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Soft Tıssue Aneurysmal Bone Cyst: A Case Report And A Revıew Of The Lıterature.

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ABSTRACT

Aneurysmal bone cyst (ABC) is a benign, locally aggressive tumor of long bone and vertebral bodies. Soft tissue aneurysmal bone cyst (STABC) is an extremely rare entity that has same morphology as their osseous counterparts. The aim of this study is to keep in mind STABC in differential diagnosis of some benign and malignant tumors. A 68-year-old male presented with a swelling on his right shoulder. Radiographic imaging revealed a 9 cm calcified mass in latissimus dorsi. Excision material was interpreted as STABC. STABC is a tumor which is composed of cystic areas intermingled with reactive bone formation, hemorrhage, mononuclear cells, spindle cells and osteoclastic giant cells. This tumor has morphological features in common with variable benign and malignant entities so that it must be kept in mind for differential diagnosis.

Keywords: Soft tissue aneurysmal bone cyst.

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INTRODUCTION

Aneurysmal bone cyst (ABC) is a benign, locally aggressive tumor which was first described by Jaffe and Lichtenstein in 1942 [1]. The development of this lesion was regarded as a reactive process but Panoutsakopoulos et al demonstrated the presence of a chromosomal translocation t(16;17)(q22;p13) that leads to upregulation of USP6 transcription in two osseous cases, suggesting a neoplastic process [2]. Secondary ABC arises in association with another condition in a pre-existing lesion such as giant cell tumor, chondroblastoma, fibrous dysplasia or osteosarcoma. USP6 rearrangements are not found in secondary ABC [3]. Radiologically, it is characterized by an erosive and destructive expansile lesion of placing eccentrically in the bone.

Soft tissue aneurysmal bone cyst (STABC) is an extremely rare entity that was first described by Salm and Sissons in 1972 [4]. Histologically, it is composed of blood-filled cystic spaces separated by fibrous septa that contain an admixture of fibroblasts, variable numbers of osteoclast-type giant cells, and reactive woven bone [5]. Seldom cases were reported in the literature [6-18]. The aim of this study is to present the eldest case of STABC owing to its difficulty to differentiate other entities.

RESEARCH

A 68-year-old male presenting with a swelling on his right shoulder was admitted to Cukurova University Department of Orthopedics and Traumatology. Computed Tomography (CT) imaging revealed a 9 cm diameter calcified mass involving latissimus dorsi and subscapular area. The mass was not connected to bone radiographically (Figure 1). The clinician had a suspicion for malignancy and planned biopsy. A patient information leaflet was received before needle biopsy. The first biopsy material was composed of fibroblastic proliferation associated with reactive woven bone formation and atrophic muscle. Histopathologic features did not indicated malignancy. Subsequently a simple excision revealed similar morphology as biopsy (Figure 2). The lesion was interpreted as STABC R/O Myositis Ossificans (MO). Consecutively, lesion was totally excised and grossly, a 13x13x8 cm mass was detected. The lesion was composed of blood filled, cystic spaces separated by proliferated fibroblasts with multinucleated osteoclast-type giant cells and reactive woven bone (Figure 3). The patient is well for 17 months follow-up.

CONCLUSION

STABC is a rare benign tumor, indistinguishable from its intraosseous counterparts. Particularly, it is seen between second and third decades of life. Our case is the oldest STABC reported in the literature. The common locations are upper portion of proximal and distal extremities. Presented STABC is located in the shoulder. The main differential diagnosis includes MO. Some studies suggest that STABC is a type of cystic MO [6]. MO is a solitary benign ossifying process that has similar morphology with STABC in early stages. Lack of zonal pattern is main difference for STABC from MO. The other differential diagnosis is NF with osteoclast-like giant cells that easily mimics STABC. But characteristic delicate lacelike pattern of calcification of STABC is not seen in nodular fasciitis, and thus the entities should be readily differentiated by radiologic-pathologic correlation [6,18]. Soft tissue giant cell tumor of low malignant potential is composed of osteoclast-like giant cells, metaplastic bone and angiectatic spaces which is suggesting STABC. Whereas uniformly spreading of giant cells in this tumor is an important finding in differential diagnosis of STABC [21,22]. Ossifying fibromyxoid tumor of soft tissue (OFMT) is a rare tumor of uncertain differentiation that lacks typical calcification of STABC. Also OFMT show radiograpically more aggressive pattern and histologically myxoid background as opposed to STABC [23]. Extraskeletal osteosarcoma is a malignant mesenchymal neoplasm that produces osteoid, bone or chondroid material and is located in the soft tissues without attachment to the skeleton. Differential diagnosis is based on high grade atypical cells and malignant osteoid in osteosarcoma. Extraskeletal telangiectatic osteosarcoma is an extremely rare malignant tumor of soft tissue that is composed of markedly dilated vascular spaces. So it can mimic STABC at low power microscopic examination but anaplastic tumor cells and atypical mitoses of extrasekeletal telangiectatic osteosarcoma do not exist in STABC [24].

In conclusion with the presented rare case of STABC must be kept in mind because of resembling a variety of benign and malignant tumors. Clinical and radiological imaging are helpful to diagnose and to differentiate STABC from other mimickers.

