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A Case Series on Osteochondroma of Scapula

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Abstract

Background: Osteochondroma is the most common primary bone tumor. It commonly occurs in young people and the growth of the tumor ceases with maturity. The most common site is in long bones, namely, femur, tibia,and humerus.Osteochondroma of flat bones especially is a rarity. These tumors can arise from both the dorsal and the ventral surface. Snapping scapula syndrome is attributed to the variants arising from the ventral surface. We have evaluated five cases involving scapula and treated them successfully.

Materials and Methods: Five cases of osteochondroma were evaluated, treated, and followed up after thorough evaluation clinically and radiographically.

Observation: All the five cases were treated successfully after thorough evaluation with no signs of recurrence. Patients had symptomatic relief and snapping scapula syndrome was relieved once the tumorwas removed with theexcellent functional outcome.

Keywords: Osteochondroma, scapula, snapping scapula syndrome.

Introduction

Osteochondroma of scapula is a beningn tumour of the bone which commonly occurs before the age of skeletal maturity. Exostosis of flat bones are less common but are often symptomatic . Proper pre op evaluation is required to rule out any chances of malignancy. We are citing few cases of osteochondroma of scapula and have evaluated them thoroughly and treated them using excision biopsy .

Aim of the study

This study aims toevaluate the functional outcome after surgical resection of scapular exostosis and rate of recurrence following excision.

Materials and Methods

This is a case series, five cases of osteochondroma of the scapula were diagnosed treated and followed up. Pre-operative and post-operative radiological analysis weredone using plain X-ray,computerized tomography, and magnetic resonance imaging (MRI) wherever necessary.Caseswere followed up every month.Excision biopsy was done and later confirmed by histopathological examination (HPE).

Case

Three cases are shown here for illustration.

Case1

A 7-year-old female child brought to thehospital with complaints of swelling along theinferior aspect of thescapula and grating sensation on overhead movements. The child was evaluated clinically and radiographically and was found to have a bony mass along the costal surface of theinferior pole of thescapula. It was suspected to be solitary exostosis with snapping scapula syndrome. Excision biopsy was planned and done under GA. The sample was sent for HPE and was confirmed to be osteochondroma. Postoperatively, thepatient was comfortable and no signs of any recurrence on follow-up radiography. (2-year follow-up).

Case2

A 26-year-old female presented with multiple bony swelling all over the body with positive family history and had a massive bony swelling in the scapular region. The patient had difficulty in shoulder movements and pain. The swelling was insidious in onset and progressive and had anirregular surface. We suspected it to be malignant and hence did computed tomography and MRI to confirm. Itwas reported as osteochondroma with extensive calcification with no soft tissue spread. It was a case of multiple hereditary exostosis. We planned to do a percutaneous biopsy and confirmed the tumor to be ofbenign origin by HPE. Hence, excision biopsy was planned and the entire tumorwas removed. It was a pedunculated type osteochondroma from the inferior pole of scapula further confirmed by HPE. Postoperatively, thepatient was very comfortable and no signs of any recurrence on further follow-up.(2-year follow-up).

Case3

A 16-year-old female had a hard swelling in the scapular

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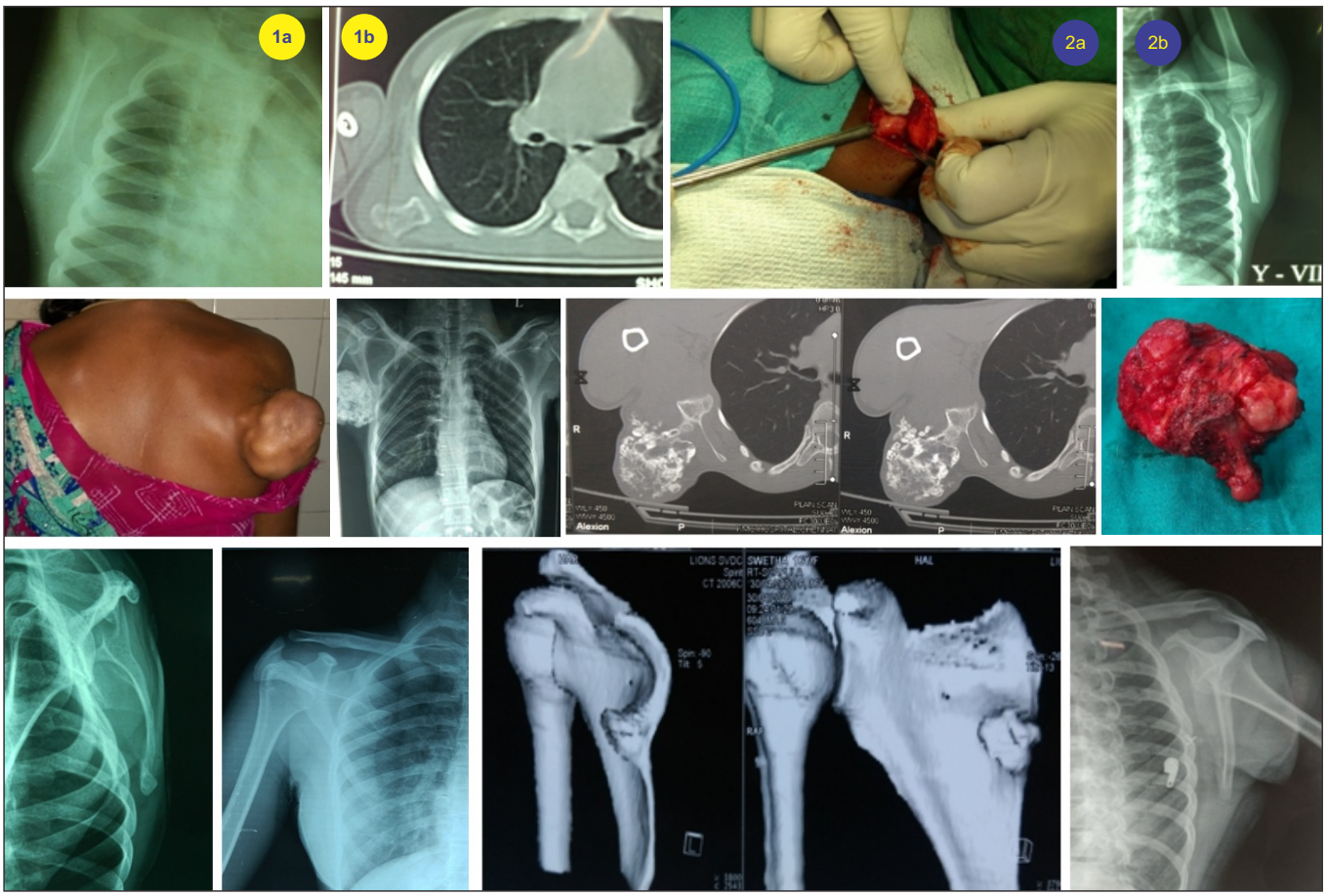

