

# Periosteal Region Ganglionic Cyst Rare Entity

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## I. Introduction

- A ganglionic cyst is defined as a mass filled of gelatinous material.
- Ganglion cyst are further classified as extra-articular, intra-articular, intra-osseous and periosteal type(rare).
- Origin of periosteal ganglionic cyst is from myxomatous degeneration of Periosteum.
- For accurate diagnosis, digital radiographs[Fig-1] and magnetic resonance imaging along with histopathological examination are of utmost value.

## II. Review of literature

S.NO.	STUDY	Age/Sex	Chief complaint	Treatment	Follow-up
1	Junya Oshima et al(2021)	61yrs, M	Painless swelling around waist past 10years, on examination subcutaneous swelling around right iliac crest (15x 18 cm) Radiograph- Normal MRI- well defined lesion with smooth margin	En-bloc excision	18months ,no recurrence
2	P.H Vora et al (2018)	35yrs, M	Pain in left popliteal fossa past 2 months Radiograph- Normal MRI- showed cystic loculated lesion on lower end femur( posterior aspect),size- (17mm x 15mm)	Excision	3months, -
3	Reghunath et al (2017)	62yrs, M	Swelling over antero-medial aspect of left leg with dull aching pain past 1 month, Radiograph- shows irregularity in cortex of diaphyseal region with soft tissue mass and periosteal reaction. Ct-scan shows mass arising from periosteum. MRI- shows cystic and lobulated mass with septation and underlying bony erosion.	Excision	4months, no recurrence
4	Tae Kang Lim et al(2012)	41yrs, F	Pain around right wrist and forearm past 3 months, Radiograph- shows lytic area around dorso-ulnar aspect of distal radius along with periosteal calcification and irregular cortical erosion. Ct-scan shows thinning of outer medial cortex with curved bone in anterior portion of distal radius MRI- shows mass with homogenous nature on dorso-ulnar cortex of distal radius.	En-bloc excision	15months, no recurrence
S.NO.	STUDY	Age/Sex	Chief complaint	Treatment	Follow-up
5	Wigley et al(2019)	49yrs, M	Swelling around right shin on anterior surface since 6 months, on examination size was 7cm x 5cm Radiograph-Normal MRI shows a subcutaneous mass with no communication with knee joint.	Aspiration performed	-

## III. Case Report

A 55 year-old male patient presented to outdoor clinic with gradually increasing swelling on antero-medial aspect of right knee joint with intermittent episodes of pain on prolonged standing and walking since eight months.

On MRI, well defined cystic lesion with internal septations measured around 4x 3cm [Fig- 2].

Patient position supine on table, lazy-S skin incision[Fig-3] was made around anteromedial aspect of knee, subcutaneous dissection was carried out along with complete en-bloc excision[Fig-4].

Excised tissue was sent for histo-pathological examination(HPE), gram's staining and fungal culture [Fig-5].

Diagnosis was confirmed with HPE reports showing gelatinous material within cyst along with presence of pseudo-synovial cells and periosteum with fibrous tissue on outer aspect of cavity suggestive of ganglionic cyst of periosteal origin[Fig-6].

**Figures –**



**Fig-1 Antero-posterior and lateral digital knee showing soft tissue swelling.**

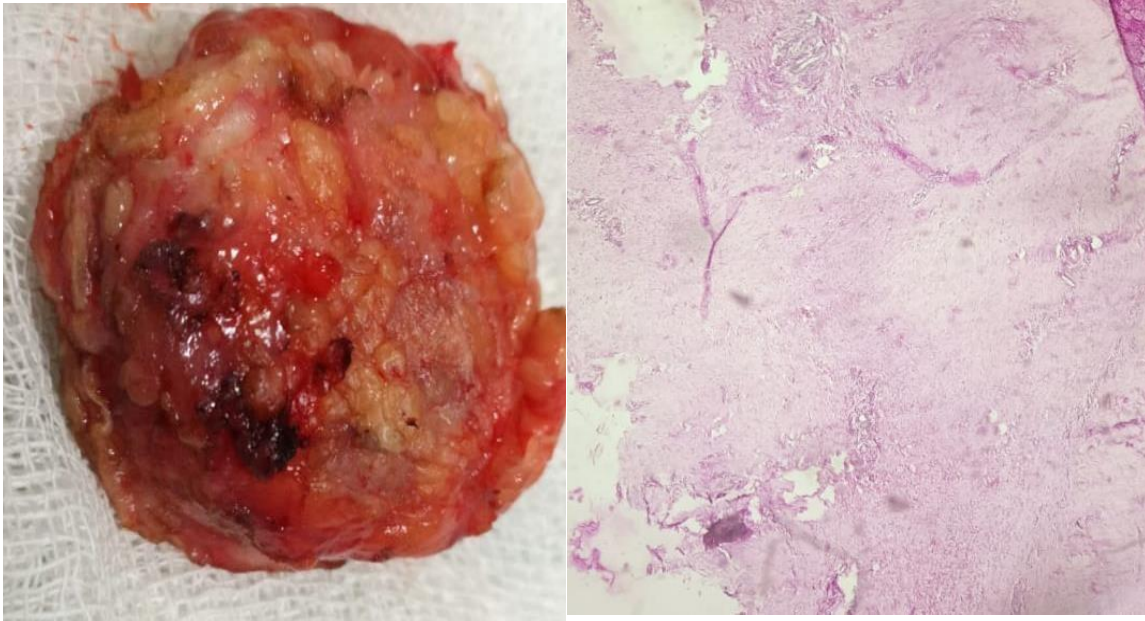
**Fig-2 Magnetic resonance imaging (sagittal radiographs of sections) showing well defined cystic lesion arising from bone**



**Fig-3 Showing Lazy 'S' incision for excisional biopsy around right knee joint.**



**Fig-4 Anteromedial aspect of knee post excisional biopsy.**



**Fig-5** Excised sample around knee joint.

**Fig-6** HPE suggestive of ganglionic cyst.

#### **IV. Discussion**

We have seen five cases involving long and flat bones between 2012-2022 out of five cases, four of them were males and one female aged 35 to 62 years with mean age (49.6 years).

Although rare, it occurs most commonly around proximal tibia around pes-anterinus region. Male predominance and seen commonly around 4<sup>th</sup> - 5<sup>th</sup> decade of life.

Presents as diffuse cystic swelling with tenderness, soft tissue extension, cortical erosion and periosteal reaction. Complete excision along with the surrounding periosteum is the recommended option.

#### **V. Conclusion**

Ganglionic cyst of periosteal origin are considered as benign cystic lesions commonly affecting long bones of lower limbs.

It has a favourable prognosis, but this rare entity has high chances of recurrence.