

Aneurysmal Bone Cyst of the Clavicle: A Case Report

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Learning Point of the Article:

Aneurysmal bone cyst of the clavicle though rare can occur and also be treated successfully with surgery.

Abstract

Introduction: Aneurysmal bone cyst is a rare benign solitary tumor of the long tubular bones, pelvis, and vertebrae which rarely affects the clavicle. It is common in the adolescent age group and rare in old age. The characteristic radiological suggests and histopathological picture confirms its diagnosis. This case is of interest because there are only a few cases of aneurysmal bone cyst of the clavicle reported to date.

Case Report: An 11-year-old boy presented with a history of pain in the right clavicular area for 3 months associated with swelling which gradually increased in size. The radiograph showed an expansile bony mass at the lateral fourth of the right clavicle with internal septations with thinning of the cortex and no evidence of periosteal reaction. The affected part of the lateral part of the clavicle was resected leaving the thick periosteum intact. Histologically, section revealed solid and cystic areas. The cysts were separated by septa and filled with hemorrhage and beneath the surface showed osteoid bone formation and multinucleated giant cells. Stroma showed loosely arranged spindle cells which had vesicular nuclei, inconspicuous to prominent nucleoli, and moderate amount of eosinophilic cytoplasm. Prominent blood vessel proliferation was evident. Pleomorphism and mitotic figures were not seen in the specimen. The overall histological picture was that of an aneurysmal bone cyst.

Conclusion: Aneurysmal bone cyst occurring in this age group is not so common in the clavicle. This is a rare case which requires mention in literature. Our case was treated by marginal resection. On regular follow-up, the regeneration of the bone within the intact periosteum can be seen.

Keywords: Aneurysmal bone cyst, clavicle, tumor.

Introduction

Aneurysmal bone cyst is a rare [1] benign solitary tumor of the long tubular bones, pelvis, and vertebrae which rarely affects the clavicle [2]. It is common in the adolescent age group [3] and rare in old age. The characteristic radiological [3] suggests and histopathological picture [4] confirms its diagnosis. This case is of interest because there are only a few cases of aneurysmal bone cyst of the clavicle reported to date [5, 6, 7].

Case Report

An 11-year-old boy presented with a history of pain in the right clavicular area for 3 months. The pain was acute in onset

associated with swelling which gradually increased in size. There was no history of recent trauma, no history of loss of weight.

On local examination, there was a localized swelling over the right clavicular area which was tender. There were no skin changes — no neurovascular deficits on the ipsilateral upper limb.

Radiograph at the time showed an expansile bony mass at the lateral fourth of the right clavicle with internal septations with thinning of the cortex and no evidence of periosteal reaction (Fig. 1).

The affected part of the lateral part of the clavicle was resected

Author's Photo Gallery



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Figure 1: An expansile lytic lesion in the lateral third of the right clavicle.

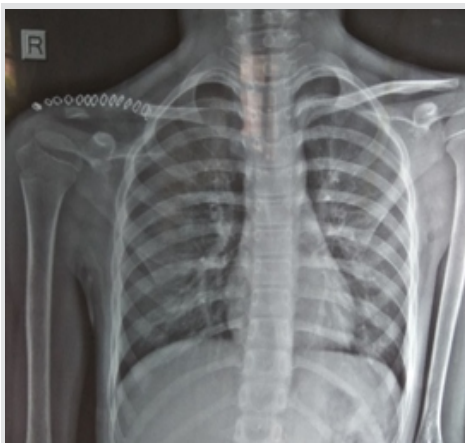


Figure 2: Post-operative X-ray showing marginal excision of the tumor.

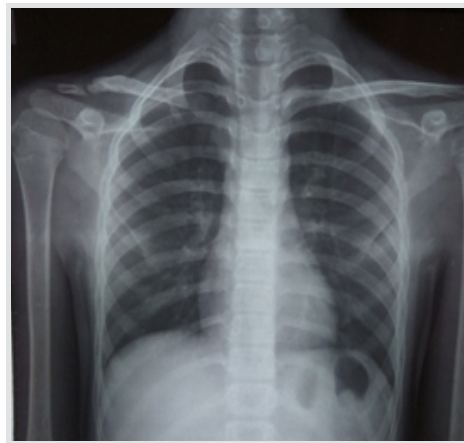


Figure 3: Five-month post-operative X-ray showing regeneration of the bone within the intact periosteum.

