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Fibroma of the Tendon Sheath Revealed During Surgery for Trigger Finger: A Case Report

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Abstract **Case Report**

Background: Fibroma of the tendon sheath (FTS) is a rare benign fibroblastic tumor commonly affecting the hand and fingers. It can mimic other soft tissue lesions, and preoperative diagnosis may be challenging due to variable clinical and imaging findings. ***Case Presentation:*** We report the case of a 39-year-old right-handed female who presented with a progressive triggering and flexion limitation of the fourth finger of the left hand. During surgical management of a suspected trigger finger, a well-circumscribed nodule was discovered arising from the flexor tendon sheath. Histopathological analysis confirmed the diagnosis of fibroma of the tendon sheath. The patient experienced complete symptom resolution following surgical excision. ***Conclusion:*** FTS should be considered in the differential diagnosis of nodular lesions associated with mechanical symptoms of the hand. Surgical excision is both diagnostic and therapeutic, and should be performed when functional impairment is present.

Keywords: Fibroma of the tendon sheath; Hand tumors; Trigger finger; Histopathology; Benign soft tissue tumor.

INTRODUCTION

Fibroma of the tendon sheath (FTS) is a rare, benign soft tissue tumor classified by the World Health Organization as part of the fibroblastic/myofibroblastic tumor group [1]. It typically presents as a slow growing, well circumscribed nodule arising from synovial lining of tendon sheaths. FTS predominantly affects the small joints of the upper extremity, particularly the fingers and hands, and is mostly frequently found on the flexor surfaces [2].

In this report, we present a rare case of an incidentally discovered fibroma of the tendon sheath arising from the flexor tendon of the fourth finger, identified during surgical treatment for a trigger finger. This case highlights the importance of considering FTS in the differential diagnosis of nodular lesions in the hand, even when clinical suspicion is low.

CASE PRESENTATION

A 39-year-old right-handed female, housewife by occupation, presented with a progressive limitation in the movement of the fourth finger of her left hand. The symptoms had been evolving for over a year. Initially, she reported mild discomfort during finger extension, which did not interfere significantly with daily activities. Over time, the condition progressed, ultimately presenting as an intermittent locking of the finger in a flexed position, followed by a sudden and painful release (Figure 1).

On physical examiation, there was a painful limitation in active extension of the left fourth digit. Palpation revealed a small, firm, and mobile nodule localized over the flexor tendon at the level of the distal palmar crease. Given these findings, ultrasonographic evaluation was requested to further investigate the lesion.

High-resolution ultrasonography of the palmar aspect of the left hand, revealed a well-defined, heterogeneous hypoechoic fibrous nodule measuring approximately 10 × 7 mm. The lesion was located at the level of the metacarpophalangeal (MCP) joint of the fourth digit and appeared to arise from the palmar aponeurosis, with superficial adherence to the underlying flexor tendon (Figure 2).

Color Doppler imaging demonstrated no vascularity within the lesion. The distal segments of the

flexor digitorum profundus tendon of the fourth finger were intact. There were no signs of peritendinous effusion, tenosynovitis, hematoma, or cystic formation. The overlying skin and subcutaneous tissue were preserved, and no cortical abnormalities were identified in the fourth metacarpal or adjacent phalanges (figure 3).

These sonographic findings were initially suggestive of palmar fibromatosis (Dupuytren's disease)

Despite a discrepancy between the clinical examination and the ultrasonographic findings, no additional imaging was requested, and the patient was scheduled for surgical treatment of a trigger finger.

Under local anaesthesia. A longitudinal incision was made over the palmar aspect of the fourth metacarpophalangeal (MCP) joint. Intraoperative exploration revealed a well-defined nodular mass located beneath the flexor tendon sheath.

The sheath was incised, and complete excision of the nodular lesion was performed. Although the nodule was suspected to be the cause of the triggering symptoms, a standard release of the A1 pulley was also carried out to ensure complete resolution of the mechanical obstruction (Figure 4, 5, 6, 7).

The excised specimen was submitted for histological examination. Macroscopically, it consisted of a well-defined, whitish, pearly nodule (Figure 8). Microscopic analysis revealed a proliferation of bland fibroblastic spindle cells embedded in a dense collagenous stroma. There was no evidence of nuclear atypia, mitotic activity was minimal, and no areas of necrosis were observed. These features were consistent with a diagnosis of fibroma of the tendon sheath (FTS).

