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Case Report

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ANEURYSMAL BONE CYST OF 11TH RIB: A RARE CASE REPORT

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ABSTRACT

Introduction: Aneurysmal bone cyst (ABC) is an expansile tumor like benign lesion. These lesions are commonly found in children and young adults. Most common sites for aneurysmal bone cyst are long bones including vertebral column. Such lesions in ribs, especially in elderly is extremely a rare condition. **Case report:** We reported a case of a 58 years old woman with an aneurysmal bone cyst of right 11th rib and she was treated with En bloc chest wall resection. She was presented with the history of right chest wall swelling which was gradually increasing in size with pain. The pathological findings confirm the diagnosis of aneurysmal bone cyst. **Discussion:** ABC accounts for only 5% of all primary bone tumors. ABC is not a true neoplasm, cyst or aneurysm. ABC is mainly present in metaphysis of long bones like femur, tibia, vertebrae and pelvis. Presence of ABC in rib is a rare condition. ABC can be present in any rib but its presence in lower three ribs has never been reported before. In our case the age of the patient and the site of ABC both are unusual since it is extremely rare in the elderly and it is never been reported before in lower three ribs. **Conclusion:** Aneurysmal bone cyst in ribs especially in elderly patients is a rare benign tumor like lesions. Such cyst has never been reported before in lower three ribs. En bloc resection can be the best treatment for the cure.

KEYWORDS: Aneurysmal Bone Cyst, Benign, Rib, En bloc resection.

INTRODUCTION

Aneurysmal bone cyst (ABC) was first reported by Jaffe in 1942. He used this term to describe the "blow out" radiographic appearance and blood filled contents of the cystic spaces.[1] ABC is an expansile, benign tumor like lesion that predominantly occurs in children and young adults, mainly involving the metaphysis of the long bones, vertebrae, spine and pelvis.[2] ABC occurring as a rib tumor is rare, especially in elderly.[3] We report a case of 58 years old female with ABC arising from the right 11th rib treated with En bloc chest wall resection.

CASE REPORT

A 58 years old woman was admitted to our hospital with a 2 months history of right chest wall swelling which was gradually increasing in size with pain. Patient complained of mild continuous pain which get aggravated on bending down. She had no history of trauma or prior chest surgery and she was a known case of diabetes mellitus for which she was on medications. Physical examination revealed a single, well defined, soft, non-tender mass of 10 x 6 cm on 11th rib on right posterolateral chest wall.

Her routine laboratory test results were normal. After initial assessment, a digital chest radiograph (PA view) was performed and it showed consolidation in right lower zone of lung with pleural effusion. A contrast enhanced computed tomography (CECT) of chest showed a multilobulated expansile lytic lesion on 11th rib with large heterogenous enhancing solid cyst component infiltrating into the right lateral abdominal wall. Ultrasonography of whole abdomen revealed the presence of well-defined heterogenous collection beneath right lateral abdominal wall which measured around 8.4 X 5.8 cm along with thick septa which measured around 7.3 mm. The presumptive clinical diagnosis was chondrosarcoma. After all diagnostic investigations, she underwent the surgery. A right sided thoracotomy was done. Right 11th rib was explored through an incision. The mass was resected totally en bloc along with the affected part of the 11th rib, underlying peritoneum and adjacent intercoastal muscles [figure 1.(A) and1.(B)]. The chest wall was closed with primary repair of diaphragm with composite mesh. Reconstruction was done under general anaesthesia on.

ABC was diagnosed pathologically. The patient was discharged on 7th post-operative day with an uneventful recovery and now she is on follow up since 3 months.

On microscopic examination blood filled multiple cavernous spaces separated by fibrous connective tissue with hemosiderin laden macrophages, multinucleated osteoclastic giant cells and well developed vascular spaces with hemorrhage in the septa lining the cystic

spaces, confirming the diagnosis of ABC [figure2.(A) and 2.(B)].

