



**FREE FIBULA GRAFT FOR ANEURYSMAL BONE CYST OF LOWER FIBULA: A
REPORT OF ONE CASE**

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ABSTRACT

Background: Typical aneurysmal bone cyst (ABC) is a benign cystic lesion of bone composed of blood-filled spaces divided by connective tissues septa. The purpose of this case report is to highlight on undemanding En bloc excision as initial option with free fibula bone graft treating aneurysmal fibula bone cyst. Furthermore, the outcome of the operation has sensible results. **Case presentation:** An 18 old boy presented with pain and limited active movement of the ankle joint. Radiological study of ankle reveals bony cystic lesion on the lower fibula. However, surgical exploration has been done, the mass on lower left fibula had En bloc excised and substituted by free fibula graft that has been taken from the contralateral fibula and fixed by K-Wire. Outcomes over six years of follow up were an exceptional result. **Conclusions:** Incidental finding of aneurysmal bone cyst have to have expected and potential finding in the evaluation of bone disease. What's more, the En bloc excision with the free fibula bones graft is considerable practical treatment method for aneurysmal fibula bone cyst.

KEYWORDS: Aneurysmal bone cyst, Free Fibula Graft, En bloc excision, K-Wire.

BACKGROUND

Aneurysmal bone cysts (ABCs) are extreme destructive benign and expansile osteolytic bone lesions with high rates of recurrence. However, the execution treatments are exclusively challenging." Aneurysmal and solitary bone cysts are common bone lesions first described by Virchow⁵⁸ in 1876 and Jaffe and Lichtenstein in 1942".^[1] The goal of the study is another key fact to remember is that the incidental finding is significant in the clinical presentation of an aneurysmal bone cyst. As well as, the free fibula bone graft is the alternative way of treatment to manage the aneurysmal fibula bone cyst.

CASE PRESENTATION

A 18 young boy presented with increasing pain and swelling over 2 weeks at the lower part of left leg and ankle joint. He had a history of pain and swelling at the lower part of left leg after heavy exercise for one month, and was managed by some sort of anti-inflammatory medicine without any image evaluation. The local examination had distinguished for tenderness along the lateral part of the distal left leg. There were no swelling, palpable abnormality, or erythema had valued at evaluation. Furthermore, x-ray had been shown a well-defined osteolytic lesion without marginal sclerosis involving the distal fibular metaphysis (Fig.1). The surgical intervention had done by En bloc excision of bloody filled cystic lesion and had directed to

histopathological study which confirm the diagnosis of Aneurysmal bone cyst. Moreover, the residual space filled by free fibula graft that had taken from right fibula bone which fixed by K-wire (Fig.2). The leg had been putting in complete splint for 6 weeks. However, the K-wire removed with rational healing processes, stability and alignment (Fig.3).

DISCUSSION AND CONCLUSIONS

Aneurysmal bone cysts are benign cystic bone lesions usually appear in childhood or early adulthood. Radiological finding is expansile osteolytic lesion typical, The diagnosis confirmed by magnetic resonant tomography that reveal fluid-fluid levels.^[2] Aneurysmal bone cyst has several multimodal treatment and it has a matter of controversies.^[2]; En bloc excision, Intralesional surgical procedures, with or without use of local adjuvant, Minimally invasive surgical techniques, Embolization, Sclerotherapy and Injection of other drug, radiotherapy, and medical treatment. The advantage and disadvantage with indication of each modal of treatment are summarized in (Tab.1).^[2]

In conclusion, we have to consider couple points when selecting the primary procedure for the treatment of aneurysmal bone cysts arising in the distal fibula, the age of the patient, type and activity of the cyst, its longitudinal extension and relationship with the growth

plate plus facility decision making play major role in our decision. Moreover, the outcome of procedure is good; no recurrence rate and no complication.

List of abbreviations

Aneurysmal bone cysts (ABCs)

Table 1: Principal indications, advantages and disadvantages of the most common treatments for aneurysmal bone cysts.