Postoperative Follow-up

At the one-month follow-up, the patient reported complete resolution of symptoms. There was no longer any locking or limitation of movement in the affected finger. Clinical examination confirmed the absence of triggering, and the surgical site had healed well. The patient expressed satisfaction with the functional and aesthetic outcomes of the procedure.

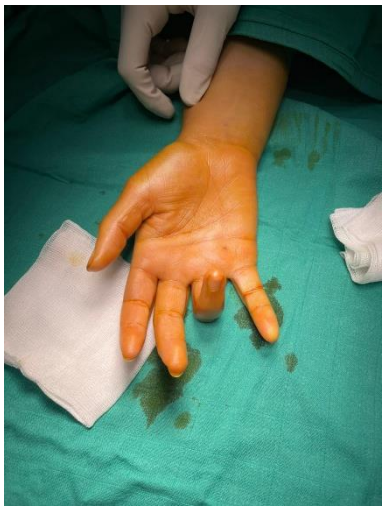

Figure 1: Clinical evaluation showing the intermittent locking of the finger in a flexed position

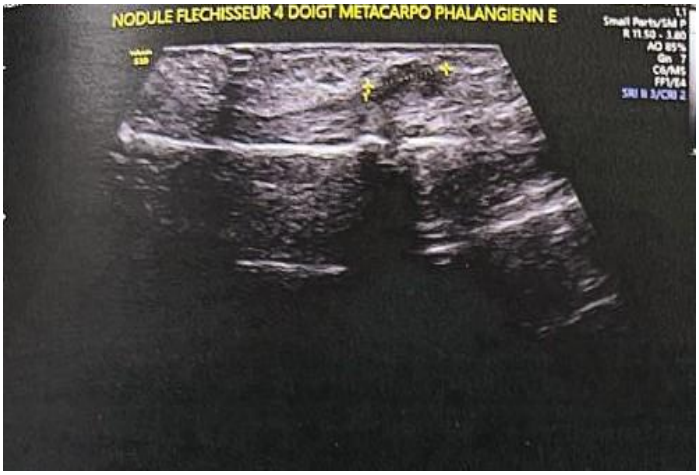

Figure 2: Ultrasound findings showing a well-defined, heterogeneous hypoechoic fibrous nodule. with superficial adherence to the underlying flexor tendon

