ORIGINAL RESEARCH PAPER

Volume-8 | Issue-5 | May-2019 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

INTRATENDINOUS GANGLION OF THE FOREARM – A RARE CASE REPORT

Plastic Surgery

Dr. Surya Rao Rao Venkata Mahipathy*	Professor & Head, Dept. of Plastic & Reconstructive Surgery, Saveetha Medical College & Hospital, Thandalam, Kanchipuram – 602105 *Corresponding Author
Dr. Alagar Raja Durairaj	Associate Professor, Dept. of Plastic & Reconstructive Surgery, Saveetha Medical College & Hospital, Thandalam, Kanchipuram – 602105
Dr. Narayanamurthy Sundaramurthy	Associate Professor, Dept. of Plastic & Reconstructive Surgery, Saveetha Medical College & Hospital, Thandalam, Kanchipuram – 602105
Dr. Manimaran Ramachandran	Assistant Professor, Dept. of Plastic & Reconstructive Surgery, Saveetha Medical College & Hospital, Thandalam, Kanchipuram – 602105
Dr. Praveen Ganesh Natarajan	Assistant Professor & Craniofacial Surgeon, Dept. of Plastic & Reconstructive Surgery, Saveetha Medical College & Hospital, Thandalam, Kanchipuram – 602105
Dr. Vimal Chander Rajamanohar	Associate Professor, Dept. of Pathology, Saveetha Medical College & Hospital, Thandalam, Kanchipuram – 602105

ABSTRACT

Intratendinous ganglions are rare types of ganglions arising from the substance of a tendon. They are difficult to diagnose as they are usually asymptomatic unless they attain a large size. Here, we present a case of an intratendinous ganglion of the extensor digitorum communis tendon of the right ring finger, causing a swelling on the dorsal aspect of the distal forearm. It was confirmed with an ultrasound and was surgically excised and the tendon was reconstructed with a palmaris longus tendon graft. Post-operative was uneventful and this case was presented due to the rarity of the disease.

KEYWORDS

Ganglion, intratendinous surgical excision, recurrence

INTRODUCTION

A ganglion is a common cystic lesion arising from the joint capsule, tendon or tendon sheath due to mucoid degeneration [1]. It usually occurs in any part of the hand, wrist and foot. An intratendinous ganglion cyst is an uncommon lesion that originates within the tendon substance itself and causes soft-tissue swelling [2, 3]. As in previous reports, intratendinous ganglion cysts are difficult to diagnose clinically before surgery and to excise completely [4]. Generally, the symptoms are mild in patients with pain and nerve compression [1, 5]. Ultrasonogram (US) and Magnetic Resonance Imaging (MRI) can differentiate a ganglion cyst from other soft-tissue tumours and tumour-like lesions and providing a detailed description upon the location of an intratendinous lesion [1, 2, 6].

CASE REPORT

A 47 year old female presented to the Department of Plastic & Reconstructive Surgery with a swelling of the right distal forearm since 6 months. She also complains of pain over the swelling for the past 2 months, which is a dull aching, constant type of pain aggravated on extending the wrist and fingers. She had no other swellings elsewhere and no co-morbid factors. On examination, there was a 4 x 4 cm firm swelling on the dorsal aspect of the right distal third of the forearm, non-tender, not warm, mobile in transverse direction and moves with extension of the fingers of the right hand. Ultrasound revealed an oval shaped anechoic well-circumscribed cystic mass with partial internal septation located in the extensor tendon of the right distal forearm suggestive of a ganglion.

Under axillary block, tourniquet control and loupe magnification, a longitudinal S-shaped incision was made over the dorsal aspect of the right distal forearm and deepened in layers. A 5.5 x 4.2 cm cystic lesion was found along the extensor tendon of the right ring finger. The lesion was involving the entire substance of the tendon. (Fig. 1)

Hence, we did a resection of the tendon to include the segment containing the ganglion and reconstructed the extensor tendon with a Palmaris longus tendon graft from the same hand, using 3-0 nylon sutures.(Fig. 2, 3) Post-operative was uneventful and patient was discharged on the next day.

Fig. 1 – Intra-op photo showing the ganglion involving the extensor tendon to ring finger

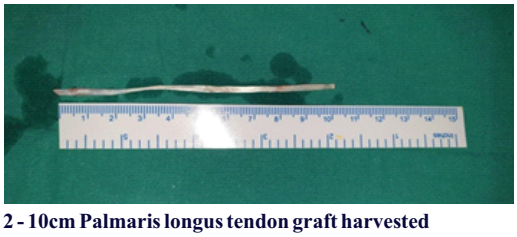

Fig. 2 - 10cm Palmaris longus tendon graft harvested

Fig. 3 – After tendon graft anastomosis

The histopathology revealed a cyst containing gelatinous material. Microscopy showed fibrocollagenous cyst wall with no specific lining and a few areas showing myxoid degeneration and focal areas of congested blood vessels, suggestive of a ganglion cyst.(Fig. 3., 4, 5)