Treatment	Principle Indication	Advantage	Dis advantage
Sclerotherapy	Primary treatment for all ABCs	Can be done in an outpatient basis, cost-effective, good functional outcome	Requires multiple procedures
Intralesional excision	All surgically accessible ABCs, especially after failed sclerotherapy	Often curative as a single procedure, cannot be done in an outpatient basis	Morbidity and adverse effects associated with the procedure (bleeding, growth disturbances, risk for infection)
En bloc excision	ABCs in expendable bones such as the fibula	Superb local control rate	Morbidity and adverse effects associated with the procedure (bleeding, growth disturbances, risk for infection)
Embolization	Often as an adjuvant to surgery or sclerotherapy, difficult-to -access lesions	Good local control	Risk for neurological sequelae, need for equipment and skilled operator
Radiotherapy	Lesions that are not amenable to other treatments	Non-invasive	Risk for secondary malignancies, considerable morbidity, growth disturbances



Figure 1: Aneurysmal Bone Cyst of Left Lower Fibula.



Figure 2: En bloc excision and free fibula graft with fixation by K-wire

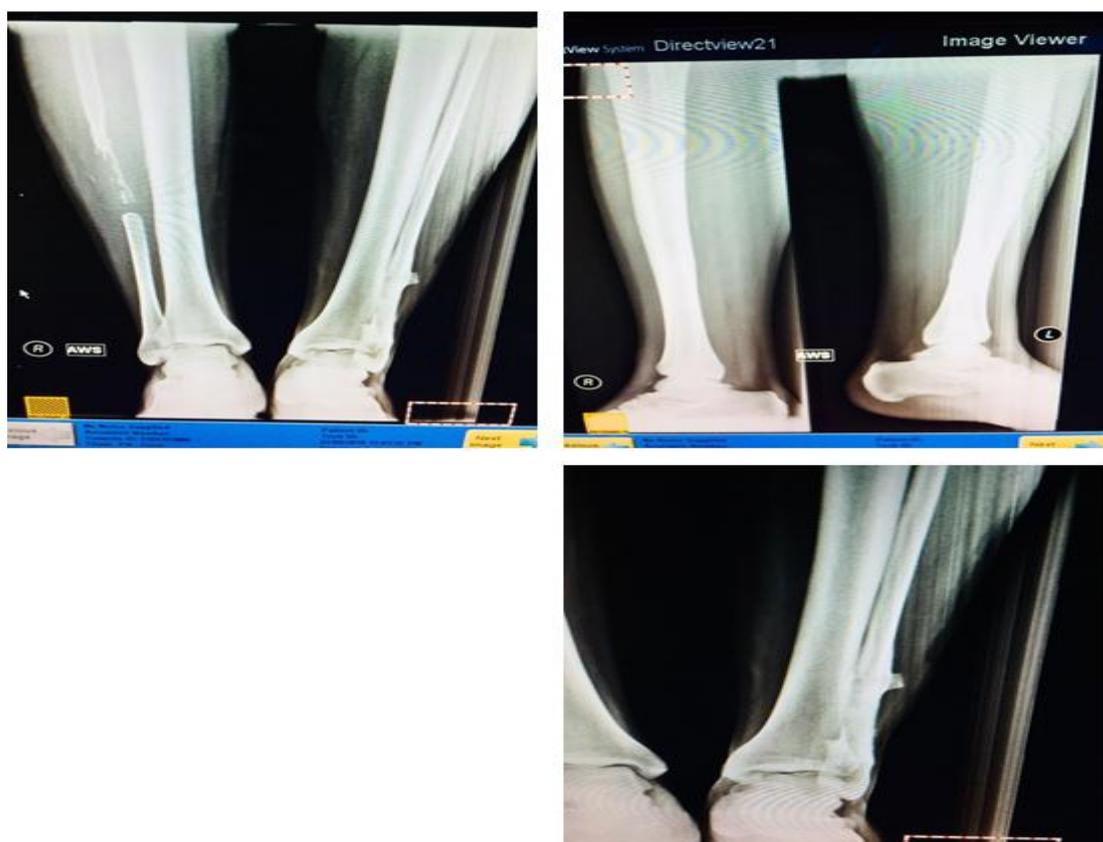


Figure 3: K-wire had removed.

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