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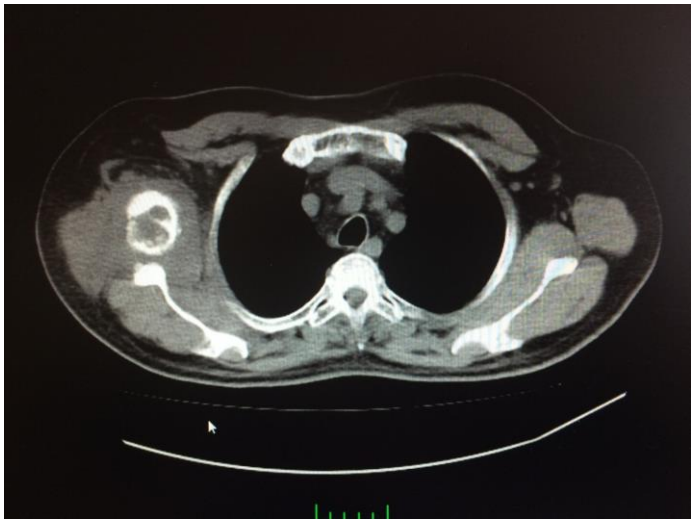

Figure 1: A 9 cm calcifying soft tissue mass involving latissimus dorsi and subscapular area. (Computed Tomography)

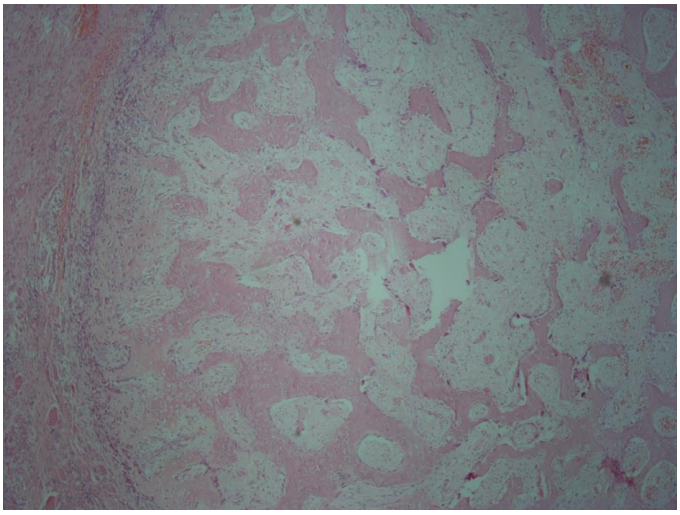

Figure 2: (H&E, X40) Simple excision material was composed of reactive woven bone formation intermingled with fibroblastic proliferation.

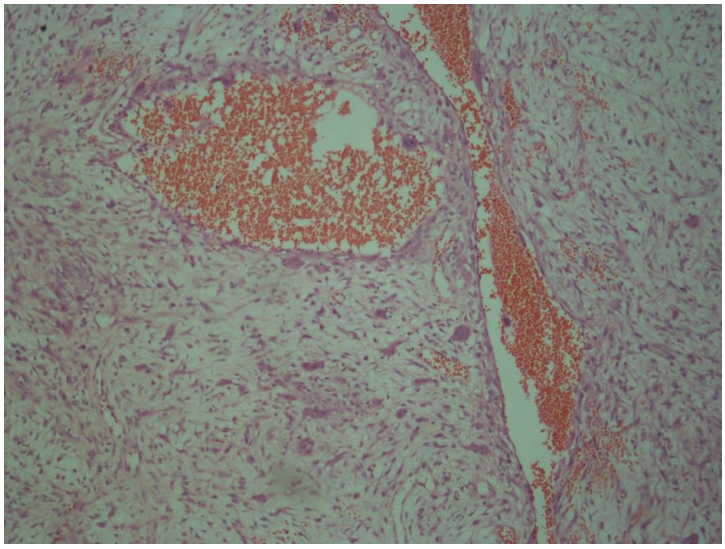

Figure 3a: (H&E, X100) The surgical specimen was composed of blood filled cystic spaces, fibroblastic proliferation and osteoclast type giant cells.

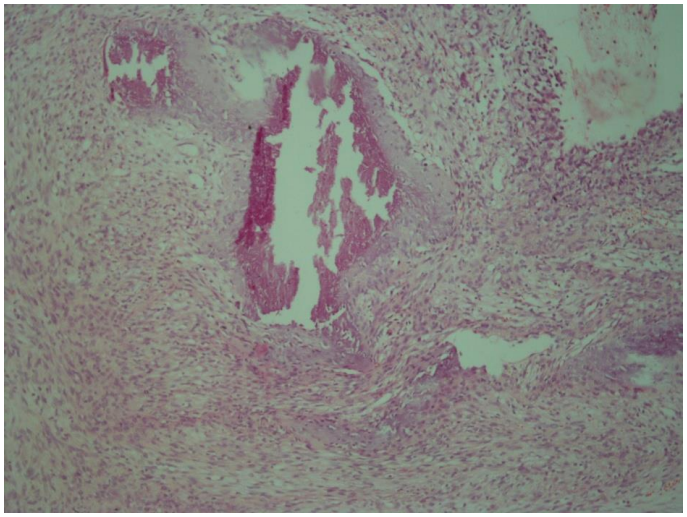

Figure 3b: (H&E, X40) The basophilic course calcification is intermixed with the lesion.

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