

Multiple Trigger Fingers in a Musician: A Case Report

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Abstract:

Trigger finger is a common disease which particularly occurs in middle-aged women. We present a rare case of a male musician with six trigger fingers (five in the left hand and one in the right hand). Mostly these fingers had been used for playing the guitar.

The patient had previously been treated with local steroid injections in his fingers, however no response was seen. Therefore, we performed a surgical procedure. Four weeks after surgery, the patient could play the guitar without discomfort in his hands.

Keywords: Pulley - tendon sheath - trigger finger

Introduction

Tendon entrapment of the fingers and thumbs is one of the most common causes of hand pain and disability. The condition causes painful catching or popping of the involved flexor tendon as the patient flexes and extends the involved digit. On occasion, the digit locks in flexion and requires passive manipulation of the digit into full extension.¹

Trigger finger occurs more commonly in the ring, middle fingers and the thumb; often occurring in diabetic patients and postmenopausal females.²

Trigger finger is more common in middle-aged women rather than men.³ When associated with collagen disease, several fingers may be involved, most often the ring and long fingers.⁴ The exact etiology remains controversial. However, nodular thickening of the flexor pollicis longus (FPL) tendon and/or narrowing of the flexor sheath (a disproportion between the tendon and its sheath) prevents the flexor tendon from entering into the sheath.

The most remarkable pathologic changes are seen in the pulley itself, which demonstrates gross hypertrophy, described by Bunnell as “whitish, cicatricial collarlike thickening”.⁵ The most common form of trigger finger is the primary type which is most often seen in middle-aged women rather than men.^{6,1} The secondary

type of trigger finger is often encountered in patients with chronic illnesses such as diabetes, rheumatoid arthritis, gout, renal disease, and hypothyroidism.^{1,7}

We present an unusual case, in which there was development of trigger fingers in all five left hand fingers and the right ring finger of a male musician. This report has identified the relationship between occupation (musician) and the etiology of a trigger finger.

Case Report

A 46-year-old male musician visited the clinic due to the presence of trigger finger disease in all five digits of the left hand and ring finger of the right hand, which had been aggravated during the previous six months. The patient had been treated twice with local steroid injections during the past year.

He played guitar an average of three hours per day, especially on the weekends. His family history was negative. Interestingly, the patient used all of his involved fingers to play the guitar.

Examination showed no obvious nodules on the flexor tendons. When flexing the fingers he could not perform a forceful grip due to pain and tendon entrapment at the A1 pulley. In addition, he could not freely extend his fingers (Figure 1).

Plain radiographs were normal. The patient underwent a workup for thyroid function, diabetes, renal disease, gout and rheumatoid arthritis which were all negative.

In order to provide symptom relief, A1 pulleys were surgically released in all involved fingers. A padded pneumatic forearm tourniquet was applied followed

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Figure 1. He cannot extend involved fingers due to pain and entrapment of flexor tendons at A1 pulley

by, and 5 mL of lidocaine which was used to infiltrate the skin overlying each A1 pulley and precutaneously fill the flexor tendon sheath. A transverse incision was made over the metacarpal heads. In the thumb, the FPL tendon was approached through a 1.5 cm transverse incision in the MP (metacarpophalangeal) flexion crease immediately after the skin incision. Blunt dissection was used to spread the subcutaneous tissues and the palmar fascia to expose the flexor sheath. The digital nerves and vessels were retracted with small retractors and a thickening of the A1 pulley was observed in all of the involved fingers, particularly in the ring finger of the left hand. The proximal edge of the thickened flexor sheaths were identified and a scalpel was used to divide the entire pulley under direct vision. After surgical release, the patient was asked to actively move the digits to confirm complete relief from the triggering. Meticulous hemostasis was obtained via electrocautery and the wound was closed with monofilament sutures.

A small hand dressing was applied with all digits left free and motion was encouraged on the day of surgery. Following the surgery, the patient had a one month recovery period in which he did not play the guitar. One month after the operation, the patient could return to his previous job without discomfort. Previous symptoms, such as the locking of his fingers in flexion had disappeared completely.

Discussion

In order to evaluate any correlation between occupation and the presence of a trigger finger, several studies have determined that activation of a trigger finger required exertion of pressure in the palm while the patient performed a forceful grip or repetitive digital flexion. This situation may occur during the use of heavy shears or prolonged hand-held tool work.^{10,11}

However, as evidenced by the noticeably low incidence amongst males with an age distribution peak in the fifties, a forceful grip or repetitive digital flexion was unlikely to be the sole etiologic factor.

Trezies et al⁶ investigated the occupational histories of 178 patients with idiopathic trigger fingers and they demonstrated no significant difference between the occupational distribution of patients with trigger digits and that of the general population. They concluded that the vast majority of trigger fingers developed for reasons other than occupation. Weilby⁵ concluded that anatomic and intrinsic factors, undoubtedly, contributed to a predisposition for the development of tendon entrapment of the hand.

Our patient was a male who did not have any predisposing factors such as thyroid disease, diabetes, renal disease, connective tissue disorders, gout or rheumatoid arthritis. According to the patient, all the fingers used for playing the guitar were involved.

Furthermore, his hand discomfort was more severe in his present job. Therefore it was evident that the occupation of playing the guitar can cause or intensify a trigger finger.

References

1. Green D. *Operative Hand Surgery*. 5th ed. New York: Elsevier, Churchill Livingstone; 2005: 2141, 1464, 2137.
2. Brunicaudi FC. *Schwartz's Principle of Surgery*. 8th ed. Houston, Texas: McGraw Hill; 2005: 1764.
3. Mathes S. *Plastic Surgery*. Volume 7. 2nd ed. Philadelphia: Elsevier; 2006: 648.
4. Cinale ST. *Campbell's Operative Orthopaedics*. 11th ed. Memphis, Tennessee: Elsevier; 2008: 4300, 4301.
5. Weilby A. Trigger finger: incidence in children and adults and the possibility of a predisposition in certain age groups. *Acta Orthop Scand*. 1970; **41**: 419 – 427.
6. Trezies AJ, Lyons AR, Fielding K, Davis TR. Is occupation an aetiological factor in the development of trigger finger. *J Hand Surg*. 1998; **23**: 539 – 540.
7. Cakir M, Samanci N, Balci N, Balci MK. Musculoskeletal manifestations in patients with thyroid disease. *Clin Endocrinol*. 2003; **59**: 162 – 167.
8. Gorsche R, Wiley JP, Renger R, Brant R, Gerner TY, Sasyniuk TM. Prevalence and incidence of stenosing flexor tendinopathy (trigger finger) in a meat-packing plant. *J Occup Environ Med*. 1998; **40**: 559 – 560.
9. Fahey JJ, Bollinger JA. Trigger finger in adult and children. *J Boneand Joint Surg Am*. 1954; **39**: 1200 – 1218.