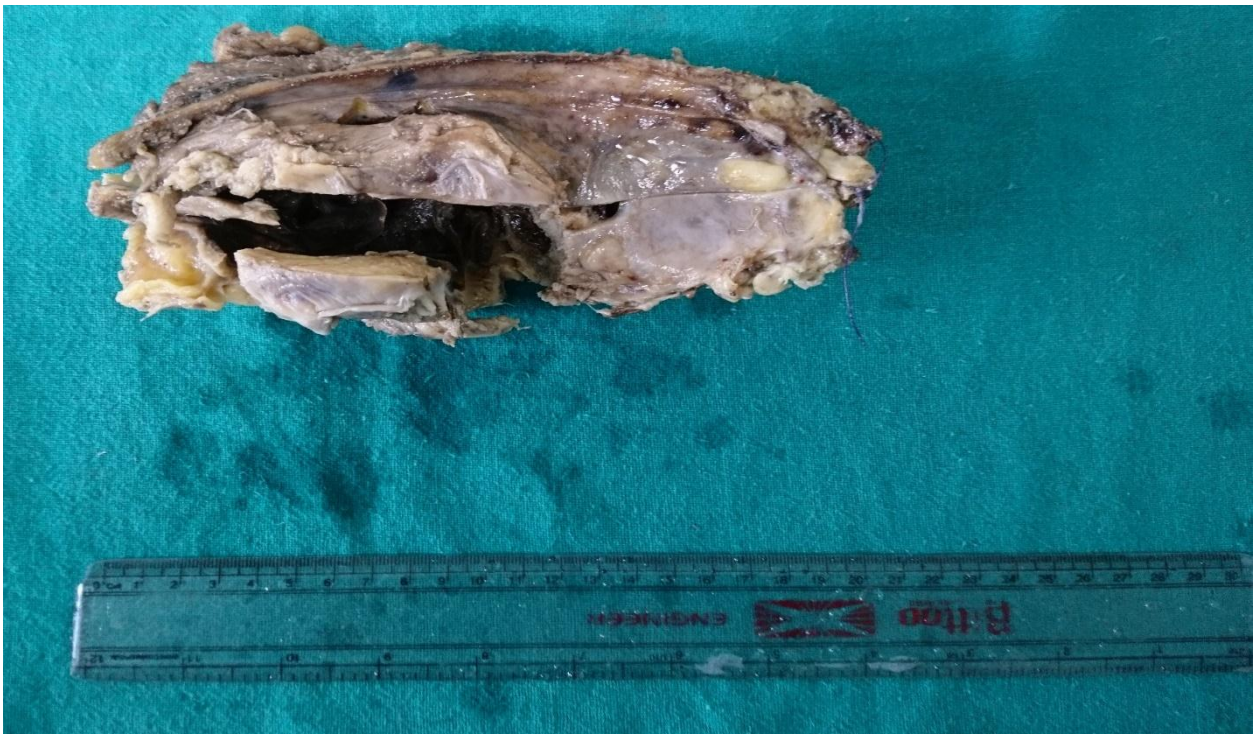

FIGURE 1.(A)

