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Case report

A case report on partial scapulectomy with glenoid preservation for Chondromyxoid fibroma of scapula

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ABSTRACT

Chondromyxoid fibroma is a benign bone tumour accounting for less than 1% of all primary bone tumours. It usually affects the metaphyseal region of long bones in the first or second decade of life. It rarely occurs in scapula. We present a case of 29 year old female with biopsy proven Chondromyxoid fibroma of left scapula. She underwent wide marginal excision by partial scapulectomy with preservation of glenoid. Post operatively she has stable shoulder joint with normal range of movement & no recurrence on regular follow up.

1. Introduction

Chondromyxoid fibroma is a benign but aggressive bone tumor [1] accounting for less than 1% of all primary bone tumours and only 2% of benign bone tumours [2–7]. It usually affects metaphysis adjacent to the epiphyseal growth plate of long bones, particularly around the knee joint [8,9]. Scapula is a very rare site [2,10–12], accounting for 0.8% to 3% of all cases of chondromyxoid fibroma [13]. Although it primarily occurs in the second and third decades of life [8,14,15] yet a second peak in the fifth, sixth and seventh decades is observed [1,3,16]. As curettage with or without local adjuvant shows a recurrence rate of approximately 25%, the preferred treatment is wide excision. Radiotherapy may be useful in nonresectable cases but bears the risk of radiation induced malignancies [17].

2. Case report

A 29 years old female presented with a painless swelling over left scapular area which was noticed about two years back. It was small in size at the time of first detection and increased in size progressively. She had no difficulty in movement of her left shoulder and could perform all activities of daily living with her left upper limb. She had no history of trauma, loss of body weight or appetite, fever or any other systemic features.

Examination revealed an oval shaped swelling of about 12 × 8 cm in greatest dimension of length and width respectively arising out of left scapula (Fig. 1). The overlying skin was normal looking and could be lifted off the lesion all throughout. Surface was smooth and margin was well defined. It was firm, non-tender and fixed to left scapula and therefore could not be moved in any direction. No localized sings of inflammation, discharge, ulcer, sinus or fistula was noticed. There was no regional or generalized lymphadenopathy and distal neurovascular deficit. General and systemic examination did not reveal any abnormal findings.

Her radiograph showed an eccentric radiolucent expansile lesion arising from supraspinatus part of left scapula with distended, thinned and partially destroyed cortex (Fig. 2). Her blood parameters like Haemoglobin percentage, Total and Differential Leucocyte Count, Platelet Ccount; Erythrocyte Sedimentation Rate, Liver Function Test and Kidney Function Test were within normal limits. MRI showed a large lobulated hypo intense lesion T1 weighted images & hyper intense lesion in T2 weighted images. The lesion was of approximately 9.1 × 5.7 × 7.8 cm with a small intralesional bleed & calcification arising from supraspinatus part of scapular body causing its partial destruction and displacing adjacent subscapularis and supraspinatus muscles with evidence of infiltration into inner fibers of supraspinatus muscle (Fig. 3). Her chest radiograph was normal.

The clinicoradiological differential diagnosis considered at this stage before proceeding for biopsy included Chondroblastoma, Chondromyxoid Fibroma, Osteochondroma, Aneurysmal Bone Cyst

