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RESEARCH ARTICLE

GIANT CELL TUMOR OF TENDON SHEATH AT THE VOLAR ASPECT OF THE THIRD METACARPOPHALANGEAL JOINT PRESENTING AS A PSEUDO-TRIGGER FINGER: A CASE REPORT

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ABSTRACT

Background: Giant Cell Tumor of Tendon Sheath (GCTTS) is a benign, slow-growing soft-tissue tumor arising from synovial lining of tendon sheaths. It is the second most common tumor of the hand after ganglion cysts. It is commonly seen on the volar aspect of the fingers. Although usually painless, Lesions occurring at the level of the A1 pulley may cause mechanical obstruction to tendon gliding, can occasionally present with pain, mechanical symptoms, or mimic trigger finger. **Presentation:** We report a case of a 39-year-old female presenting with a gradually progressive, painful swelling on the volar aspect of the right hand at the base of the third digit over the metacarpophalangeal (MCP) joint. Symptoms progressed over 3 months and caused pseudo-triggering during finger flexion. Clinical examination and imaging suggested a soft-tissue tumor arising from the flexor tendon sheath. Complete surgical excision was performed under regional anesthesia. Histopathology confirmed a Giant Cell Tumor of Tendon Sheath (localized type). **Conclusion:** GCTTS should be considered in the differential diagnosis of volar hand swellings presenting with painful mechanical symptoms or pseudo-trigger phenomena. Thorough anatomical knowledge and complete Surgical excision are essential for symptom resolution and prevention of recurrence and gives excellent outcomes.

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INTRODUCTION

Giant Cell Tumor of Tendon Sheath (GCTTS), also known as tenosynovial giant cell tumor, localized type, is a benign proliferative lesion arising from the synovium of tendon sheaths, bursae, or joints. It is most common in the hand, typically on the volar surface of the fingers. It affects women more frequently and often presents as a firm, well-defined swelling with slow, progressive enlargement. Although typically painless, in some cases, tumor size or anatomical location can cause pain, restricted tendon gliding, or trigger-like symptoms. We present a rare case of a GCTTS located at the A1 pulley region of the 3rd digit. Trigger finger is typically caused by stenosing tenosynovitis at the A1 pulley; however, space-occupying lesions such as GCTTS can produce similar symptoms, referred to as pseudo trigger finger, a relatively uncommon but clinically significant presentation. This case highlights the importance of anatomical correlation and histopathological confirmation in such presentations, emphasizing diagnostic challenges and surgical management.

Case Presentation

Patient Profile

- **Age:** 39 years
- **Sex:** Female
- **Dominance:** Right-hand dominant
- **Comorbidities:** None
- **Occupation:** Household activities (frequent hand use)

History of Present Illness

The patient presented with:

- A swelling on the volar aspect of the right hand,

- Located at the base of the 3rd finger,
- Corresponding to the metacarpophalangeal (MCP) joint region,
- Gradual increase in size over 3 months,
- Associated pain, especially on gripping and finger flexion,
- No history of trauma, fever, or systemic symptoms.

The patient also reported:

- Snapping / catching sensation during flexion of the 3rd digit
- Occasional locking, but no complete flexion deformity
- This was clinically consistent with pseudo trigger finger, i.e., mechanical obstruction due to mass effect, rather than stenosing tenosynovitis.

Clinical Examination

- swelling at volar aspect at base of 3rd digit
- Zigzag Bruner Incison marking

Inspection

- A well-defined swelling over the volar aspect of the right hand near the A1 pulley of the 3rd digit
- No skin discoloration, ulceration, or scars
- No signs of infection

Palpation

- Size: ~3.3 × 1.5 cm
- Consistency: Firm, nodular
- Mobility:
- Slight side-to-side mobility.
- Limited movement with tendon excursion, suggestive of origin from tendon sheath
- Mild tenderness present
- No neurovascular compromise

Movement

- Smooth MCP and PIP joint motion
- **Catching/pseudo-trigger during flexion**, relieved by passive extension
- No fixed flexion deformity

- **Anatomical Considerations: Structures at the Site of Swelling**
- The volar MCP joint region of the third digit contains several critical anatomical structures:
- **Flexor tendon sheath and A1 pulley**, enclosing the flexor digitorum superficialis and profundus tendons
- **Volar plate** of the MCP joint
- **Proper digital neurovascular bundles** on either side
- **Lumbrical muscle origin** from the flexor digitorum profundus
- **Palmar aponeurosis (pretendinous bands)**
- Tumors arising from the tendon sheath at this level can interfere with tendon gliding, explaining the mechanical symptoms observed in this case.