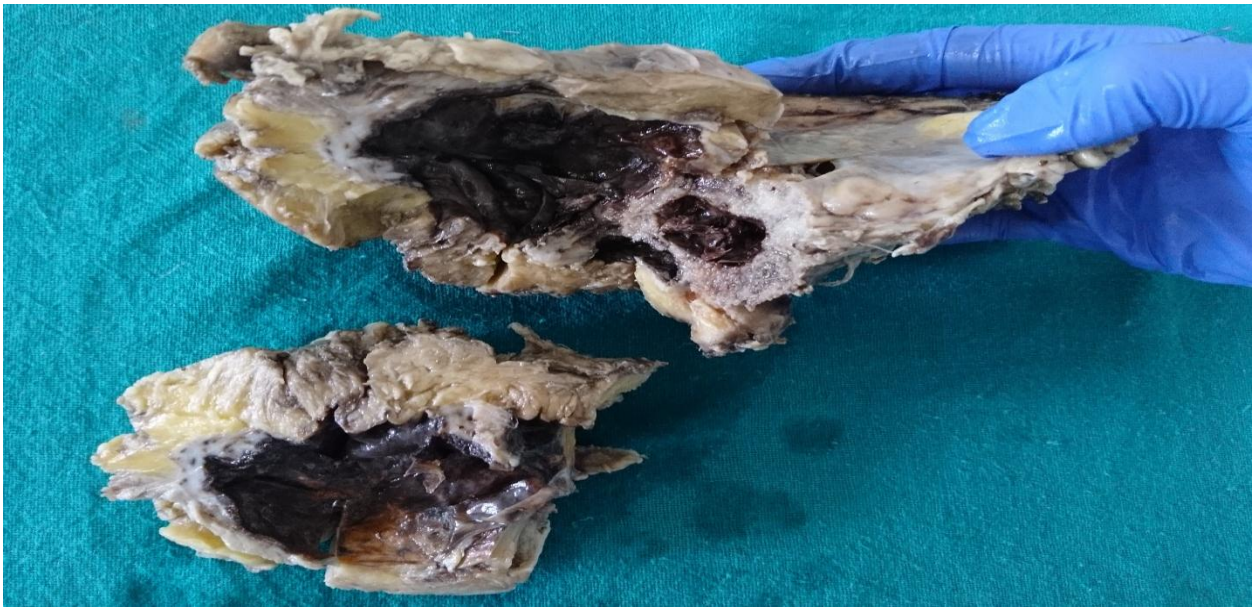

FIGURE 1.(B)

[FIGURE 1.(A) and 1.(B): Macroscopic appearance of the resected specimen of 11th rib aneurysmal bone cyst].

