

A Giant Osteomyelitic Pseudocyst of Distal Femur Mimicking Parosteal Osteosarcoma: A Case Report

Amit Limbu, MBBS, MS; Pashupati Chaudhary, MBBS, MS; Vinod Musale, MBBS, MS

Department of Orthopedics, BPKIHS, Dharan, Nepal

Address for Correspondence:

Amit Limbu, MBBS, MS

Department of Orthopedics, BPKIHS, Dharan, Nepal

Email: amit.limbu@bpkihs.edu

Received, 1 December, 2019

Accepted, 13 December, 2019

Chronic osteomyelitis of long bones are common scenario in our country's context. These mostly persist as chronic non-healing ulcers or manifest as chronic discharging sinuses. However the collection persisting up to the mark of mimicking tumors is highly unlikely. We present a case of giant pseudocyst of distal femur over posterior aspect secondary to chronic osteomyelitis of distal femur for which patient roamed around many centers for treatment as was mistakenly diagnosed as tumor. We operated and removed pseudocyst in en-bloc and patient recovered well.

Keywords: chronic, osteomyelitis, pseudocyst.

Chronic osteomyelitis is a major burden in Orthopaedics related bone infections. Its frequency being around 11.4 cases per 100,000 person years.¹ Malignant tumors like Ewings, Osteosarcoma and soft tissue sarcoma around the distal aspect of femur create a major dilemma to distinguish the infection from the malignant change.²

Case Report

A 24-year-old female wandering to many

centers mainly Oncological came to us with huge swelling over the posterior aspect of left thigh extending to posterior aspect of knee since 6 years. Multiple therapeutic, radiological and histopathological interventions were carried out. FNAC showed round to spindle shaped cells suggestive of soft tissue tumor. In view of giant soft tissue swelling, fragments of bones - eventually the diagnosis was made as Osteosarcoma (**Figure 1A, B**).

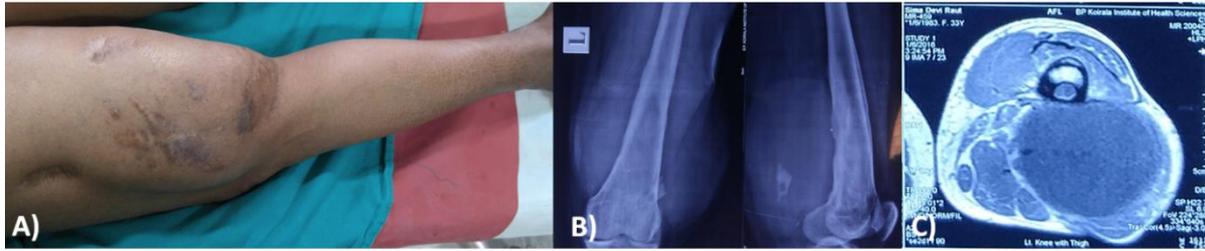


Figure 1: Picture showing swelling over the posterior aspect of thigh extending upto knee, B) X-Ray showing distal femur and knee showing Osteosclerotic shadow with soft tissue component with fragments of bone, C) MRI slice showing large soft tissue component extending breaching into the posterior cortex of femur

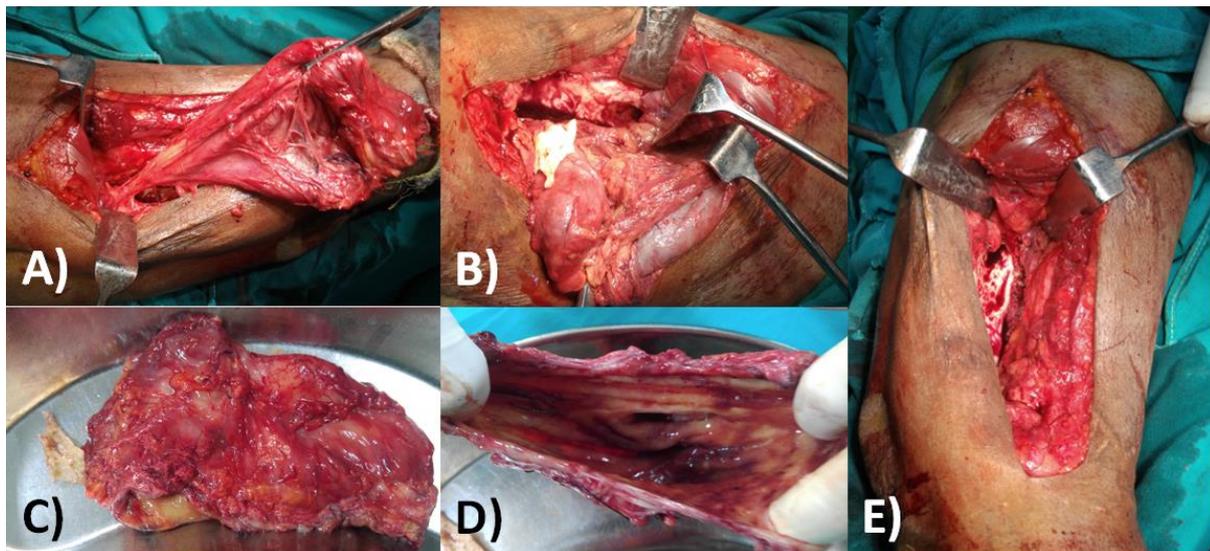


Figure 2: Intraoperative pictures showing findings, A) pedunculated Cystic Lesion, B) sequestered Bone, C) En-bloc cyst, D) cut section showing tunnel, E) defect in the femur via which the cyst was getting filled