Investigations

Ultrasound

- Well-circumscribed, hypoechoic lesion
- Adjacent to and partially encasing the flexor tendon sheath of FDS/FDP
- No increased vascularity

X-Ray (Hand)

- No bony erosion
- No calcification

Differential Diagnosis

The differential diagnosis for a volar MCP joint swelling includes:

- Flexor tendon sheath ganglion
- Stenosing tenosynovitis (trigger finger)
- Fibroma of tendon sheath
- Dupuytren's nodule
- Lipoma
- Synovial cyst
- Giant cell tumor of tendon sheath

Given the firm consistency, progressive growth, and mechanical symptoms, GCTTS was considered the most likely diagnosis.

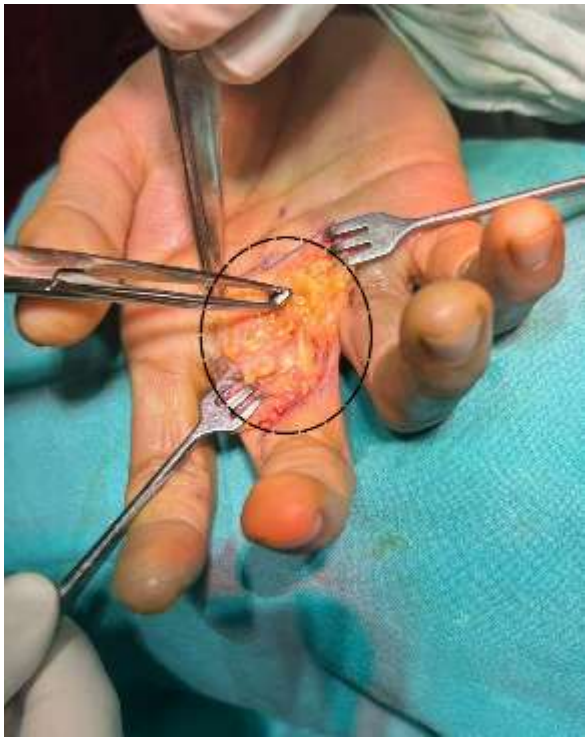
Surgical Management

Procedure

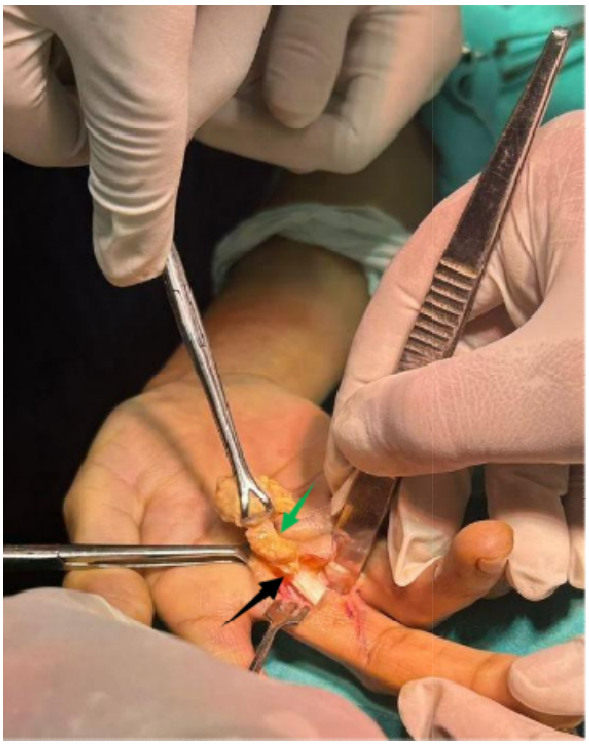
- Anesthesia: Brachial block / local anesthesia
- Approach: Volar Bruner zig-zag incision over the 3rd digit MCP region

Intra-operative Findings:

- A well-encapsulated, firm, brownish-yellow nodular mass
- Originating from the flexor tendon sheath at the A1 pulley level
- Closely adherent to FDS/FDP synovium
- Causing mechanical impingement → explaining pseudo trigger finger
- No invasion of the tendon substance



Excision



- black arrow - attachment of tumor with tendon sheath
- Green arrow - tumor excised with pedicle
- Careful dissection to avoid injury to radial and ulnar digital neurovascular bundles
- A1 pulley partially released to ensure free tendon gliding
- Tumor excised **En bloc** with its pedicle