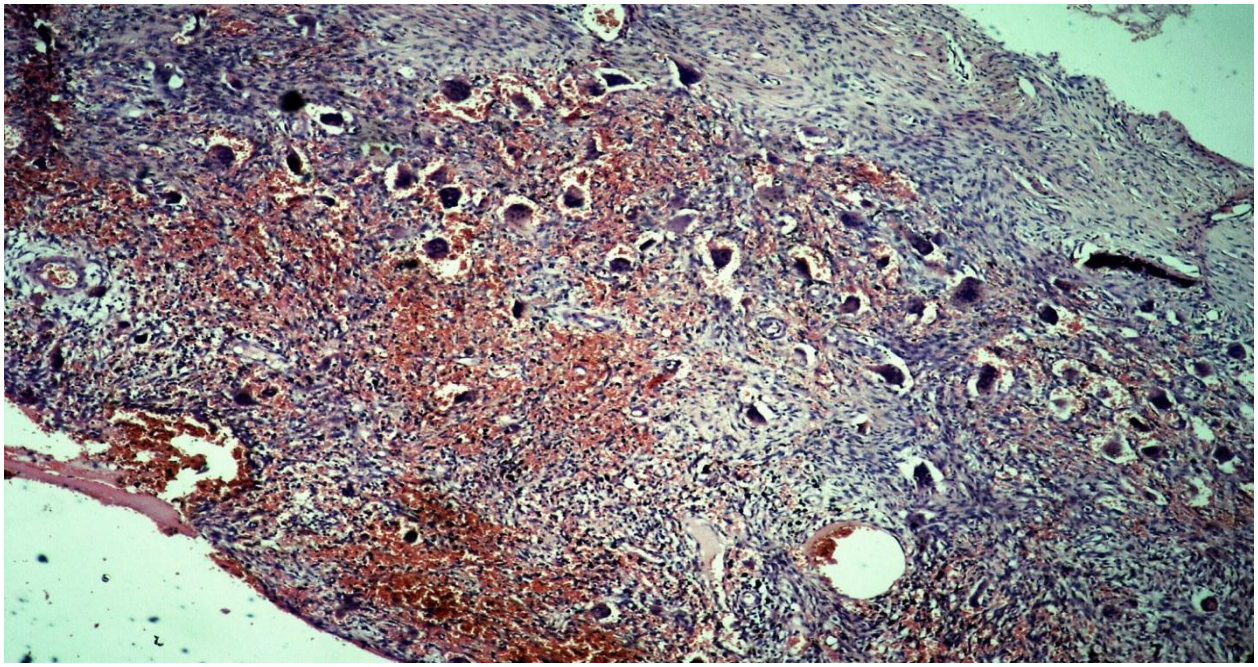

FIGURE 2.(A)[400X].

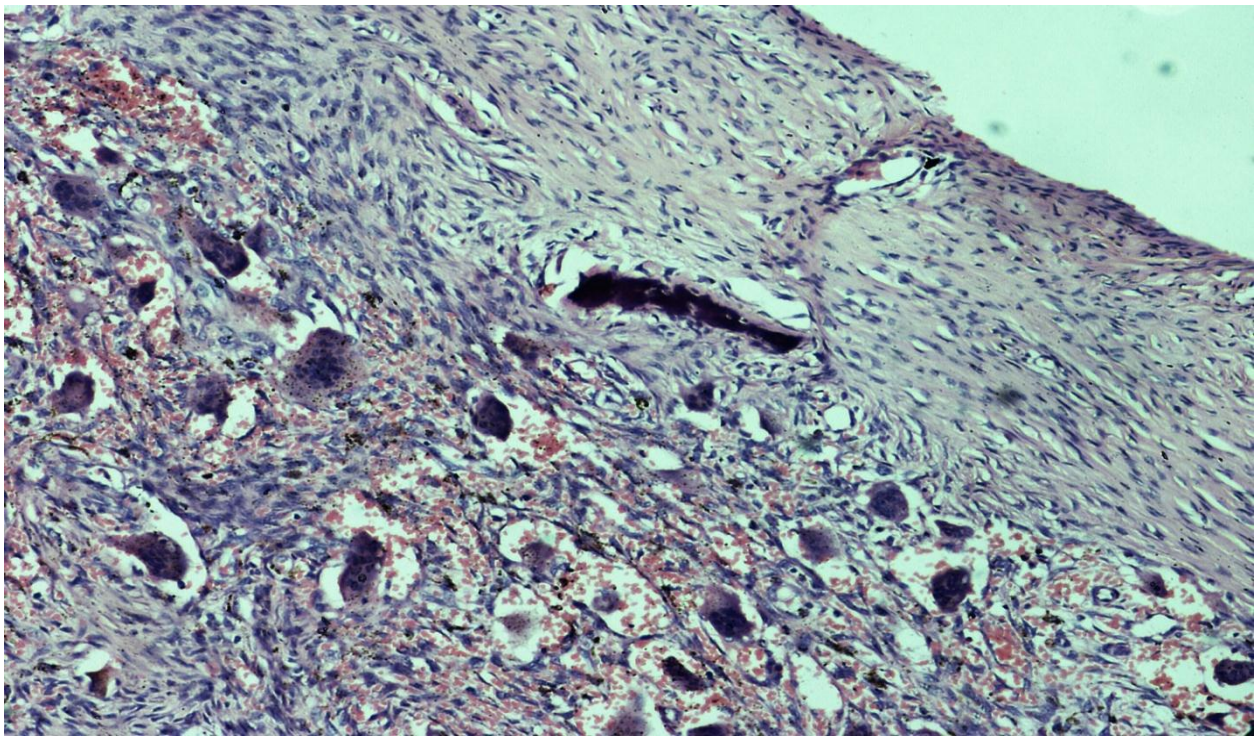

FIGURE 2.(B)[1000X].

