



E-ISSN: 2395-1958  
P-ISSN: 2706-6630  
IJOS 2019; 5(4): 1036-1039  
© 2019 IJOS  
www.orthopaper.com  
Received: 18-08-2019  
Accepted: 22-09-2019

**Dr. Jabez Gnany**  
Senior Resident, Department of  
Orthopaedics, Pravara Rural  
Hospital, Loni  
Maharashtra, India

**Dr. Khyati Gupta**  
Junior Resident II, Department  
of Orthopaedics, Pravara Rural  
Hospital, Loni Maharashtra,  
India

**Dr. Arvind Kadwad**  
Junior Resident II, Department  
of Orthopaedics, Pravara Rural  
Hospital, Loni Maharashtra,  
India

**Dr. Mayur Joshi**  
Junior Resident II, Department  
of Orthopaedics, Pravara Rural  
Hospital, Loni Maharashtra,  
India

**Corresponding Author:**  
**Dr. Khyati Gupta**  
Junior Resident II, Department  
of Orthopaedics, Pravara Rural  
Hospital, Loni Maharashtra,  
India

## A rare presentation of ganglion cyst of the elbow

**Dr. Jabez Gnany, Dr. Khyati Gupta, Dr. Arvind Kadwad and Dr. Mayur Joshi**

DOI: <https://doi.org/10.22271/ortho.2019.v5.i4r.1817>

### Abstract

**Introduction:** Ganglion cysts are benign soft tissue swellings commonly found in the wrist. The presence of these cysts in the elbow is uncommon, and few case reports have been reported for this condition at this location. These lesions can compress on the neighbouring structures or cause restriction of the joint movement. The awareness of this entity is a must, to arrive at an early diagnosis.

**Materials and Method:** We report a patient with swelling in the anteromedial aspect of the elbow which had been causing intermittent pain for the last 13 months. The MRI revealed a multilobulated complex cystic lesion along ulnar aspect of distal arm.

**Results:** The lesion was excised in toto, using anteromedial approach for the elbow, and sent for histopathological examination which confirmed the diagnosis of a ganglion cyst.

**Conclusion:** Thus, due to the infrequent presentation, an awareness of this condition is necessary to prevent a delay in diagnosis and its subsequent management.

**Keywords:** Ganglion, ulnar nerve, cystic lesion

### Introduction

Ganglion cysts are the most common benign soft tissue swellings, which can be found in any joint of the body, but 60-70% are found in the dorsal aspect of the wrist and communicate with the joint via a pedicle<sup>[1]</sup>. Occurrence of ganglion cysts in other joints such as the elbow is rare. These are well defined and mobile swellings, which are loosely attached to the sheath of the tendon or the capsule of the joint.

Ganglion cysts around the elbow are rare<sup>[2]</sup>. Hence, the diagnosis of these lesions may be challenging and often delayed if the awareness of this entity is not known to the clinician. These are usually asymptomatic but sometimes may cause restriction of elbow range of movement or compression of radial or posterior interosseous nerve. Most of these cysts are seen as an incidental finding on Magnetic Resonance Images (MRI) or on ultrasonography (USG). We report the case of a ganglion cyst in the elbow, in a old male where the diagnosis could not be made for more than a year.

### Case

A 60-year-old man presented with a 6-month-history of pain and swelling in the medial aspect of the left elbow. There was no history of trauma or any other exacerbating factor.

Local examination revealed a 3 cm x 3 cm soft tissue swelling on the anteromedial aspect of the elbow, which was tender on palpation. The swelling was mobile in all directions. Elbow range of movement was from zero degrees to 125 degrees. There was no associated erythema around the elbow and over the swelling.

