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Multiple etiologies of trigger wrist



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KEYWORDS

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Summary *Background:* Trigger wrist, a relatively unusual condition, is a triggering at the wrist produced by wrist or finger motion. The clinical manifestations and surgical results of trigger wrist with multiple etiologies were evaluated.

Methods: From October 2008 to December 2012, this study retrospectively reviewed 15 patients diagnosed with trigger wrist. The patients comprised six men and nine women with a mean age of 44.8 years (range, 29–86 years). The mean follow-up period was 16.2 months (range, 11–30 months).

Results: The causes of trigger wrist were an anomalous muscle belly of the flexor digitorum superficialis ($n = 5$), severe tenosynovitis of the flexor tendon ($n = 4$), fibroma around the flexor tendon sheath ($n = 2$), a rheumatoid nodule ($n = 1$), both anomalous muscle belly and tenosynovitis ($n = 1$), a ganglion ($n = 1$), and pigmented villonodular synovitis ($n = 1$). Mild-to-moderate symptoms of median neuropathy without thenar muscle atrophy were present in all patients. Postoperatively, all patients recovered well with resolution of median nerve symptoms, and the wrist triggering was absent.

Conclusions: Trigger wrist is a relatively rare condition compared with trigger finger, which is the most common disorder of the hand. To avoid inadequate and ineffective treatment of patients with trigger wrist, careful examination and proper diagnosis are vital.

Type of study/level of evidence: Therapeutic/IV.

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Introduction

Trigger finger or stenosing tenosynovitis is a common pathology of the hand and one of the most common causes of painful locking or clicking during finger motion.¹ The site of trigger finger is at the level of the first annular pulley (A1 pulley). However, trigger wrist is a rare condition generally characterized by a painful click or catching sensation around the wrist joint during finger or wrist motion. The literature includes reports of trigger wrist described by different names, including “snapping wrist”^{2,3} and “clicking wrist.”⁴ Since the first reports of trigger wrist by Marti⁵ and Eibel,⁶ the term “trigger wrist” has been used to include cases in which either passive or active movement of the wrist or fingers causes triggering of the wrist and often associated with carpal tunnel syndrome. Desai et al.⁷ suggested that the term “trigger wrist” should only be used when there is triggering specifically related to wrist movement.^{8–10} However, in most reported cases, triggering was not associated with wrist motion; instead, it was produced at the wrist by finger flexion and extension. “Triggering of the fingers at the wrist” is caused by the pathology under or around the flexor retinaculum and has several etiologies including fibroma, giant-cell tumors, tenosynovitis, and anomalous muscle bellies.^{6,11–19}

The aim of this study was to investigate the clinical manifestations and surgical results of trigger wrist caused by multiple etiologies among 15 patients.

Materials and methods

This retrospective case series was initiated following institutional review board approval. From October 2008 to December 2012, 15 patients diagnosed with trigger wrist due to multiple causes were surgically treated at our medical institution. The patients comprised six men and nine women with a mean age of 44.8 years (range, 29–86 years). The mean follow-up period was 16.2 months (range,

11–30 months). All patients presented with a painful click or catching sensation, triggering of the fingers at the wrist, and mild-to-moderate paresthesia in the median nerve distribution of the hand. Electromyography (EMG) examination was performed on all patients. Surgeries were performed using an open incision for carpal tunnel release and a surgical procedure to treat the causes of the triggering under general anesthesia.

Results

Of the 15 patients with trigger wrist, five had an anomalous muscle belly of the flexor digitorum superficialis (FDS), four had severe tenosynovitis in the flexor tendon, two had a fibroma around the flexor tendon sheath, one had a rheumatoid nodule, one had both an anomalous muscle belly and tenosynovitis, one had a ganglion, and one had pigmented villonodular synovitis (PVNS). Preoperative EMG showed mild-to-moderate carpal tunnel syndrome in 13 patients; one had severe carpal tunnel syndrome, and one had normal EMG results. However, all patients showed mild-to-moderate symptoms of median neuropathy without thenar muscle atrophy. Table 1 shows patient demographics and intraoperative data of all patients involved in this study. Postoperatively, all patients recovered well with resolution of median nerve symptoms, and the wrist triggering was absent.

Case presentations

Case 1 (patient 3, Figure 1)

A 38-year-old man presented with a catching sensation during finger motion and progressive paresthesia in the median nerve distribution of the right hand. He had previously received conservative treatment at several private clinics for trigger finger and carpal tunnel syndrome, but the symptoms persisted. Examination revealed painful

Table 1 Patient demographics and intraoperative data.

Patient	Age/Sex	Preop. EMG	Cause	Surgical treatment
1	54/M	Moderate	AMB of FDS	CTR/resection of AMB
2	48/F	Moderate	AMB of FDS	CTR/resection of AMB
3	38/M	Mild	Fibroma	CTR/fibroma excision
4	31/F	Moderate	AMB of FDS	CTR/resection of AMB
5	35/F	Moderate	Severe tenosynovitis	CTR/tenosynovectomy
6	46/F	Mild	RA nodule	CTR/nodule excision
7	51/F	Moderate	Severe tenosynovitis	CTR/tenosynovectomy
8	51/M	Mild	Severe tenosynovitis	CTR/tenosynovectomy
9	49/F	Severe	Severe tenosynovitis + AMB of FDS	CTR/tenosynovectomy/resection of AMB
10	29/F	Moderate	Severe tenosynovitis	CTR/tenosynovectomy
11	42/M	Mild	Fibroma	CTR/fibroma excision
12	31/M	Moderate	AMB of FDS	CTR/resection of AMB
13	86/M	Moderate	PVNS	CTR/synovectomy
14	46/F	Moderate	Ganglion	CTR/ganglion excision
15	35/M	Normal	AMB of FDS	CTR/resection of AMB

(Preop. = preoperative; EMG = electromyography; AMB = anomalous muscle belly; FDS = flexor digitorum superficialis; RA = rheumatoid arthritis; CTR = carpal tunnel release; PVNS = pigmented villonodular synovitis).

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