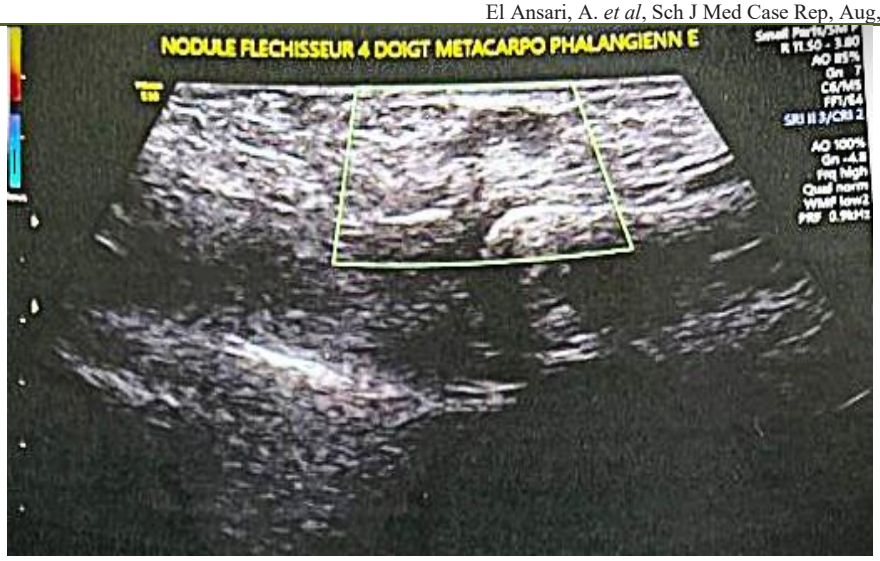

Figure 3: Color Doppler imaging demonstrating no vascularity within the lesion

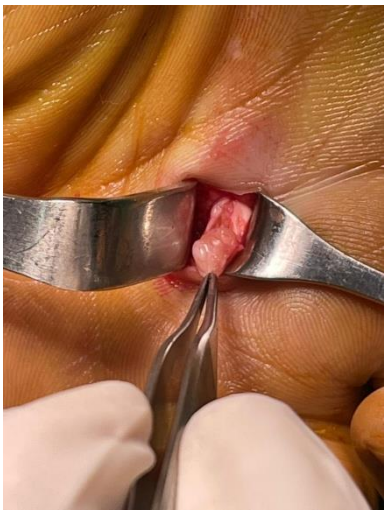

Figure 7: Surgical extraction of the nodular masse

Figure 8: Macroscopic evaluation of the nodular masse

DISCUSSION

Soft tissue tumors are a relatively rare and heterogeneous group, accounting for less than 4% of all tumors in adults, with a clear predominance of benign lesions [3]. This diversity in both histological origin and clinical presentation poses a significant diagnostic challenge for clinicians.

Fibroma of the tendon sheath (FTS) is a benign fibroblastic tumor first described by Geschickter and Copeland in 1949. A deeper understanding of this entity was later established through the landmark study by Chung and Enzinger, which remains the largest series on FTS to date, encompassing 138 cases. Their work provided valuable insights into the clinical and pathological features of this rare tumor[4].

FTS typically affects adults between the ages of 30 and 50 years, with a slight male predominance [5]. It most commonly involves the hand and fingers, particularly along the flexor surfaces [5], and usually presents as a slow-growing, painless mass. However, depending on its size and anatomical location, FTS may cause mechanical symptoms such as limited range of motion [2; 6; 7; 8] or triggering [9]; and as also observed in our case.

In a retrospective study conducted at Beijing Jishuitan Hospital involving 42 patients with histologically confirmed fibroma of the tendon sheath (FTS), ultrasonographic findings were found to be variable. Most lesions appeared as homogeneous hypoechoic nodules with echogenicity lower than adjacent muscle, although some were heterogeneous. In cases involving the hand, FTS was frequently observed to be adherent to adjacent tendons [10].

Color Doppler assessment revealed a variable range of blood flow from absent to abundant internal blood flow. In a few cases [10], cortical bone abnormalities such as scalloping were also reported [4;7].

This variability in ultrasound appearance, combined with overlapping features shared with other hypoechoic soft tissue tumors of the hand, complicates the diagnosis. Differential diagnoses include giant cell tumor of the tendon sheath (GCTTS) and palmar fibromatosis (Dupuytren's contracture) [10]. The latter commonly presents as a hypoechoic subcutaneous lesion in direct contact with the flexor tendon, most frequently affecting the fourth digit [11], findings that may explain the initial misinterpretation in our case.

Magnetic resonance imaging (MRI) is considered the gold standard for soft tissue lesion evaluation. It allows for better differentiation between FTS and other lookalike tumors [11; 12]. On MRI, FTS typically appears as a well-defined lesion adherent to the tendon sheath and shows low to intermediate signal intensity on both T1- and T2-weighted images [2;4]. In contrast, Dupuytren's contracture usually appears as a superficial, subcutaneous nodule [13].

The histological appearance of fibroma of the tendon sheath (FTS) includes a proliferation of spindle-shaped fibroblastic cells embedded within a dense collagenous stroma. A characteristic feature is the presence of slit-like, thin-walled blood vessels or cleft-like spaces dispersed throughout the lesion. Cytological atypia and necrosis are typically absent, reinforcing its benign nature [4;14].

Immunohistochemically, FTS often exhibits positivity for smooth muscle actin (SMA) and HAM56, reflecting myofibroblastic differentiation and histiocytic components [14]. However, the role of molecular biology in diagnosing FTS remains uncertain. Chromosomal aberrations such as translocations have been identified in FTS, but these findings are not specific and can also occur in other fibroblastic/myofibroblastic tumors. Notably, the cellular variant of FTS, a more cellular form with less collagen and increased mitotic figures, has been associated with expression of ubiquitin-specific protease 6 (USP6), a gene also implicated in other soft tissue tumors such as nodular fasciitis [15].

The only definitive treatment for fibroma of the tendon sheath (FTS) is complete surgical excision. Although the lesion is benign, recurrence has been reported in up to 24% of cases, often attributed to incomplete resection due to its close adherence to tendons or surrounding structures. Medical management is limited and primarily aimed at symptom relief; however, when the lesion causes mechanical complications such as triggering, pain, or limitation of motion, surgical intervention becomes necessary [6; 7; 8]. This was the case in our patient, where surgical excision of the tumor led to complete resolution of symptoms and satisfactory functional recovery.