[FIGURE 2.(A) and 2.(B): Microscopic view of rib aneurysmal bone cyst showing blood filled multiple cavernous spaces, multinucleated osteoclastic giant cells and well developed vascular spaces with hemorrhage in the septa lining the cystic spaces (hematoxylin and eosin staining)].

DISCUSSION

ABC accounts for only 5% of all primary bone tumors.[4] ABC is not a true neoplasm, cyst or aneurysm.[3] The term "cyst" or "aneurysm" arises from "blow out" radiographic appearance and blood filled contents of the cystic spaces. Grossly, the ABC comprises of paper thin cortex and multiple blood filled cavities. The etiology and pathogenesis of ABC remains unclear; trauma and circulatory disturbances due to arteriovenous malformation is greatly accepted.[5] There are two types of ABC, primary and secondary. If no previous bone lesion has been identified just like in our case, it is considered as Primary ABC and if it is associated with other previous bone lesions like non-ossifying fibroma, fibrous dysplasia, chondromyxoid fibroma or osteoblastoma it is considered as secondary.[6] ABC is an

expansile, benign and progressive tumor like lesion that comprises 1.3% of all primary bone tumors.[4] ABC is mainly present in metaphysis of long bones like femur, tibia, vertebrae and pelvis. Presence of ABC in rib is a rare condition.[2] ABC can be present in any rib but its presence in lower three ribs has never been reported before.[7] In our case the age of the patient and the site of ABC both are unusual for ABC since it is extremely rare in the elderly and it is never been reported before in lower three ribs. There is no sex and race predominance.[2]

Symptoms of ABC are non-specific and it is diagnosed incidentally on routine examination. Symptoms with which patient of rib ABC is presented are chest pain (46%), swelling of the chest wall (21%), dyspnea (7%) and pathological fractures (2%). According to literature the most common complaints with which patient of rib ABC presented are chest pain and swelling as in our patient. A CT-scan is of great value in differential diagnosis of rib lesions. In our patient CECT chest revealed a multilobulated expansile lytic lesion of right 11^{th} rib with large heterogenous enhancing solid cyst component infiltrating into the right lateral abdominal wall. Methods of treatment of ABC include curettage and bone grafting, curettage and cryosurgery, radiation or en bloc resection. Treatment of choice is complete excision of affected rib as done in our patient.

CONCLUSION

ABC of 11^{th} rib in elderly patient is a rare case. Rib ABC diagnosis in pre- operative period could be difficult due to its rarity and similarity with other rib lesions. Differential diagnosis of rib tumors should always include ABC, although it is a rare cause of rib tumor. Complete surgical excision is the best treatment for cure.

REFERENCES

1. Hughes EK, James SL, Butt S, Davies AM, Saifuddin A: Benign primary tumours of the ribs. Clin Radiol, 2006; 61: 314-322.
2. Gunes D, Mutafoglu-Uysal K, Sarialioglu F, Cakmakci H, Olgun N. Aneurysmal bone cyst of rib presenting as a huge chest wall mass. Turk J pediatr, 2009; 51: 82-5.
3. Biesecher JL, Marcone RC, Huvos AG, Miké V: Aneurysmal bone cysts. A clinicopathologic study of 66 cases. Cancer, 1970; 26: 615-625.
4. Friedman B, Yellin A, Huszar M, Blankstein A, Lotan G. Aneurysmal bone cyst of the rib: a review and report of two cases. Br J Dis Chest, 1988; 82(2): 179-185.
5. Yasaroglu M, Ketenci B, Demirbag H, Yildirim M, Dogusoy I. Aneurysmal bone cyst of the rib: a case report. J Med Case Rep., 2009; 3: 8457.
6. Huvos AG: Bone Tumors, Diagnosis, Treatment and Prognosis. Philadelphia, PA: WB Saunders, 1991: 727-743.
7. Yoshida K: Aneurysmal bone cyst of the rib: report of a case. Surg Today, 2005; 35: 1073-1075.