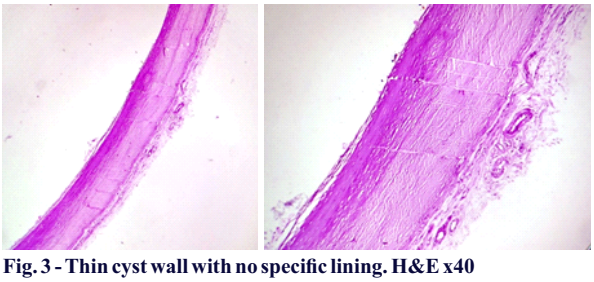

Fig. 3 - Thin cyst wall with no specific lining. H&E x40
Fig. 4 - Thin fibrocollagenous cyst wall with no specific lining. The periphery shows congested vessels. H&E x100 (Low power)

Fig. 5 -Thin fibrocollagenous cyst wall with no specific lining, the wall showing focal myxoid degeneration, features consistent with ganglion. H&E x400 (High power)

DISCUSSIONS

An intratendinous ganglion of the hand and forearm is a rare entity and not many reports are published regarding the same in the English literature [7]. Usually, ganglions involving the extensor tendon are common lying just beneath the skin, whereas those of the flexor tendons are difficult to recognize as they are found in the deep layer of the hand, unless it becomes large enough..

Chronic mechanical stimulations to the tendon, such as friction to the retinaculum, and irritation by metacarpal prominences, may be the cause of intratendinous ganglion. Ganglions commonly occur in the tendon sheath. A common pathogenesis with flexor tendon sheath ganglion may be the cause of intratendinous ganglion [8].

Treatment of intratendinous ganglion of the hand remains controversial subject. Among 20 tendons previously reported in 18 cases, excluding the case of Lucas [9] which occurred in the extensor digitorum brevis manus tendon, an anomalous muscle, 16 were treated with excision of the ganglion [4,7,10–15], and 2 were treated with en bloc excision of the affected tendon due to structural weakness as a result of resection [13,14]. Ideally, excision of the ganglion and preservation of the tendon is the best line of treatment. In the majority of the previously reported cases, tenosynovitis was observed and in the cases associated with a certain degree of synovitis, degeneration of the affected tendon was greater than suspected. Satonaka et al. [13] revealed histopathological findings that the tendon substance adjacent to the lesion showed degenerative change and an accumulation of hyperplastic synovial cells was observed.

Recurrence as a complications must be considered. Seidman and Margles [14] reported one recurrence out of eight cases after excision of an intratendinos ganglion.

CONCLUSION

An intratendinous ganglion of the forearm is a rare lesion. Excision of the ganglion and preservation of the tendon is ideal for treatment; however, many a time we may need to excise a segment of the tendon and reconstruct with a tendon graft preferably the palmaris longus tendon as we have done in our case.

REFERENCES

1. McCarthy CL, McNally EG. The MRI appearance of cystic lesions around the knee. Skeletal Radiol2004;33:187–209
2. Costa CR, Morrison WB, Carrino JA, Raiken SM. MRI of an intratendinous ganglion cyst of the peroneus brevis tendon. AJR Am J Roentgenol 2003;181:890–1
3. Rayan GM. Intratendinous ganglion. A case report. Orthop Rev 1989;18:449–51
4. Ikeda K, Tomita K, Matsumoto H. Intratendinous ganglion in the extensor tendon of a finger: A case report. J Orthop Surg (Hong Kong) 2001;9:63–5
5. Steiner E, Steinbach LS, Schnarkowski P, Tirman PF, Genant HK. Ganglia and cysts around joints. Radiol Clin North Am 1996;34:395–425, xi–xii.
6. Kishimoto K, Akisue T, Fujimoto T, Kawamoto T, Hara H, Hitora T, et al. Intratendinous ganglion in the long head of the biceps humeri. Skeletal Radiol 2008;37:263–5
7. Chia DS, Kong JC, Teoh LC. An atypical presentation of a flexor intratendinous ganglion of the hand. Ann Plast Surg. 2015;74:306–307.
8. Abe Y, Watson HK, Renaud S. Flexor tendon sheath ganglion: analysis of 128 cases. Hand Surg. 2004;9:1–4.
9. Lucas GL. An intratendinous cyst in the extensor digitorum brevis manus tendon. J Hand Surg. 1979;4A:176–177.
10. Chen WS. Intratendinous ganglion and carpometacarpal boss. A report of two cases. Ital J Orthop Traumatol. 1992;18:421–425.
11. Chew EM, Yam AK, Tay SC. Simultaneous intratendinous ganglion and synovial cyst of the wrist. J Hand Surg Eur Vol. 2010;35:80–81.
12. Lee HJ, Kim PT, Chang HW. Intratendinous ganglion of the extensor tendon of the hand. Hand Surg. 2015;20:316–318.
13. Satonaka H, Tsujii M, Sudo A. Tenosynovitis of the extensor pollicis longus tendon caused by an intratendinous ganglion: a case report. J Hand Surg Eur Vol. 2014;39:669–671.
14. Seidman GD, Margles SW. Intratendinous ganglia of the hand. J Hand Surg Am. 1993;18:707–710.
15. Young SC, Freiberg A. A case of an intratendinous ganglion. J Hand Surg Am. 1985;10:723–724.