

TRAUMATIC TRIGGER FINGER – A RARE CASE REPORT

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ABSTRACT

Trigger finger can significantly impede daily life, resulting in disability, pain, and discomfort. In most cases, it is idiopathic. Symptomatic idiopathic trigger finger is usually operated. Secondary trigger finger is a rare occurrence and is often misdiagnosed and mishandled. In this case, we present a patient whose trigger finger is attributed to a partial flexor tendon injury. A secondary trigger finger resulting from a partial flexor tendon injury is uncommon and may go unnoticed during the initial assessment. Here, we stress the importance of diagnosis and need for exploration in suitable cases.

INTRODUCTION

An adolescent boy visited our outpatient department, complaining of pain in his left ring finger. One month earlier, he had suffered a penetrating injury at the Proximal Interphalangeal (PIP) joint crease, which had been sutured elsewhere. After assessment, a clinical diagnosis of Flexor Tenosynovitis was established, and antibiotics were prescribed, providing initial relief. However, a month later, he returned with a flexion deformity and pain in the PIP joint during movement. Examination revealed a palpable nodule over the Metacarpophalangeal (MCP) joint, and full passive extension of the finger was not achievable (Fig 1). We scheduled an exploration under regional anesthesia with tourniquet control. A zigzag volar incision was performed, revealing the A1 pulley. Upon releasing the A1 pulley, we identified a partial flexor digitorum profundus (FDP) tendon rupture, which was entrapped beneath the A1 pulley (Fig 2). The ruptured tendon displayed a scarred and bulbous appearance. We opted to excise the ruptured tendon because a substantial portion of the flexor digitorum profundus (FDP) tendon remained intact, and we observed a partial rupture with scarring in the affected area. Full passive extension and flexion were successfully achieved on the operating table, and afterward, the patient was placed in a dorsal slab. Patient was started on physiotherapy on day 7. Patient was followed up for one year and had pain free flexion and extension



FIG 1: PRE-OPERATIVE IMAGES



FIG 2: UPON EXPLORATION



AFTER EXCISING RUPTURED TENDON



FIG 3: POSTOPERATIVE FOLLOW UP

DISCUSSION

Trigger finger associated with neglected partial flexor tendon rupture is a rare occurrence, not restricted by age or gender. The exact cause of triggering following such ruptures remains uncertain. Bilos et al¹ proposed that movement causes the lacerated tendon's proximal edge to impinge on the entrance of the flexor sheath, leading to the formation of a tag as severed tendon fibers peel back and fold proximally. Al-Qattan et al², using an adult sheep model, attributed triggering to tendon fiber bunching proximal or distal to the laceration site, emphasizing the role of unconstrained movement. In our patient, triggering resulted from the impingement of the peeled and folded distal border of the damaged flexor digitorum profundus (FDP) tendon at the entrance of the flexor sheath under the A1 pulley. Lee et al³ noted bulbous scar formation by bunched tendon fibers at laceration sites, advocating unrestricted finger mobilization without addressing underlying tendon injuries, leading to edema and pain. Treatment of partial flexor tendon ruptures in flexor zone 2 remains debatable. Schlenker et al⁴ recommended exploratory surgery with primary tendon repair for suspected cases, while Kleinert⁵ emphasized repairing partially separated tendons to preserve function. Studies by Wary^{6,7} reported satisfactory outcomes without suturing partial lacerations, employing early active motion, achieving up to 95% of the cross-sectional area. Erhard⁸ et al suggested leaving the tendon unrepaired if no triggering was observed during exploration, trimming laceration edges if triggering was present, and performing primary repair. For trigger finger resulting from partial flexor tendon rupture, various studies advocate excising the flap and damaged pulley. Repairing tendons is recommended if avulsed substance is not entirely scarred, repaired tendons are non-obstructive, or residual tendons are thinner. The choice of treatment should be tailored based on individual patient characteristics and observed clinical factors.

CONCLUSION The diagnosis of partial flexor tendon rupture following an acute hand injury is challenging, often resembling tenosynovitis. Particularly when faced with a puncture or laceration wound in flexor zone 2, clinicians should be alert to the possibility of partial flexor tendon rupture. If symptoms persist we recommend exploration

Patient's Perspective I'm just a regular teenager who loves playing sports and hanging out with friends. About a year ago, I had a piercing injury to my left ring finger. It happened so fast; one moment, I was goofing around, and the next, pain shot through my finger like lightning. I got it checked out right away, and a local doctor near my residence performed the stitching. The pain eased up a bit, and I thought I was on the road to recovery. Little did I know, the worst was yet to come. Fast forward a month, and I found myself back in another doctor's office, my finger still giving me grief. Every attempt to bend or straighten it sent waves of pain through my hand. The doctor threw around a fancy term, something about Flexor tenosynovitis. Sounded serious. They prescribed me antibiotics, and for a while, it seemed like things were getting better. The pain subsided, and I could almost believe that life was getting back to normal. A month later, I was back at the doctor's office, this time with a finger that seemed to have a mind of its own. The pain was back, and this weird bump in my palm didn't help my peace of mind. The doctor looked at my finger closely, poking and moving it around. They said it's like my finger is rebelling, refusing to straighten out properly. They called it a flexion deformity. The doctors told me they needed to explore the wound, and it turned out that part of my tendon was partially cut and stuck. No wonder I was having so much trouble! After the surgery, I had to do this thing called physiotherapy, which is basically exercises to make my hand strong and flexible. It wasn't easy, but I stuck with it. A whole year went by with check-ups and more exercises. My hand feels awesome now! No more pain when I move it around. It was a tough ride, but totally worth it.

Learning points

- Injuries to flexor zone 2, even if they are small, should be treated with seriousness, and exploration may be necessary when deemed appropriate.
- Secondary trigger finger can arise as a result of partial tendon injuries.

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