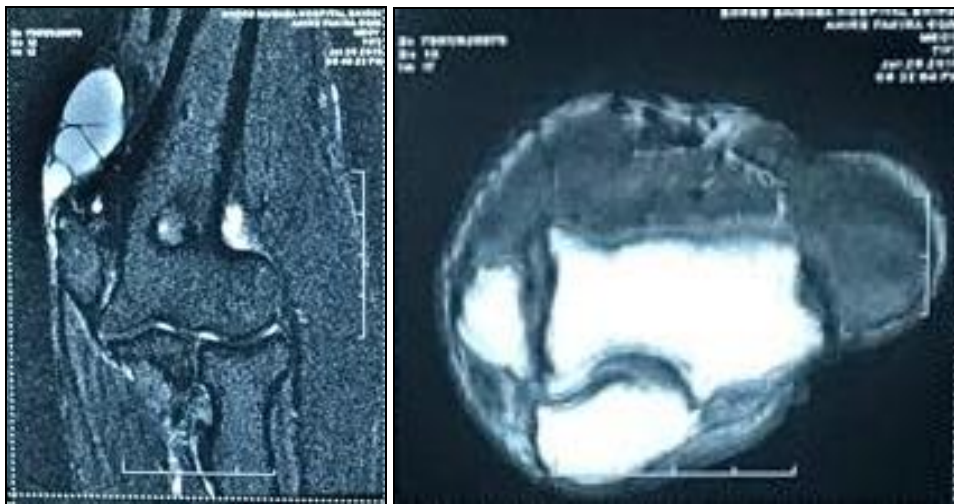
The MRI showed a multi lobulated fluid collection measuring 3.8 cm x 3.5 cm x 1.7 cm on the ulnar aspect of distal arm with an unfused medial epicondyle epiphysis of humerus left side. The swelling was in close proximity to the ulnar nerve.



A.

B.

**Fig 1:** (a) Sagittal section of elbow showing swelling over medial aspect (b) Coronal section of elbow showing multilobulated swelling over medial aspect (T2-weighted images)



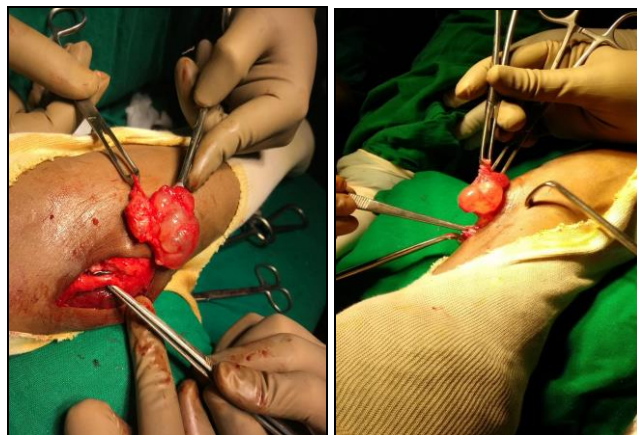
A.

B.

**Fig 2:** (a) Sagittal section of elbow showing multilobulated swelling over medial aspect (b) Coronal section of elbow showing multilobulated swelling over medial aspect (T1-weighted images)



**Fig 3:** XRAYs showing soft tissue swelling shadow over medial aspect with unfused medial epicondyle epiphysis of humerus



A.

B.



C.



D.

**Fig 4:** Clinical photos of multilobulated ganglion over medial aspect of elbow with ulnar nerve

The excised lesion was sent for histopathological examination, which confirmed the diagnosis of a ganglion cyst.

Written consent was obtained from the human subject who participated in this case study.

### Discussion

The clinical diagnosis of an elbow swelling is often challenging, due to the complex nature of the joint and rarity of the location of the swelling. Such lesions may be a manifestation of a wide variety of conditions like myositis ossificans, ganglion cysts, lipoma, cysticercosis cyst, vascular

aneurysms, soft tissue sarcoma, septic arthritis, lymphoedema, and pseudogout.

A confirmatory diagnosis can be made using plain radiographs, USG and MRI [4]. We believe that an MRI is the investigation of choice for soft tissue lesions, as one can assess its site of origin, the size of swelling and whether it is compressing on any nerve or vessel around the elbow. Ganglion cyst on MRI has classical features *viz.* unilocular or multilocular rounded or lobular fluid signal mass (which is hyperintense on T2/STIR and hypointense signals on T1 sequences), adjacent to a joint or tendon which distinguishes it from the other pathologies.

