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ANEURSYMAL BONE CYST IN LATERAL END OF CLAVICLE : CASE REPORT

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ABSTRACT

Aneursymal bone cyst is an expansile cystic lesion, benign but can be locally aggressive, characterised by spongy or cystic tissue filled with blood. Affects during 2nd decade of life and accounts for 2.5% of all bone tumors. Clavicle is a very rare site for aneurysmal bone cyst to occur, hence here we report such rare case of aneurysmal bone cyst of clavicle.

KEYWORDS Aneurysmal Bone Cyst, Clavicle, Bone Tumour

Introduction

Aneurysmal bone cyst is a benign bone tumour but locally aggressive lesion characterized by expansile cystic lesion filled with blood. The origin of the term "aneurysmal bone cyst" stems from two cases reported by Jafte and Lichtenstein.1 This tumour is most common during second decade of life and the ratio of female to male is 2:1[2] ABC's can be found in any bone in the body. The most common location is the metaphysis of the lower extremity long bones. The vertebral bodies or arches of the spine also may be involved. Approximately one-half of lesions in flat bones occur in the pelvis. Clavicle is a very rare site for aneurysmal bone cyst to occur, hence here we report such rare case of aneurysmal bone cyst of clavicle.

Case report

A 12 year old girl presented with a solitary swelling in her left shoulder region (Fig.1) since 6months, increasing progressively to present size of a lemon. Swelling was present over the acromial end of the clavicle with smooth surface, distinct edges, bony hard consistency, non tender and skin over swelling normal and pinchable. Swelling was immobile and egg shell crackling sensation was present. X-ray showed eccentric expansile cystic lesion in lateral end of clavicle, "soap bubble" appearance with thinned cortex is noted (Fig.2). CT scan showed multiple fluid-fluid levels within the cystic spaces.

Patient was posted for surgery. Intra-operatively, initially a 10cc disposable syringe was used to aspirate the contents of the cavity. The content was found to be a blood-fluid (Fig. 4). Lesion was excised with complete curettage of inner wall and the cavity was filled with cortico-cancellous strip of autologous iliac crest bone graft. Limb was immobilized in cuff and collar sling. Postoperative period was uneventful. Histopathological examination of the specimen confirmed the diagnosis of aneurysmal bone cyst.

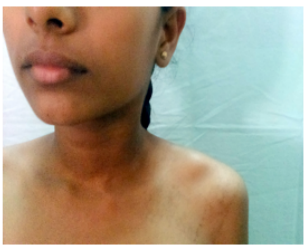

Fig.1 Swelling in her left shoulder region.

Fig.2 X-ray showing Aneurysmal bone.

Fig.3 CT scan showing Aneurysmal bone cyst.

Fig.4 Intra-operative photograph showing blood-fluid in the cyst.

Discussion

Aneurysmal bone cyst is a benign bone tumour but locally aggressive lesion characterized by expansile cystic lesion filled with blood. This tumour is most common during second decade of life and the ratio of female to male is 2:1.[2] The most common location is the metaphysis of the lower extremity long bones. The vertebral bodies or arches of the spine also may be involved. Approximately one-half of lesions in flat bones occur in the pelvis.

The true etiology and pathogenesis of ABCs is unknown. Most investigators believe that ABCs are the result of a vascular malformation within the bone; which may be arteriovenous fistula or venous blockage. This lead to local haemorrhage which initiates formation of reactive osteolytic tissue.[3] ABC may also arise from area of previous trauma.

Patients usually present with pain and swelling of several weeks to months duration. Neurologic symptoms may develop secondary to compression of the nerve over the lesion, typically in the spine. Radiograph shows blowout or ballooned distension of periosteum outlined by a paper-thin shell of subperiosteal bone. The lesion is typically eccentric, expansile lytic, involves metaphyses and may have a soap-bubble appearance. Rarely, aneurysmal bone cyst may cross joints and involve several adjacent bones, especially in the spine. CT shows the multiloculated cystic nature of the lesion and may also show fluid levels.[4] MRI demonstrates the expansile nature of the cyst encircled by a thin rim of periosteal bone[5].

Grossly aneurysmal bone cyst appears as a blood soaked sponge which shows brownish tissue with intervening septa. The stroma contains proliferative fibroblasts, spindle cells, areas of osteoid formation, and an uneven distribution of multinucleated giant cells that tend to surround the fluid filled cavities in a "pigs at the trough" formation.

Differential diagnoses of aneurysmalbone cyst include giant cell tumour, chondromyxoid fibroma and telangiectaticosteosarcoma[6]

Treatment of aneurysmal bone cyst is complete curettage and bone grafting ,complete excision is not possible all the time due to functional impairment produced.[7] Embolization of feeding vessels may decrease vascularity making surgical procedure less bloody.The surgeon may also use adjuvant therapy, which extends the area of treatment beyond that which can be physically excised. The use of liquid nitrogen, phenol, argon beam gas plasma photocoagulation, and polymethylmethacrylate (PMMA) may achieve an extended area of treatment.[8]

The clavicle is an uncommon site for bone tumours.Despite its rarity, aneurysmal bone cyst should be considered in the differential diagnosis when a physician sees a patient with clavicular swelling

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