

Triggering of Thumb by a Ganglion Cyst of the Flexor Tendon Sheath at A1 Pulley: A Case Report

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Learning Point of the Article:

Ganglion cysts are uncommon in the flexor tendon sheaths. While releasing an A1 pulley for a trigger finger or thumb, one must look for the presence of ganglion and excise it to prevent the recurrence of triggering of the finger.

Abstract

Introduction: Ganglions of the wrist and hand are commonly seen but the most common sites are in the dorsum of the wrist followed by the volar side in the distal forearm at the wrist crease. The Ganglion cysts arising from the flexor tendon sheath are rare and only a few are reported in the literature.

Case Report: We report a rare case of a ganglion cyst of the flexor tendon sheath at A1 pulley of thumb in a 35-year-old male who came with the complaint of chronic triggering of the left thumb. The histopathological examination confirmed the ganglion which was removed from the A1 pulley area.

Conclusion: A1 pulley ganglion causing trigger thumb is uncommon entity. Although, traditional treatment for this is conservative or aspiration. High recurrence is observed. When it comes to preservation of fine movements such as thumb, aggressive approach involving exploration and excision of cyst gives good functional outcome and reduces chance of recurrence.

Keywords: Ganglions, hand, tendon sheath, pulley.

Introduction

Ganglions of the wrist and hand are common benign lesions mostly arising from the joints and tendons; however, it may sometimes be within the tendons or intraosseous. The common presentation is an asymptomatic swelling popping out in the hand or wrist; however, sometimes it is painful and restricting the motion of the nearby joint [1]. Ganglion arising from the tendon sheaths at the pulley system is rare and surgeon may ignore it while treating trigger thumb.

Case Report

A 35-year-old male came with the complaints of triggering of the left thumb since 2 years. He also complained of intermittent pain while using the left thumb. On examination, classical triggering of the thumb was elicited and a small cystic such as lesion was palpable at the base of the thumb in the palmar region

at the flexion crease. Previously patient was treated conservatively elsewhere and ultrasound-guided aspiration was done. Now, the swelling was stuck to the underlying tendon and was moving along the line of the tendon during the flexion and extension movement of the thumb at the metacarpophalangeal joint. The patient was a software engineer by profession and since his work was on the computer this was affecting his activities of daily living. Radiograph and blood parameters such as white blood cell count, erythrocyte sedimentation rate, and C-reactive protein were found to be normal. Once we ruled out infection, we decided to explore the A1 pulley, release it and excise the cyst simultaneously. The exploration was done by a transverse incision at the palmar crease under loupe magnification. The location of the mass was right over the A1 pulley (Fig. 1). Under magnification, the mass was isolated from the neurovascular bundle on the either side and excised

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Author's Photo Gallery



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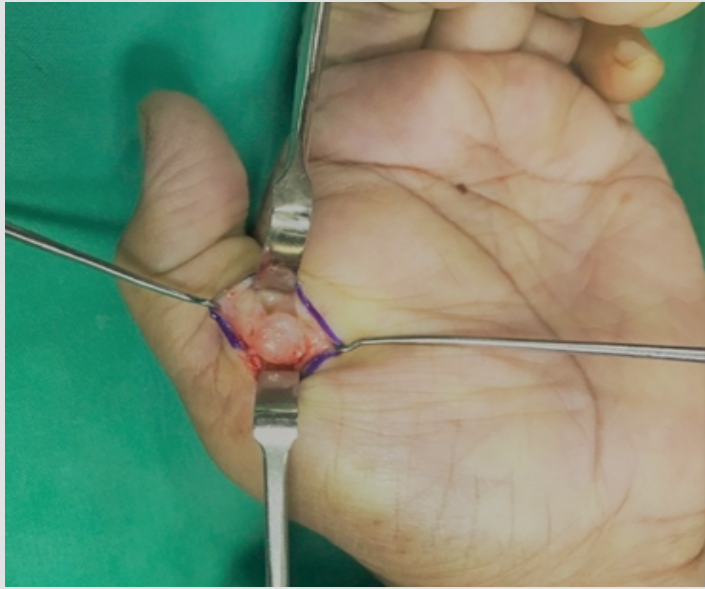


Figure 1: Ganglion was visible after exploration at left A1 pulley.



Figure 2: 2 cm × 0.5 cm ganglion was excised.

completely (Fig. 2). The A1 pulley was examined and found out to be intact and not thickened, so it was left in place. Intraoperatively, the movements of the thumb were checked and no triggering was found. Hence, the cyst was obstruction the gliding of the flexor pollicis longus tendon and causing trigger thumb. There were no complications in the surgery and the patient was followed up periodically for 12 months with no recurrences.

Discussion

A lot of literature study has been done on the pathogenesis of the ganglions. There are various theories suggested by different authors explaining the cause of the ganglions in the hand and wrist. However, the cause of the flexor tendon sheath ganglion remains unknown [2]. Some authors have suggested that they arise from a localized rupture within the flexor tendon sheath [3]. Nelson et al. suggested a traumatic etiology in the development of the ganglions in half of his patients [3]. In our case also, we could not find a clear association between the previous history of trauma and he subsequent development of the ganglion.

About 5–15% is the involvement of flexor tendon sheath among all the hand and wrist ganglions as mentioned by Nelson et al. [4]. The incidence of flexor tendon sheath ganglion is more common in women as compared with men. De Orsay et al. demonstrated histologically the presence of local neural innervation of the cyst emphasizing that one of the causes of the pain can be neural in nature [5,6].

Our patient presented with triggering of the digit. The association between the stenosing tenosynovitis (trigger thumb) and the ganglion of the flexor tendon sheath has not

been previously reported as such.

A variety of treatment modalities have been advocated for ganglions such as massaging, manual compression, aspiration, aspiration and instillation of sclerosing/corticosteroid agents, radiation therapy, and surgical excision and so on [7, 8, 9]. Excision is considered the gold standard modality of treatment because of potential digital nerve injury and high recurrence rates reported with aspiration [10, 11].

Conclusion

A1 pulley ganglion causing trigger thumb is uncommon entity. Thought traditional treatment for this is conservative or aspiration, high recurrence is observed. When it comes to preservation of fine movements such as thumb, aggressive approach involving exploration and excision of cyst gives good functional outcome and reduces chance of recurrence.

Clinical Message

The recurrence rate of flexor tendon sheath ganglion following aspiration technique has been variously reported up to 60%. Effective treatment lies in surgical excision and recurrence can be avoided by excising whole cyst. Though uncommon, ganglion cyst must be kept in consideration for treatment of trigger finger.

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