CONCLUSION

Fibroma of the tendon sheath is a rare, benign soft tissue tumor that can present with mechanical symptoms, especially when located in the hand or fingers. While imaging, particularly ultrasound, is useful for initial assessment, diagnosis may remain challenging due to overlap with other soft tissue lesions. Histopathological examination remains the gold standard for diagnosis. Surgical excision remains the treatment of choice, especially when symptomatic, as seen in our case. Awareness of this entity is crucial to avoid misdiagnosis and to guide appropriate management.

REFERENCES

1. Sbaraglia M, Bellan E, Dei Tos AP. The 2020 WHO classification of soft tissue tumours: news and perspectives. Pathologica. 2020;112(2):70–84. doi:10.32074/1591-951X-213
2. Maeda K, Setsu N, Kato Y, Kawai A, Kobayashi E. Fibroma of tendon sheath presenting limited flexion of the fingers. *Case Rep Orthop*. 2017; 2017:4129714. doi:10.1155/2017/4129714
3. Picci, P. (2020). Epidemiology of Soft Tissue Lesions. In : Picci, P., *et al.,* Diagnosis of Musculoskeletal Tumors and Tumor-like

Conditions. Springer, Cham. https://doi.org/10.1007/978-3-030-29676-6_4

4. Shinohara Y, Nishio J, Nakayama S, Koga M, Aoki M, Koga T. Fibroma of tendon sheath revisited. *In Vivo*. 2025;39(2):613–620. doi:10.21873/invivo.13866
5. Chung EB, Enzinger FM: Fibroma of tendon sheath. Cancer 44(5): 1945-1954, 1979. DOI: 10.1002/1097-0142(1979 11)44:5<1945: aid-cncr2820440558>3.0.co;2-t
6. Maurya V, Motwani G, Jaiswal A. Benign Spindle Cell Tumor of Flexor Tendon Sheath of Toe: A Rare Case Report. Journal of Orthopaedic Case Reports 2025 May;15(5): 146-150.
7. Suzuki K, Yasuda T, Suzawa S, Watanabe K, Kanamori M, Kimura T. Fibroma of tendon sheath around large joints: clinical characteristics and literature review. *BMC Musculoskelet Disord*. 2017; 18:376. doi:10.1186/s12891-017-1736-5
8. Toki S, Nishisho T, Takao S, Miyagi R, Tezuka F, Nagamachi A, Sairyo K. Fibroma of tendon sheath on the medial side of the knee: a case report. *J Med Invest.* 2017;64(1-2):173–176. doi:10.2152/jmi.64.173
9. Aggarwal RK, Gupta V, Banday MI, Jha R. Trigger wrist: A case report. *Int J Orthop Sci*. 2020;6(1):237–239. doi: 10.22271/ortho.2020.v6.i1d.1863
10. Zhao Y, Ding Y, Chen T. Ultrasonography of fibroma of the tendon sheath in the hand and wrist. *BMC Musculoskelet Disord*. 2023; 24:662. doi:10.1186/s12891-023-06250-y
11. Morris G, Jacobson JA, Kalume Brigido M, Gaetke-Udager K, Yablon CM, Dong Q. Ultrasound features of palmar fibromatosis or Dupuytren contracture. *J Ultrasound Med*. 2019;38(2):387–392. doi:10.1002/jum.14699
12. Middleton GM, Jacobson JA, Caoili MM, Sondalle RJ. Sonography of palmar fibromatosis. *AJR Am J Roentgenol*. 2003;180(5):1449–1453. doi:10.2214/ajr.180.5.1801449
13. Emori M, Takashima H, Iba K, Sonoda T, Oda T, Hasegawa T, Yamashita T: Differential diagnosis of fibroma of tendon sheath and giant cell tumor of tendon sheath in the finger using signal intensity on T2 magnetic resonance imaging. Acra Radiol 62(12): 1632-1638, 2021. DOI: 10.1177/0284185120976915
14. Nasit JG, Dhruva G. Fibroma of the tendon sheath: A diagnostic dilemma on fine-needle aspiration cytology. *J Cytol*. 2015;32(3):207–209. doi:10.4103/0970-9371.168906
15. Pižem J, Matjašič A, Zupan A, Luzar B, Šekoranja D, Dimnik K. Fibroma of tendon sheath is defined by a USP6 gene fusion—morphologic and molecular reappraisal of the entity. *Mod Pathol*. 2021; 34:1876–1888. doi:10.1038/s41379-021-00836-4