



SIMPLE BONE CYST OF MEDIAL END CLAVICLE: A RARE OCCURRENCE

Orthopaedics

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ABSTRACT

Clavicle is a rare site for tumour and tumour-like conditions. We present a case of simple bone cyst (SBC) of medial end of clavicle in a 10 years male child. The patient presented with a painless bony swelling in the medial end of right clavicle for 1 year. History, clinical examination and imaging studies suggested a benign bony lesion. Pre-operative diagnosis of SBC was made and patient underwent extended curettage with hydrogen peroxide and bone grafting. Histological report confirmed the diagnosis of SBC and the patient is symptom free till last follow up. With all these characteristics and literature reviewed, we thought that this case needs to be reported. In this part of world (Nepal) patients commonly present late to the hospital.

KEYWORDS

simple bone cyst, medial end clavicle

INTRODUCTION

Tumours of clavicle are rare. Less than 1% of all bone tumours involve the clavicle and majority of those are malignant¹. Lesions are more common in lateral end of clavicle². Benign bone tumours affecting the clavicle are eosinophilic granuloma, aneurysmal bone cyst, osteochondroma, simple bone cyst and fibrous dysplasia. Simple bone cyst or unicameral bone cysts are common non neoplastic lucent bony lesions occurring in the metaphysis of long bones. They are common in the metaphysis of proximal humerus, proximal femur, proximal tibia and distal tibia. The aetiology is unknown but one of the accepted theories is that it is caused by block in the drainage of interstitial fluid³. Aneurysmal bone cysts (ABC) are more common than SBC in the clavicle⁴. SBC of clavicle is a very rare entity and only few cases have been reported. This is a rare case report of SBC of medial end clavicle in a 10 years male child.

Case Report

A 10 years male child presented to us with a history of painless bony swelling in the medial end of right clavicle for 1 year duration. The swelling was gradually increasing in size. There was no h/o trauma, fever, night cries, loss of weight and loss of appetite and no h/o discharge from the swelling. There was no swelling elsewhere in the body. Physical examination revealed (Fig. 1) an expansile bony swelling in the medial end of right clavicle, painless, skin overlying the swelling was normal and local temperature was not raised. No limitation of movement due to swelling was noted. Lab reports were normal. On plain x-rays of chest (Fig. 2) an expansile cystic lesion was noted in the medial end of right clavicle with thinned cortex. No periosteal reaction and cortical breach were noted.



Fig. 1: Clinical Photo



Fig. 2: Pre-op Xray

MRI scan showed (Fig. 3) altered signal intensity hypo-iso in T1 weighted image and hyper-intense in T2 measuring 29mm x 13 mm suggestive of SBC of medial end clavicle. Soft tissue overlying the lesion was normal. The patient underwent extended curettage with H₂O₂ and bone grafting after PAC fitness (Fig. 4). Patient was discharged on 2nd post-op day. Sutures were removed at 2 weeks. Patient has been under regular follow up and patient is symptom free.

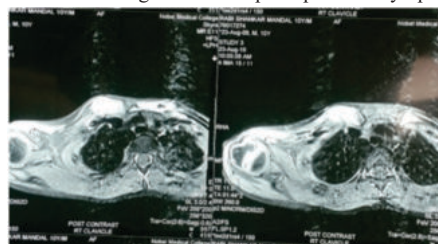


Fig. 3: Pre-op MRI



Fig. 4: Intra-op photo



Fig. 5: Post-op Xray

Biopsy showed (Fig. 6) loose fibrous connective tissue stroma, immature bone lined by osteoblast within fibrous connective tissue, few inflammatory cells with areas of haemorrhage without giant cells suggesting unicameral bone cyst.

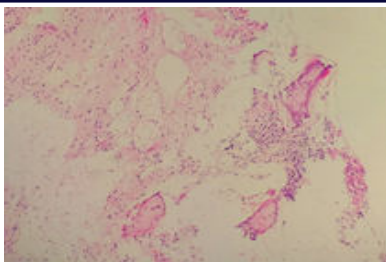


Fig. 6: Histological section

DISCUSSION

Simple bone cyst or unicameral bone cysts are benign, active or latent, solitary cysts occurring in metaphysis or meta-diaphysis of long bones. They commonly occur in 1st and 2nd decade of life with male to female ratio of 2:1. Majority of the lesions are asymptomatic but some may present with pathological fractures. Plain radiographs are usually diagnostic where the lesion is seen as a well-defined centrally located radiolucent or lytic lesion with narrow zone of transition with cortical thickening and mild expansion.³

Clavicle is a rare site of bone tumour. Out of the bone tumours involving the clavicle majority involve the lateral end and are usually malignant or metastatic. Simple bone cyst is a very rare occurrence in the clavicle. Aneurysmal bone cysts are reported in the medial end of clavicle in the literature occurring in children. SBC of medial end of clavicle has not been documented in children to our knowledge.

MPR Vittal et al reported a SBC of lateral end clavicle occurring in a 65 years old male which was treated with lateral end excision and reconstruction with iliac bone graft.⁵

Orhan et al reported a case of 8 years old girl with a solitary bony swelling in the right clavicle which resembled a simple bone cyst on MRI scan but biopsy confirmed it to be aneurysmal bone cyst.⁶

Yashavnta KC et al reported a case of benign bone tumour of medial end of clavicle in a 6 years girl which revealed to be aneurysmal bone cyst.⁷

Treatment of simple bone cyst vary according to bone affected, location within the bone and presence or absence of fracture. SBC of clavicle is a rare entity and no definitive management has been mentioned in the literature. We performed extended curettage with H₂O₂ and bone grafting.

CONCLUSION

Benign tumours of the clavicle, even though rare, should be kept in the differential diagnosis of bony swelling of the clavicle. Earlier diagnosis of these rare lesions will help in timely management and prevent adverse outcomes.

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