Closure

- Peritendinous lavage
- Hemostasis secured
- Skin closed with 3-0 Monocryl

Histopathology Findings

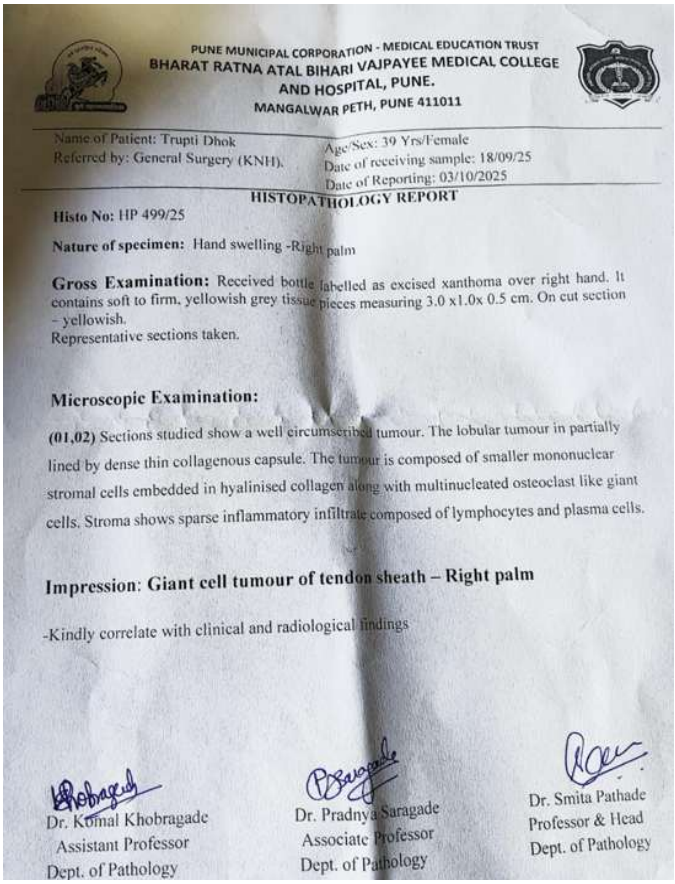
Gross

- Nodular mass
- Brownish-yellow
- Well-encapsulated

Microscopy

- Multinucleated giant cell
- Lymphoctes and plasma cells
- Synovial-like mononuclear cells
- Fibrous stroma

Final Diagnosis



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BHARAT RATNA ATAL BIHARI VAJPAYEE MEDICAL COLLEGE AND HOSPITAL, PUNE.
MANGALWAR PETH, PUNE 411011

Name of Patient: Trupti Dhok
Referred by: General Surgery (KNH).
Age/Sex: 39 Yrs/Female
Date of receiving sample: 18/09/25
Date of Reporting: 03/10/2025

HISTOPATHOLOGY REPORT

Histo No: HP 499/25

Nature of specimen: Hand swelling -Right palm

Gross Examination: Received bottle labelled as excised xanthoma over right hand. It contains soft to firm, yellowish grey tissue pieces measuring 3.0 x1.0x 0.5 cm. On cut section – yellowish.
Representative sections taken.

Microscopic Examination:

(01,02) Sections studied show a well circumscribed tumour. The lobular tumour in partially lined by dense thin collagenous capsule. The tumour is composed of smaller mononuclear stromal cells embedded in hyalinised collagen along with multinucleated osteoclast like giant cells. Stroma shows sparse inflammatory infiltrate composed of lymphocytes and plasma cells.

Impression: Giant cell tumour of tendon sheath – Right palm

-Kindly correlate with clinical and radiological findings

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Localized Tenosynovial Giant Cell Tumor (GCTTS)

Postoperative Course

- Uneventful recovery
- Sutures removed on Day 12
- Finger physiotherapy started after suture removal
- Full range of motion achieved within 3 weeks
- No residual trigger symptoms

RESULTS

DISCUSSION

GCTTS is the second most common soft-tissue tumor of the hand. It arises from the synovial lining of tendon sheaths. The volar aspect**,** especially around the MCP and PIP joints, is the most frequent location.

Unique Feature in This Case

The location over the A1 pulley caused mechanical obstruction of flexor tendon gliding, resulting in pseudo trigger finger—a rarer presentation.

Differentiation From True Trigger Finger

Trigger Finger	Pseudo Trigger (Mass Lesion)
Due to stenosis of A1 pulley	Due to physical obstruction by mass
Smooth palpable Notta's node	Firm fixed mass not moving with tendon
Painful snapping	Snapping due to blockage of tendons
Treated by pulley release	Treated by mass excision

CONCLUSION

GCTTS should always be considered in patients presenting with volar hand swellings associated with mechanical symptoms.
Detailed anatomical assessment and histopathological confirmation are essential for diagnosis and management.

Declaration by Authors

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REFERENCES

Al-Qattan MM. Giant cell tumours of tendon sheath: classification and recurrence rate. *J Hand Surg Br*. 2001;26(1):72-75.

Kotwal PP, Gupta V, Malhotra R. Giant-cell tumour of the tendon sheath: is radiotherapy indicated to prevent recurrence after surgery? *J Bone Joint Surg Br*. 2000;82(4):571-573.

Darwish FM, Haddad WH. Giant cell tumour of tendon sheath: experience with 52 cases. *Singapore Med J*. 2008;49(11):879-882.

Monaghan H, Salter DM, Al-Nafussi A. Giant cell tumour of tendon sheath (localised nodular tenosynovitis): clinicopathological features of 71 cases. *J Clin Pathol*. 2001;54(5):404-407.

Uriburu IJ, Levy VD. Intraosseous growth of giant cell tumors of tendon sheath (localized nodular tenosynovitis) of the digits. *J Hand Surg Am*. 1998;23(4):732-736.

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