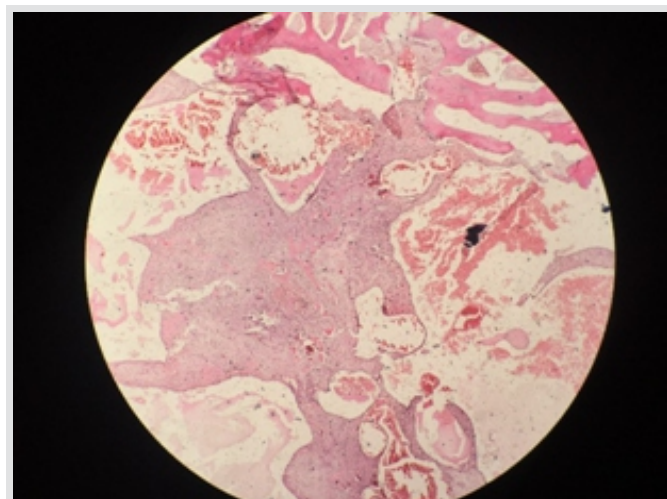


Figure 4: Images show solid cystic areas filled with hemorrhage and beneath the surface shows the osteoid bone formation and multiple multinucleated giant cells.

leaving the thick periosteum intact (Fig. 2). The surgical specimen measuring $4 \times 2 \times 1$ cm showed a multiloculated cyst of about 1.7 cm along with solid areas measuring 1.5 cm. The cyst wall showed focal blackish areas. Histologically, section revealed solid and cystic areas. The cysts were separated by septa and filled with hemorrhage and beneath the surface showed osteoid bone formation and multinucleated giant cells. Stroma showed loosely arranged spindle cells which had vesicular nuclei, inconspicuous to prominent nucleoli, and moderate amount of eosinophilic cytoplasm. Prominent blood vessel proliferation was evident. Pleomorphism and mitotic figures were not seen in the specimen. The overall histological picture was that of an aneurysmal bone cyst.

Discussion

The term aneurysmal bone cyst was first given by Jaffe and Lichtenstein while describing its radiological features in 1942 [8].

Aneurysmal bone cyst occurring in this age group is common but not so much in the clavicle [2]. Rarer are the occurrences of

this tumor in the rib, skull, and mandible. The occurrence of the lesion seems to be rarer in the medial third which has been reported [9].

Aneurysmal bone cyst can also be found in association with other lesions such as giant cell tumor, chondroblastoma, osteoblastoma, fibrous dysplasia, nonossifying fibroma, and chondromyxoid fibroma [10, 11, 12].

Patients usually present with pain, swelling around the lesion, and sometimes coinciding history of trauma.

These tumors can be treated by extended curettage, marginal resection, arterial embolization, and rarely low dose radiation [10]. Furthermore, cases have been treated with bisphosphonates in areas where it is unresectable or for recurrences [13, 14].

Our case was treated by marginal resection. On regular follow-up, the regeneration of the bone within the intact periosteum can be seen (Fig. 3).

There is also a chance of recurrence in our case which is overall 10–20% and more so in the age group which in literature is considered to be due to insufficient curettage [4, 12].

Conclusion

Aneurysmal bone cyst occurring in this age group in the clavicle is a rare presentation which requires mention in literature. Our case was treated by marginal resection. On regular follow-up, the regeneration of the bone within the intact periosteum can be seen (Fig. 4).

Clinical Message

Aneurysmal bone cyst of the clavicle though rare should be a consideration in tumors of the clavicle. It is a challenging diagnosis and since it is a curable tumor with minimal recurrence, our aim should be curative.

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