Treatment modalities of ganglion cysts include conservative management by aspiration, injection of steroids, sclerosing agents and hyaluronidase and thread technique. However, most of these modalities are associated with either high recurrence rates or other complications like incomplete resolution and allergic reactions [5]. Steroid therapy is associated with subcutaneous fat atrophy and depigmentation of the skin [6]. Sclerotherapy is known to cause damage to the tendon from which the ganglion cyst arises [7]. The most efficient modality for treating the ganglion is to excise the cyst in toto and repair the rent in the capsule or tendon sheath, which would reduce the rate of recurrence of the cyst [8]. The recurrence rate after excision of the lesion, in current literature, is variable and ranges from 0 - 31.2%.

There are a few reported cases of ganglion cyst at the elbow, and most of them have been shown to cause compressive neuropathies of the radial nerve or the posterior interosseous nerve [9]. A ganglion cyst in the supinator muscle was reported, which caused compression of the posterior interosseous nerve leading to weakness of wrist extensors [10]. Matsubara *et al.* reported 8 cases of radial nerve palsy due to ganglions at the elbow, with majority of cases presenting no symptoms [11]. Though the cyst was in close proximity with ulnar nerve, we did not find any evidence of compressive neuropathy in our case.

### Conclusion

Ganglion cysts are common, benign, soft tissue swellings found around the joints. Their presence in the elbow is uncommon, and only few case reports have been noted for this condition at this location. Due to an uncommon presentation in the elbow, the ganglion cysts are often difficult to diagnose. Hence, a delay in diagnosis is inevitable, just as it occurred in our case. Hence, an awareness about the rare presentation of a ganglion cyst in the elbow is necessary, so as to arrive at an early diagnosis and treatment.

### Reference

1. Meena S, Gupta A. Dorsal wrist ganglion: Current review of literature. *J Clin Orthop Trauma.* 2014; 5(2):59-64.
2. Ogino T, Minami A, Kato H. Diagnosis of radial nerve palsy caused by ganglion with use of different imaging techniques. *J Hand Surg Am.* 1991; 16:230-235.
3. Vaishya R, Vijay V, Jha GK, Agarwal AK. Open reduction and internal fixation of capitellar fracture through anterolateral approach with headless double-threaded compression screws: a series of 16 patients. *J Shoulder Elbow Surg.* 2016, 1058-2746. 10.1016/j.jse.2016.01.034
4. Plate AM, Lee SJ, Steiner G *et al.* Tumour like lesions and benign tumours of the hand and wrist. *J Am Acad Orthop Surg.* 2003; 11(2):129-41.
5. Paul AS, Sochart DH. Improving the results of ganglion

- aspiration by the use of hyaluronidase. *Journal of Hand Surgery*. 1997; 22(2):219-221.
6. Varley GW, Needoff M, Davis TRC, Clay NR. Conservative management of wrist ganglia: aspiration versus steroid infiltration. *Journal of Hand Surgery*. 1997; 22(5):636-637.
  7. Mackie IG, Howard CB, Wilkins P. The dangers of sclerotherapy in the treatment of ganglia. *Journal of hand surgery*. 1984; 9(2):181-184. 10.1016/S0266-7681(84)80025-X
  8. Angelides AC, Wallace PF. The dorsal ganglion of the wrist: Its pathogenesis gross and microscopic anatomy, and surgical treatment. *Journal of Hand Surgery*. 1976, 1(3):228-235. 10.1016/S0363-5023(76)80042-1
  9. McFarlane J, Trehan R, Olivera M *et al*. A ganglion cyst at the elbow causing superficial radial nerve compression: A case report. *Journal of Medical Case Reports*. 2008; 2:122.
  10. Bowen TI, Stone KH. Posterior interosseous nerve paralysis caused by a ganglion at the elbow. *J Bone Joint Surg*. 1966; 48:774-776.
  11. Matsubara Y, Miyasaka Y, Nobuta SR. Radial nerve palsy at the elbow. *Ups J Med Sci*. 2006; 111:315-320. 10.3109/2000-1967-057