly found in the long bones and the flat bones like the pelvis and the scapula account for 4-6% cases.

Osteochondromas are usually asymptomatic. They may present as a painless swelling. Symptoms can be secondary to complications like mechanical pressure due to mass effect, restriction of shoulder movements, bony stalk fractures, impingement of the nerves, and formation of large bursa. Scapular osteochondroma can present with a winging of scapula with neurologically intact serratus anterior muscle (Mohsen et al.2006).

Malignant transformation of the cartilaginous cap to a chondrosarcoma occurs in 1 % cases of solitary osteochondroma (Mohsen et al.2006). It presents with sudden increase in size with pain. Thickness of cartilagenous cap is an important predictor of malignant change. A cap thicker than 2 cm indicates malignant transformation (Malghem J et al.1992).

These are usually treated by surgical excision or arthroscopic resection (Reit RP et al.2007).Incomplete resection can lead to recurrence. Clean surgical margins help to prevent recurrences (Pérez D et al.2011)

We planned for an excision of the osteochondroma because of an increase in the size of the mass and since it causing terminal restriction of motion.

4. Conclusion

Solitary osteochondroma of the scapula is a rare entity. It can lead to winging of scapula, restriction of shoulder movement, abnormal scapulothoracic motion or malignant transformation. Complete excision of the tumor should be done in order to avoid recurrence and prevent complications

Conflict of Interests

The authors hereby declare that they have no conflict of interests to declare.

Ethical approval

Ethical consent for the work has been given.

Consent

The authors confirm that the patient described in this paper has given his informed consent for the paper to be published.

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