When we received the patient, Patient had scar marks of previous intervention, soft to firm, non-painful swelling of size 20x18cm, over the posterior aspect of left thigh without any venous prominences, no sinuses and signs of inflammation. She could extend her knee but there was restriction of flexion as swelling abutted during terminal flexion. We again ordered MRI and differential diagnosis was made as benign well encapsulated soft tissue tumor and infective pathology with intramedullary and extramedullary

component (**Figure 1C**). We planned to go with excision biopsy.

Intra-operatively we found well encapsulated thickened cystic structure outpouching between biceps femoris and semitendinosus and semimembranosus (**Figure 2A**). We also found the sequestered part of the femur (**Figure 2B**). We removed the cyst en-bloc and did a cut section to find the tunnel in the cyst that communicated with the femur (**Figure 2C, D**). Posterior cortex breach could also be appreciated (**Figure 2E**).

Post-operatively patient recovered well and there was no recurrence till follow-up period of 2 years.

Discussion

There are numerous causes of swelling in and around the knee originating from all the way from synovium to bursa. On the posterior distal thigh region, pathologies include from simple bursitis to malignant Parosteal Osteosarcoma.³ The cost is high for both missing the sarcomas and undertreating as well as for overtreating and missing the simple ones as well.^{4, 5, 6}

Long standing course of the disease may be suggestive of low virulent organism infection or brodie's abscess or a tubercular cystic lesion.^{7, 8} But all are extremely rare given the age of patient and site and look of the lesion. Tubercular cystic lesion is very rare and commonly affects in young children.⁹

There is paucity of literature to find the pseudocyst originating from the bone. Although one literature is present where a maxillary sinus developed pseudocyst.¹⁰ Perhaps a long standing underlying chronic osteomyelitis will result in chronic stretching of the fascial sheath to incorporate chronic discharge without draining sinus. Thereby leading to pseudocyst and increase in size. An irritant such as sequestrum may be required to continuous inflow of content into the pseudocyst.

In conclusion, although such case of such size is rare; proper evaluation with radiological advancement may lead to avoidance of mistaken diagnosis of

malignant tumors as well as extensive en bloc removal of pseudo cyst and curettage of bone lead to complete care of the disease.

References

1. Kremers HM, Nwojo ME, Ransom JE, Wood-Wentz CM, Joseph Melton L, Huddleston PM. Trends in the epidemiology of osteomyelitis a population-based study, 1969 to 2009. *J Bone Jt Surg Am* 2015;97:837-45.
2. Voskuil R, Evenski AJ, Montgomery C, Emory CL. Malignant Bone Tumors of the Knee: How to Identify and Treat. *J Knee Surg* [Internet]. 2018 Nov 16 [Epub ahead of print]
3. Ding Y, Cai Y, Zhang Q. Parosteal osteosarcoma: a clinical study of 48 cases. *Zhonghua Wai Ke Za Zhi*. 2003; 41: 832-6. .
4. Lewis VO, Gebhardt MC, Springfield DS. Parosteal osteosarcoma of the posterior aspect of the distal part of the femur: Oncological and functional results following a new resection technique. *J Bone Jt Surg Am* 2000; 82-A:1083-8.
5. Pezzillo F, Maccauro G, Nizegorodcew T, Rossi B, Gosheger G. Resection of parosteal osteosarcoma of the distal part of the femur: An original reconstruction technique with cement and plate. *Sarcoma* 2008 [Epub 2008 Oct 20]
6. Han I, Joo HOH, Yeong GN, Kyung CM, Kim HS. Clinical outcome of parosteal osteosarcoma. *J Surg Oncol*. 2008; 97:146-9.
7. Nag H-L, Kancherla R, Malpura A. Brodie's abscess of medial distal

- femoral condyle after a thorn prick: rare clinical presentation. Chinese J Traumatol = Zhonghua chuang shang za zhi 2012;15:126–8.
8. Manandhar RR, Lakhey S, Panthi S, Rijal KP. Arthroscopically Assisted Evacuation of Brodie's Abscess of Distal Femur. Cureus 2017 Jan 6;9:e959.
 9. Malik S, Joshi S, Tank JS. Cystic bone tuberculosis in children--a case series. Indian J Tuberc 2009 ;56:220–4.
 10. Yu H, Qiu L. Histological and clinical outcomes of lateral sinus floor elevation with simultaneous removal of a maxillary sinus pseudocyst. Clin Implant Dent Relat Res [Internet]. 2018 Dec 17 [Epub ahead of print]