FIGURE LEGAND ARE MISSING: ??

region of the right side with pain and discomfort on shoulder movements. Pre-operative radiographs and clinical evaluation revealed bony swelling in the superomedial aspect of thescapula on the costal surface. On palpation, there was a crepitus during shoulder movements.It was suspected to be a solitary exostosis with snapping scapula syndrome. Excision biopsy was done under GA and diagnosis confirmed with HPE.

Postoperatively,the patient had no pain or discomfort of movements, and serial follow-up showed no signs of recurrence.(1-year follow-up X-ray).

Results

The results regarding the cases evaluated have been tabulated and listed below under various categories (table 1 - 6)

Discussion

Osteochondroma of the scapula is a rare entity, and the percentage of malignant transformation is more in flat bones. Any sign suggestive of malignant transformation should be further evaluated and confirmed before planning for excision biopsy. Exostosis of the costal surface of thescapula is one of the common causes for snapping scapula syndrome.Snapping scapula is a largelyunder-recognized problem. Patients present with palpable, audible, and painful

Table 1:Age of presentation

Case	Age (year)
Case 1	7
Case 2	26
Case 3	16
Case 4	12
Case 5	11

Table 2: Sex

Case	Sex
Case 1	Female
Case 2	Female
Case 3	Female
Case 4	Male
Case 5	Female

Table 3: Size of the tumor

Cases	Size of the swelling
Case 1	2*2 cm
Case 2	9*6 cm
Case 3	2*2 cm
Case 4	3*2 cm
Case 5	2*2 cm

Table 4: Location

Cases	Location
Case 1	Superomedial border of scapula
Case 2	Inferior pole of scapula
Case 3	Superomedial border of scapula
Case 4	Inferior pole of scapula
Case 5	Inferior pole of scapula

Table 5: HPE

CASE	HPE
CASE 1	Osteochondroma-benign
CASE 2	Osteochondroma-benign
CASE 3	Osteochondroma-benign
CASE 4	Osteochondroma-benign
CASE 5	Osteochondroma-benign

HPE: Histopathological examination

Table 6: Recurrence

Case	Recurrence
Case 1	No recurrence
Case 2	No recurrence
Case 3	No recurrence
Case 4	No recurrence
Case 5	No recurrence

crepitus of the scapula causing diminished the quality of life. Snapping scapula is most often caused by repetitive shoulder girdle stress and overhead arm use.

Points to be noted while exposure

- The dorsal scapular artery and nerve run along the medial border of the scapula.
- The suprascapular nerve passes through the scapular notch, and the suprascapular artery passes over the superior transverse scapular ligament.
- The two main bursas that become inflamed are the infraserratus and supraserratus.
- The main neurovascular structures near the scapula are the transverse cervical artery, dorsal scapular artery, suprascapular artery, dorsal scapular nerve, long thoracic nerve, suprascapular nerve, and accessory nerve. Complete removal with the capsule prevents any signs of recurrence and provides a good functional benefit for the patient.

Factors suggestive of malignant transformation

- 1% cases of solitary exostosis
- 5% cases in multiple exostosis
- Sudden increase in size of tumor
- Irregular borders
- Severe pain suddenly
- Cartilage cap thickness increased.

Observation

The five cases followed up were thoroughly evaluated, and malignancy was ruled out before going for excision biopsy. All the cases did not show any signs of recurrence after follow-up.Patients did not have any clinical symptoms or any crepitus on shoulder movements during follow-up. Osteochondroma excision from the costal surface of scapula relieved the patient from snapping scapula syndrome.

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