Recurrent Trigger Finger in the Early Postoperative Period: A Case Report

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ABSTRACT

Postoperative complications of trigger finger, a type of tendon entrapment, are low, and there is little information regarding evaluation after a complication occurs. Recurrent trigger finger is a rare occurrence, but often requires additional procedures to relieve symptoms. Here we present a case of recurrent trigger finger in the immediate postoperative period after the patient developed a cyst distal to the A1 pulley and synovitis. The first procedure demonstrated a thickened and tight A1 pulley as well as synovitis around the tendon. The patient developed continued clicking and trigger symptoms distal to the A1 pulley at the level of the proximal interphalangeal (PIP) joint postoperatively. Findings of magnetic resonance imaging (MRI) revealed further synovitis distal to the A1 pulley and a cyst. After a second procedure, the patient's trigger symptoms resolved. Imaging, such as MRI, can be useful in the diagnosis of recurrent trigger finger and help identify the location of the recurrence.

Keywords: Trigger Finger Disorder, Synovitis, Hand, Postoperative Complications

INTRODUCTION

Trigger finger is a type of tendon entrapment in which the tendon experiences mechanical impingement owing to changes around the tendon or narrowing of the retinacular sheath.[1] The reported incidence is 2.6% in the American population and increases to 10% in patients with type 2 diabetes mellitus.[1-3] Complication rates in studies range from 1% to 40%, but the procedure is generally seen as low risk.[4] Recurrence rates have been between 0.3% and 2.6%, and slow recovery of motion is the most common complication.[2-5]

Patients with recurrence of trigger finger usually undergo a second procedure to resolve symptoms. Often the cause of the recurrence is unknown.[5-7] Magnetic resonance imaging (MRI) scans can be useful in the workup of patients with postoperative complications, and the findings may suggest potential recurrence.[7,8]

CASE REPORT

A 58-year-old, right-hand dominant woman presented with symptoms of trigger finger in her right index finger. She reported symptoms had been occurring for 2 months before presentation. The patient's relevant medical history included type 2 diabetes mellitus that was treated with insulin, hyperlipidemia, and hypothyroidism. Her surgical history included carpal tunnel release of both hands and release of the first dorsal extensor compartment for treating de Quervain's tenosynovitis of both hands. Her medications included insulin aspart, empagliflozin, metformin, atorvastatin, and levothyroxine. The patient had no reported allergies to medications or family history of chronic illness or trigger finger. The patient worked part-time and reported no tobacco or alcohol use.

She initially elected to undergo conservative management to treat trigger finger in the index finger of her right hand, with non-steroidal anti-inflammatory drugs (ibuprofen), rest, ice and observation. The patient's pain, caused by locking of the index finger, worsened; subsequently, open A1 pulley release was recommended. Intraoperatively, the pulley was thickened and a considerable amount of synovitis around the flexor tendons was observed. Tenosynovectomy was performed as a part of the procedure. During the procedure, the patient was asked to actively flex and extend her finger. No catching or locking was noted intraoperatively after the A1 pulley was released.

At 2 weeks postoperatively, her incision was healing. She reported no pain and could fully flex the finger; however, when the finger was extended completely, some clicking was noted at the level of the proximal interphalangeal (PIP) joint. The patient was instructed on range of motion exercises and scheduled a follow-up appointment 4 weeks later. During this second postoperative visit, the patient's incision was healed but

she developed pain along the dorsum of her finger and described continued catching and clicking at the PIP joint with extension. Physical examination findings were notable for right index finger swelling, catching and clicking at the PIP joint, and crepitus when the flexor sheath was palpated. No signs of infection were noted. A plain-film radiograph showed soft-tissue swelling but no other abnormalities. Findings of an MRI scan showed fluid from the mid-palm to the mid-portion of the middle phalanx and possible mass around the tendon at the level of the A2 pulley and the proximal third of the proximal phalanx (Figure 1).

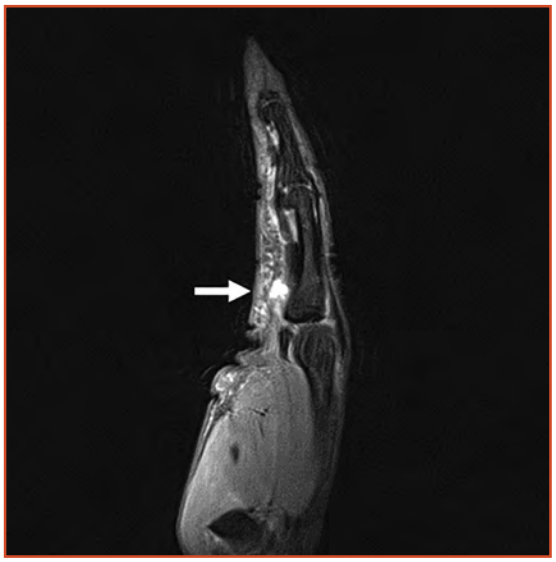

Figure 1. Magnetic resonance imaging of sagittal view depicting the location of the synovial cyst (white arrow) in the region between the A2 and A3 pulleys. There is also increased signal intensity around the tendon corresponding to the fluid and synovitis seen intraoperatively.

