A CASE OF ANEURYSMAL BONE CYST OF RING FINGER TREATED BY SIMPLE CURETTAGE AND BONE GRAFTING

Dr. S. Surya[1]*, Dr. Karthikeyan. M[2], Dr. Madhukar[3]

Abstract:
Aneurysmal bone cysts are non-malignant, tumor-like, vascular lesions that can grow aggressively, be locally destructive, and weaken bones to the point of pathologic fracture. They are more common in paediatric patients and can cause significant morbidity, especially if they involve the growth plate of bones. This activity reviews the evaluation and treatment of aneurysmal bone cysts and highlights the role of the an interprofessional healthcare team in evaluating and treating patients with this condition.

[1]*Post Graduate Resident, Department of Orthopaedics, Sree Balaji Medical College and Hospital, Tamil Nadu, Chennai.
[2]Post Graduate Resident, Department of Orthopaedics, Sree Balaji Medical College and Hospital, Tamil Nadu, Chennai.
[3]Professor, Department of Orthopaedics, Sree Balaji Medical College and Hospital, Chromepet, Tamil nadu, Chennai.

***Corresponding Author:** Dr. S. Surya
*Post Graduate Resident, Department of Orthopaedics, Sree Balaji Medical College and Hospital, Tamil Nadu, Chennai. Email: sansarsur@gmail.com

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INTRODUCTION :

Aneurysmal bone cysts are a rare osseous tumor, comprising 1% to 6% of primary osseous tumors. According to a retrospective study, the incidence of primary aneurysmal bone cysts was 0.14 per 10 people. The majority of patients diagnosed with an aneurysmal bone cyst (8 out of 10) are children and adolescents less than 20 years old. There is a slightly increased incidence rate seen in females .Because aneurysmal bone cysts primarily manifest in paediatric patients, growth plate involvement and permanent limb length deformities are of great concern.

Researchers believe aneurysmal bone cysts to be due to a vascular malformation, with the definitive cause being unknown. The current thinking is that the vascular malformations lead to increased pressure and expansion in the bone itself, causing erosion and resorption of the involved bone.

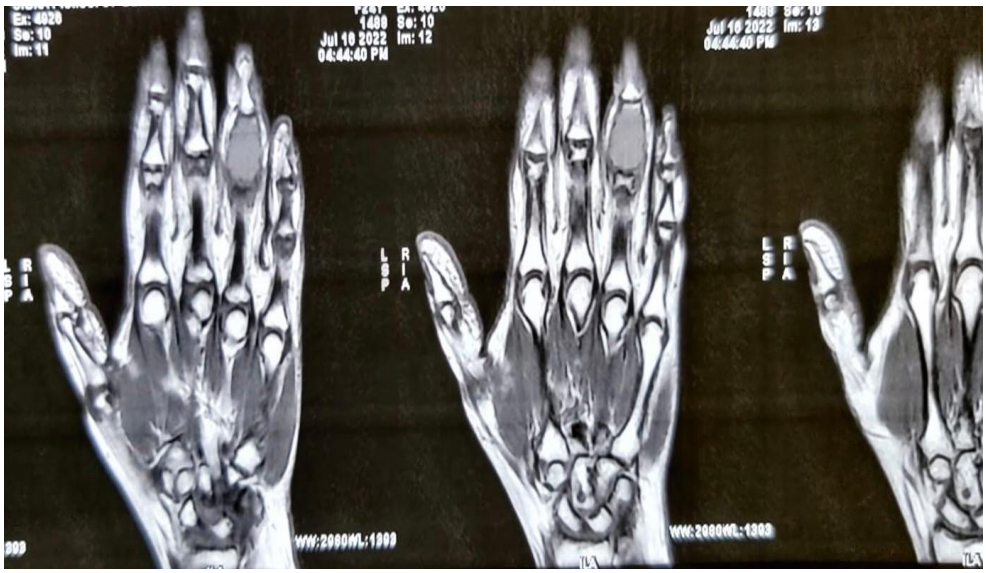
CASE REPORT :

A 24 year old female vanmathi came to the opd with complaints of a swelling over the proximal phalanx of ring finger. The swelling was insidious in onset and gradually progressive in nature. There was no associated pain but restriction of movements were present. The skin was pinch-able and the swelling was firm in consistency. Since the patient worked in a beauty parlour her daily activities were affected. The basic investigations were done and the patient was planned for simple curettage with bone grafting of the middle phalanx of ring finger.

Figure 1 : Clinical image showing swelling in the left ring finger

Routine blood tests were conducted and preoperative planning was done. Standard hand xray anteroposterior and oblique views were planned.

Xray showed features of aneurysmal bone cyst (An eccentric expansive lesion)



MRI of the hand was taken which confirmed the findings.