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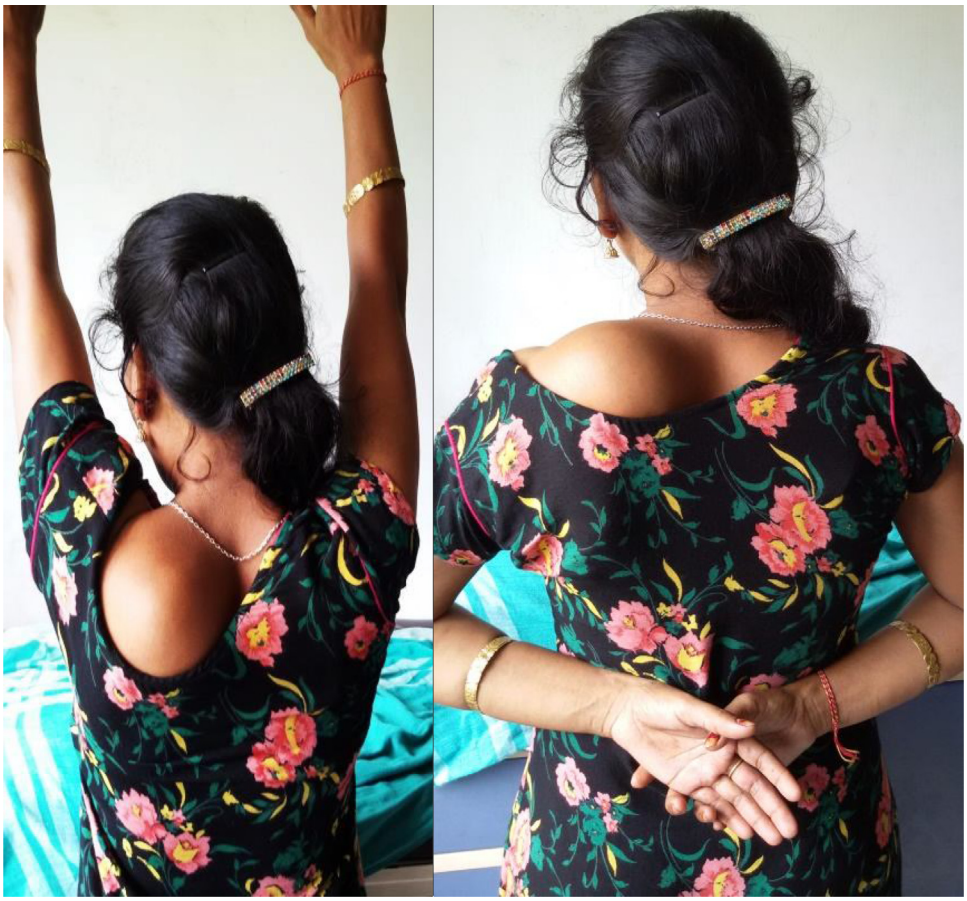
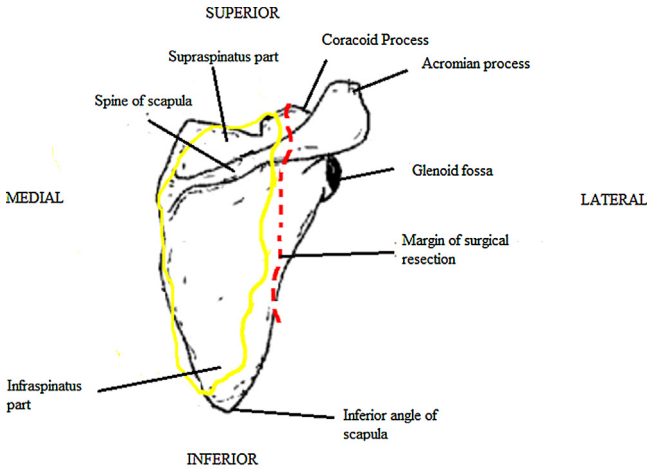


Fig. 1. Pre-operative clinical photograph showing normal shoulder movement.

and Chondrosarcoma. Although chondroblastoma usually occur in epiphysis of long bones in the age group of 10 to 25 years, it also can affect the flat bones [18]. It is documented in the literature that epiphyseal equivalent areas exist adjacent to the articular cartilages in the pelvis and shoulder girdles. Lesions that commonly develop in these areas are those that show a pre dialection for the epiphyseal regions of the tubular bones [19]. Chondromyxoid fibroma was considered because of age of the patient and its radiographic and MRI appearance. Osteochondroma is the most common primary benign neoplasm of the scapula with an incidence of 4.6%. Patients with osteochondroma usually present with the complaint of a snapping sensation with movement of the shoulder [10]. ABCs may occur in any bone and radiograph usually shows a characteristic expanded bone by a radiolucent lesion that appears to have a honey comb shaped. Fluid–fluid levels are seen with MRI [10,18]. Chondrosarcoma is the most common primary malignant neoplasm of the scapula. Radiographs may show cortical destruction by a lesion containing a calcified cartilaginous matrix [10].

Incisional biopsy under general anaesthesia was done and histopathology suggested the diagnosis of chondromyxoid fibroma (Fig. 4). Surgical resection of the tumour en mass along with a rim of macroscopically normal appearing bone with preservation of glenoid was planned under general anaesthesia. As the surgical team had no previous experience of tumour excision in scapula, a cadaveric dissection at anatomy department of the institute was done for familiarization.

Under general anaesthesia and in prone position, the Das Gupta's approach [18] was employed using an elliptical incision incorporating the biopsy scar. The lesion was excised with a margin of rim of normal bone and preserving the unaffected part of scapula including the glenoid (as shown in schematic diagram below).



Schematic diagram showing scapula from dorsal aspect.
Yellow coloured continious mark shows the lesion and red coloured dotted line shows the margin of surgical resection of scapula.

Haemostasis was achieved and wound closed in layers over a drain. Post operatively the left upper limb was supported in an arm sling. Gross examination of the excised lesion revealed a lobulated, scapula expanding neoplasm with greyish white and flesh coloured surface and it was sent for biopsy (Fig. 5).

With subsidence of pain by 7 post-operative days, she was encouraged to remove the arm sling support and undertake gradually upgraded rehabilitation under the guidance of

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