At 2 months postoperatively, the patient's symptoms persisted. Owing to that and the MRI findings, she agreed to undergo surgical exploration of the area with extension distally. Intraoperatively, a small incision was placed in the A2 and A3 pulleys to further examine the tendons. A synovial cyst was found along the radial border of the tendon, and synovitis was noted proximally and distally in the region corresponding to the fluid seen on the MRI (Figure 2). The synovitis and cyst were debrided and sent for permanent pathological examination. The A1 pulley was still divided, with some scar formation.

At 2 weeks after the second procedure (10 weeks after the first), the patient reported minimal pain in the area. She reported no locking or clicking of the digit. Results of the final pathological report showed synovial tissue with mild chronic inflammation. At about 8 weeks after the second procedure, the patient reported no recurrence of triggering symptoms and improved range of motion of the digit.

Figure 2. Intraoperative photograph, showing synovial cyst (white arrow) adherent to the flexor tendons on the radial aspect, under the A2 pulley.

DISCUSSION

Recurrent trigger finger is rare but can occur in the immediate postoperative period.[1,4] Younger age and insulin-dependent diabetes are risk factors for recurrence.[4] In addition, percutaneous release, compared to open release, has resulted in higher recurrence rates.[9] The most commonly cited reason for recurrence is idiopathic; however, other reasons include incomplete release, distal mechanical obstruction, and further development of scar or synovitis around the tendon or remaining, released A1 pulley.[5,10]

Our patient developed synovitis and a cyst around the tendon that caused triggering symptoms distal to the A1 pulley. Although synovial tissue was present and debrided in the first procedure, the timing of the development and presence of the cyst is unknown. Further synovitis had developed in the area that had been previously debrided. The A1 pulley is the most commonly implicated pulley in trigger fingers, but mechanical obstruction can also occur either proximal or distal to the A1 pulley.[1] Often there is no clear reason for recurrence, yet patients may require a second procedure to treat symptoms.

Although MRI findings have been used to diagnose primary trigger finger, results of the current case show its usefulness in patients with symptom recurrence.[7,8] Furthermore, the imaging findings can help plan the location and direction of the second procedure.

REFERENCES

1. Wolfe, SW. Tendinopathy. In: Green DP, Wolfe SW, eds. Green's Operative Hand Surgery. Vol 1. 7th ed. Philadelphia, PA: Elsevier/Churchill Livingstone. 2011;2067-2088.
2. Everding NG, Bishop GB, Belyea CM, Soong MC. Risk factors for complications of open trigger finger release. Hand (N Y). 2015;10(2):297-300. doi: 10.1007/s11552-014-9716-9.
3. Amirfeyz R, McNinch R, Watts A, et al. Evidence-based management of adult trigger digits. J Hand Surg Eur Vol. 2017;42(5):473-480. doi: 10.1177/1753193416682917.
4. Bruijnzeel H, Neuhaus V, Fostvedt S, Jupiter JB, Mudgal CS, Ring DC. Adverse events of open A1 pulley release for idiopathic trigger finger. J Hand Surg Am. 2012;37(8):1650-1656. doi: 10.1016/j.jhsa.2012.05.014.
5. Ferree S, Neuhaus V, Becker SJ, Jupiter JB, Mudgal CS, Ring DC. Risk factors for return with a second trigger digit. J Hand Surg Eur Vol. 2014;39(7):704-707. doi: 10.1177/1753193412469129.
6. Cakmak F, Wolf MB, Bruckner T, Hahn P, Unglaub F. Follow-up investigation of open trigger digit release. Arch Orthop Trauma Surg. 2012;132(5):685-691. doi: 10.1007/s00402-011-1440-0.
7. Chang EY, Chen KC, Chung CB. MR imaging findings of trigger thumb. Skeletal Radiol. 2015;44(8):1201-1207. doi: 10.1007/s00256-015-2172-y.
8. Couceiro J, Fraga J, Sanmartin M. Trigger finger following partial flexor tendon laceration: magnetic resonance imaging-assisted diagnosis. Int J Surg Case Rep. 2015;9:112-114. doi: 10.1016/j.ijscr.2015.03.001.
9. Huang HK, Wang JP, Lin CJ, Huang YC, Huang TF, Chang MC. Short-term versus long-term outcomes after open or percutaneous release for trigger thumb. Orthopedics. 2017;40(1):e131-e135. doi: 10.3928/01477447-20161017-06.
10. Fu YC, Huang PJ, Tien YC, Lu YM, Fu HH, Lin GT. Revision of incompletely released trigger fingers by percutaneous release: results and complications. J Hand Surg Am. 2006;31(8):1288-1291.