

# A Ganglion cyst on the palmar surface of a 17year old female-A case report and review of literature

Dr. Kavya Botta, Dr. Sumit Saurabh, Dr.Sanjay Pratheep

*Department of orthopaedics. K.L.E. Academy of higher education and research, K.L.E. Dr. Prabhakar Kore hospital and MRC, Jawaharlal Nehru Medical College, Belagavi*

**Abstract:** The ganglion cyst is the most common swelling in the wrist. It arises from leakage of synovial fluid from a joint or tendon sheath and contains a glairy, viscous fluid. Although it can appear anywhere around the carpus, it usually develops on the dorsal surface of the scapholunate ligament. Palmar wrist ganglia usually arise from the scapholunate or scaphoid–trapezium–trapezoid joint and are very rare.

**Keywords-** ganglion cyst, volar surface, rarity.

## INTRODUCTION

Ganglion cysts account for 60% to 70% of soft-tissue masses found in the hand and wrist. Dorsal wrist ganglions account for 50–70% of all ganglion cysts of the hand. Volar ganglion cysts comprise about 13–20% of cysts, whereas cysts originating from flexor tendon sheaths of the hand comprise only 10% of ganglion cysts. Although they can form at any age, they are most commonly found in women between the ages of 20 to 50. Women are three times more likely to develop a ganglion cyst than men. These cysts are also frequently encountered amongst gymnasts, likely secondary to repetitive trauma and stress of the wrist joint.

### Case:

A 17-years-old girl presented with a slow-growing painful mass on the palmar surface of the dominant hand for two years. She complained of hand discomfort in the last 20 days.

On inspection, it was a mild diffuse swelling noted at the root of 2<sup>nd</sup> web space in the palm. No signs of inflammation were noted.



Fig. shows the marked swelling of the right palmar surface of the hand

On palpation it was identified as a solitary cystic, mobile, non-translucent swelling which was prominent in extension. Local mild tenderness with terminal limitation of flexion of the index finger and 2<sup>nd</sup> MCP joint was noted. Peripheral sensations of the affected part of the palm and fingers were normal.

An USG of the hand reported the swelling as ganglion cyst medial to the flexor digitorum tendons at the level of meta-carpo-phalangeal joint of right index finger.

The patient was taken up for operative procedure for further evaluation. A 5\*5mm cystic lesion attached to palmar surface of the flexion digitorum tendon sheath of the index finger was excised through a parallel incision to the palmar crease and sent for histopathology examination. There was no involvement of the flexor tendon.

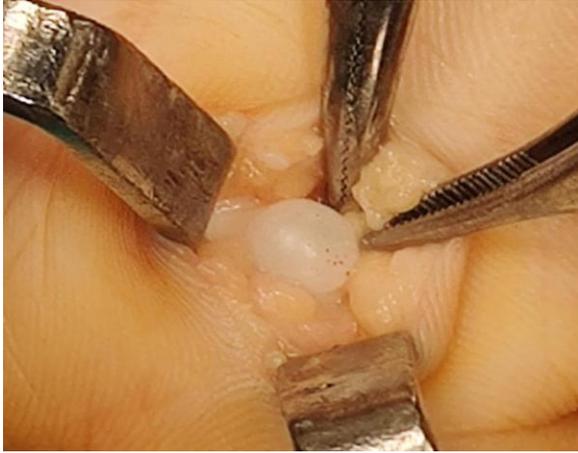


Fig. shows the dissected cyst on the palmar surface of the hand

Histopathology report stated that ‘A cystic lesion with jelly like consistency, cyst wall composed of fibro collagenous tissue, features consistent with ganglion cyst’.

After the cyst was excised the patient resumed her academics without any discomfort and pain.

During the 2 month follow-up period, there was no limitation of movement or any deformity. She had a fully functional hand with no complaints.



Fig. shows the dissected intact cystic

#### DISCUSSION

As per Eller in 1746 is that ganglion cysts are the result of the herniation of synovial tissue from joints. Another theory postulated by Carp and Stout in 1926, which forms the basis of most modern belief, suggests that ganglion cysts result from mucinous degeneration of connective tissue secondary to chronic damage. Currently, most authors agree that ganglion cysts arise from mesenchymal cells at the synovial capsular junction as a result of the continuous micro-injury.

Repetitive injury to the supporting capsular and ligamentous structures appears to stimulate fibroblasts to produce hyaluronic acid, which accumulates to produce the mucin "jelly-like" material commonly found in ganglion cysts\*[3][4][5].

Ganglion developing from tendon sheath is less common, usually in the form of palmar digital ganglion and volar retinacular cyst. Those cysts usually grow outward to the surrounding structures. Cysts that grow inward are named as intra-tendinous ganglion cysts which are extremely uncommon.

So ganglionic cysts growing at the volar surface over the tendon sheath has to be dissected in entirety so as to prevent its recurrence.

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