



ANEURYSMAL BONE CYST OF CUBOID- RARE/MISSED ENTITY- A CASE REPORT

Dr. Satyen Joshi	Associate Professor, Department of Orthopedics, Dr Vasant Rao Pawar Medical college, Adgaon, Nashik-422003 (India)
Dr. Brijbhushan Mahajan	Assistant Professor, Department of Orthopedics, Dr Vasant Rao Pawar Medical college, Adgaon, Nashik-422003 (India)
Dr. Nitish Agrawal*	Post Graduate Resident, Department of Orthopedics, Dr Vasant Rao Pawar Medical college, Adgaon, Nashik- 422003 (India)*Corresponding Author
Dr. Bhalchandra Bhalerao	Post Graduate Resident, Department of Orthopedics, Dr Vasant Rao Pawar Medical college, Adgaon, Nashik- 422003 (India)

ABSTRACT Aneurysmal bone cyst (ABC) of cuboid is a rare benign pathology. Here we would like to report a case of ABC of cuboid managed by curettage with filling of bone substitute Beta-Tricalcium Phosphate. Only 3 cases of ABC cuboid were reported in the literature till date.

KEYWORDS : Aneurysmal bone cyst; Cuboid; Curettage; Beta-Tricalcium Phosphate.

Introduction-

Aneurysmal bone cysts are locally destructive, expansile cystic lesions of bone and are not considered to be true neoplasms. Aneurysmal bone cyst of cuboid represents about 1% of all tumours and its location in the cuboid bone is an exceptional occurrence. Common in female with age less than 20 yrs. We treat most aneurysmal bone cysts with extended curettage and filling the defect with a bone graft substitute. The recurrence rate after curettage of an aneurysmal bone cyst is 10% to 20%. Till date only 3 cases of cuboid ABC were reported in the literature to the best of our knowledge.

Case Presentation-

A 19 year old female engineering student, presented to the clinic with a history of pain and swelling in the right foot since 8 months. The patient had no history of trauma or suggestive of any infection like fever or weight loss. Pain was insidious in onset and gradually worsened causing difficulty in walking. Pain had increased markedly over last 1 month. The patient took conservative treatment in the form of analgesics since 4 months but does not get any relief. Conventional radiographs showed a lytic lucent area within the right cuboid bone. Septations were seen, but the cortex was intact. No fractures or dislocation of the cuboid was noted (Figure 1). MRI findings suggested an 19x15x15mm in size aneurysmal bone cyst along the medial aspect of the cuboid bone with extensive surrounding marrow oedema within the cuboid with surrounding soft tissue enhancement (Figure 2).

Excision and curettage of the cyst with filling of bone substitute (Beta-Tricalcium Phosphate) in the defect was done (Figure 3). Excised sample was sent for histopathology and the diagnosis was confirmed.

Histopathology suggested benign cystic lesion of cuboid, consistent with Aneurysmal bone cyst.

At four months follow up, the patient had no pain and is able to carry out movements normally, with no signs of recurrence radiologically (Figure 4)

Discussion-

ABC of foot is a very rare benign lesion and its location in cuboid is extremely rare. Within the Mayo Clinic case register, published in 1992, 143 foot locations were described out of 238 cases (5.5%)—only 6 of which were at tarsal level (2.5%) (1,2).

Our patient was a girl with a misdiagnosis of sprain ankle. After the MRI scan, the right diagnosis was made and surgery was performed.

Various non-surgical modalities of treatment includes selective arterial embolization, intralesional injections (calcitonin, methyl prednisolone, ETHIBLOC) percutaneous aspiration and injection of

an aqueous solution of calcium sulphate (3). Various surgical modalities like curettage alone or with adjuvants (High speed burr, phenolisation, argon beam coagulation, cryosurgery, etc..) or resection of the bone have also been proposed.

Filling of the empty bone defect after curettage with bone allograft is also an option. We performed intralesional curettage with filling the cyst cavity with bone graft substitute β -Tricalcium phosphate (β -TCP). The successful use of β -TCP for ABC in other locations has been reported. Age, complication, packing methods and granule diameters have a significant influence on β -TCP degradation. A histological analysis of biopsy showed that β -TCP supported the growth of fibrous tissue, vascular tissue, as well as bone tissue into the implants. Single β -TCP use is an advantageous alternative to allografts for lacunar bone defect repair as it is well incorporated without any adverse reaction to the synthetic material (4). The excellent results has been also reported in patients with benign bone lesions treated by β -TCP mixed with autologous bone marrow showed neither recurrent disease nor complications (5).

Our patient was managed with intralesional curettage with filling the cyst cavity with bone graft substitute β -Tricalcium phosphate. No complications were observed in our patient and there were no signs of recurrence.

Conclusion-

ABC of the cuboid is a very rare benign tumour. Its diagnosis can be challenging and overlooked. Radiologic imaging such as MRI scans and plain radiographs should be supplemented with an open biopsy for the final diagnosis. Managing ABC of the cuboid with curettage and bone graft substitutes β -Tricalcium phosphate has shown good outcomes. The procedure is safe with good clinical and functional outcomes without complications and recurrence.

Conflict of Interest

The authors declare no conflict of interest in relation with this paper.

Figures

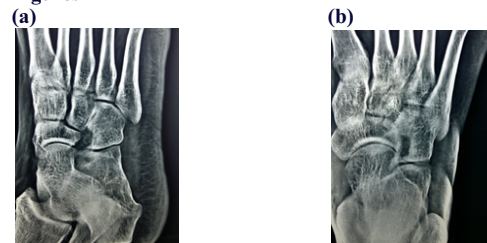


Figure 1. (a) and (b) X-ray showing a lytic lucent area within the right cuboid bone with septations and intact cortex

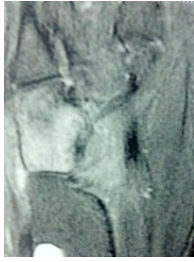


Figure 2. MRI showing aneurysmal bone cyst along the medial aspect of the cuboid bone with extensive surrounding marrow oedema with surrounding soft tissue enhancement.

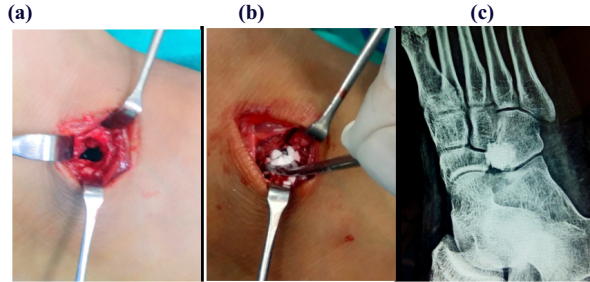


Figure 3. (a) Clinical photograph showing Cuboid defect after excision and curettage of the cyst. (b) And the Cuboid defect filled with Beta-Tricalcium Phosphate. (c) X-ray showing filled defect with Beta-Tricalcium Phosphate.



Figure 4. (a) Clinical photograph showing scar mark after 4 months. (b) X-ray showing no signs of recurrence at 4 months follow up.

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