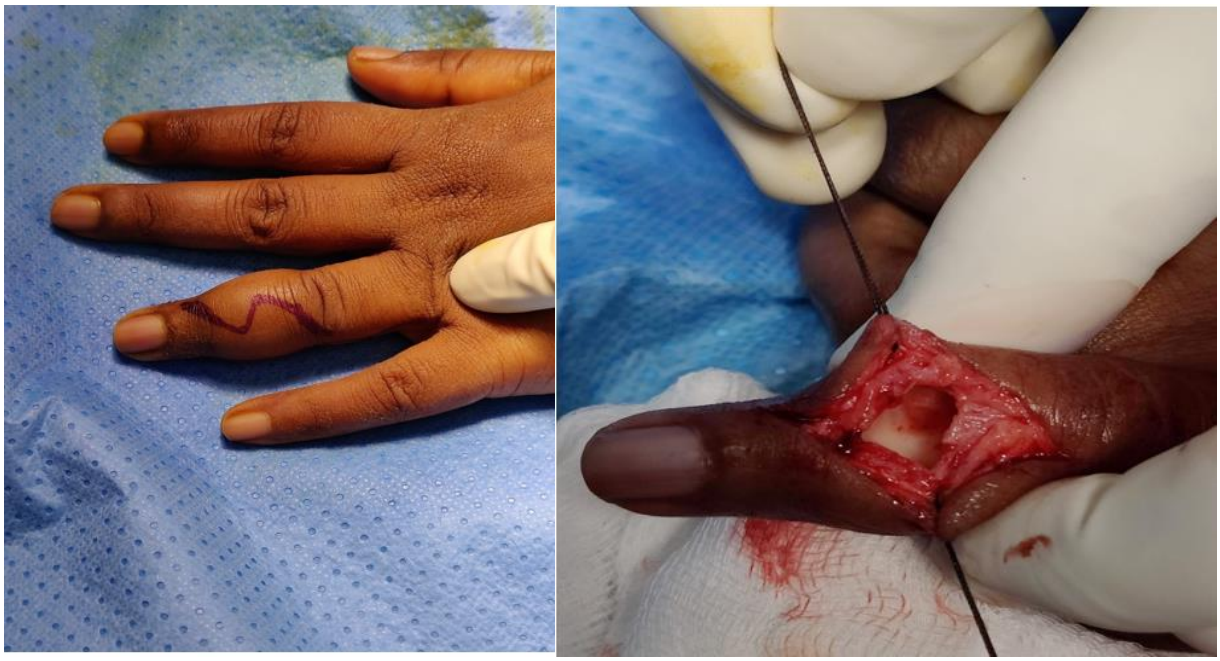
Surgery was planned(Simple curettage of the aneurysmal bone cyst with bone grafting) for removal of the swelling.

ENNEKING CLASSIFICATION

- Stage 1: Latent (inactive) - These tumours are usually found incidentally and are asymptomatic.
- Stage 2: Active - These tumours are discovered due to the symptomatic discomfort of the patient. They are steadily growing and may be palpable.
- Stage 3: Aggressive - These tumours are typically found due to significant patient discomfort and a possible visible abnormality with inflammation. Although these tumors are benign, they act very similarly to low-grade malignancy.

SURGICAL TECHNIQUE :

AS shaped incision was made over the proximal phalanx of the ring finger and the swelling was dissected. A syringe was used to drain the blood from the bony hollow and debridement was done until further bleeding. After thorough debridement wound wash was given and the bone graft from the iliac crest was placed and vancomycin powder was applied after which the wound was close in layers Sterile dressing done and below elbow slab applied.



Intra operative image

Bone Gra)ing from iliac region

Bone Gra) was taken by an incision below the inguinal ligament and nibbling out of bone which was placed in the defect created at the middle phalanx

Intra OP Carm pictures

POST OPERATIVE MANAGEMENT AND ASSESSMENT :

Post operatively the tissue removed was sent for histopathological analysis and it was found to be benign. The patient was placed on a below elbow cast for 6 weeks followed by a finger immobilisation splint for few weeks. Then finger mobilisation exercises were started and the Range of movement of the fingers improved considerably and the patient was satisfied with the outcome.

IMMEDIATE POST OP PICTURE

POST OP PICTURE SHOWING BONE GRAFTING OVER THE MIDDLE PHALANX

Clinical images after 6 months of surgery

DISCUSSION:

The patients with aneurysmal bone cysts benefit significantly from an inter-professional team providing their care. Typically, primary care providers or emergency physicians will be the first to evaluate the . After obtaining the initial plain film X-rays, the patient should receive a referral to an orthopaedic surgeon. The radiologist will provide imaging interpretation, and an orthopaedic oncologist will provide surgical care. Finally, rehabilitation the patient should receive rehabilitation by a physical or occupational therapist. Each of these disciplines must work together to provide the most optimal outcomes for these patients and to allow the patients to return to their normal activity as quickly as possible.

CONCLUSION:

Key areas for future research should focus on ways to decrease the functional restriction of patients who have aneurysmal bone cysts close to major joints, as these lesions tend to cause the greatest morbidity. Additionally, further narrowing the inciting cause of aneurysmal bone cysts can help identify populations at risk.

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AUTHORS' CONTRIBUTION:

Conceptualization, Supervision, Methodology, Resources, Data Collection, Writing and Formal analysis: Dr. Madhukar Writing, Investigation, Resources, Analysis, Data Collection, Review and Supervision: Dr. Karthikeyan. M Writing, Investigation, Resources, Analysis, Draft preparation, Review and Editing: Dr S. Surya

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CONFLICT OF INTEREST:

The author declares that there are no conflict of interests

INFORMED CONSENT

Not applicable.

DATA MATERIALS AVAILABILITY:

Data that support the findings of this study are embedded within the manuscript.

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