

Case Study of a Patient with Trigger Finger after Conducting Pharmacopuncture according to the Progress

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Our study purpose was to report the clinical application of five different pharmacopunctures (Sweet BV, Scolopendrae Corpus, Chukyu, Cervi Parvum Cornu, and Hominis Placenta) for trigger finger. A patient was admitted to Ba-reun-mom S Korean Medicine Clinic and diagnosed with trigger finger. Because the effects of each pharmacopuncture have been confirmed in various acute to chronic cases, we treated a patient diagnosed with trigger finger using pharmacopunctures Sweet BV and Scolopendrae Corpus at the acute phase, Chukyu pharmacopuncture at the acute to chronic phase, and pharmacopunctures Cervi Parvum Cornu and Hominis Placenta at the chronic phase. This case was measured and assessed by Quinnell's classification of triggering and visual analogue scale (VAS) scores. After treatment, the patient's fifth finger pain and function were improved. The VAS score decreased from 5 to 0. The Quinnell's classification of triggering score decreased from 2 to 0. This case indicated that a patient with trigger finger could be treated by five pharmacopuncture treatments according to the treatment regimen and disease progress.

Keywords: trigger finger, pharmacopuncture, case report

INTRODUCTION

Trigger finger is caused by the development of a nodule or fusiform swelling in the flexor tendon of the hand or the thickened A1 pulley at the front of the metacarpal neck [1, 2]. Clinical symptoms include feeling or hearing a snapping or grating sound, because the flexor tendon of the hand passes through the A1 pulley with difficulty. It is sometimes accompanied by pain [1].

Trigger finger is a common disease that occurs in 2-3% of the population and is six times more likely to occur in women than in men [3]. The prevalence is high between 40 and 60 years of age [4].

In Korean medicine, previous cases of trigger finger applied manual acupuncture, electroacupuncture, pharmacopuncture,

fire acupuncture, moxibustion, and infrared therapy as treatments [5]. Among these case reports, case studies using pharmacopuncture utilized the same method regardless of treatment progress, and no case report used pharmacopuncture according to the patient's symptoms and treatment evolution.

We performed pharmacopuncture treatments on a patient diagnosed with trigger finger according to treatment progress, obtaining significant results.

CASE REPORT

1. Study subject

This study targeted one patient who visited Bareunmom S Korean Medicine Clinic due to trigger finger. After obtaining

consent for using the data for research, we conducted progressive observations based on the patient's medical record covering eight treatment sessions.

2. Treatment methods

1) Procedure methods

(1) Sweet BV pharmacopuncture (1st session)

A bolus injection of 0.8-cc of sweet BV (10%) pharmacopuncture, manufactured by Kirin Korean Medicine Industrial Institute, was administered once.

(2) Scolopendrae Corpus pharmacopuncture (2nd-5th sessions)

A bolus injection of 0.8-cc of Scolopendrae Corpus pharmacopuncture, manufactured by Kirin Korean Medicine Industrial Institute, was performed once per session.

(3) Chukyu pharmacopuncture (6th and 7th sessions)

A bolus injection of 0.8-cc of Chukyu pharmacopuncture, manufactured by AJ External Herbal Dispensary, was given once per session.

(4) Cervi Parvum Cornu and Hominis Placenta pharmacopuncture (8th session)

A bolus injection of 0.4-cc of Cervi Parvum Cornu and 0.4-cc of Hominis Placenta pharmacopunctures, manufactured by Kirin Korean Medicine Industrial Institute, was administered once.

(5) Needle and syringe information

A 31-gauge x ½" (12.7 mm) needle (Jung Rim Medical) and 1-cc syringe (Jung Rim Medical) were used.

2) Point-location

The needle of the pharmacopuncture was inserted obliquely at an angle of 30° and a depth of 5-mm at the intersection of the 17-mm proximal point of the metacarpophalangeal joint (MCP joint) of the left 5th finger and the midline of the 5th finger. The direction was toward the proximal portion of the A1 pulley along the midline of the 5th finger. After the insertion, the needle was withdrawn while injecting the pharmacopuncture solution. The same procedure was applied to all treatments.

3. Evaluation methods

1) Visual analogue scale

The visual analogue scale (VAS) is widely used to evaluate pain in clinical practice [1]. The VAS evaluates the degree of

pain subjectively by demarcation on a 10-cm-long line. When the patient realized pain and discomfort, they were asked to take a video to record the level of pain on VAS.

2) Quinnell's classification of triggering

The degrees of trigger events were classified into grades 0 to 4 by using Quinnell's method (Table 1). Grade 0 is the normal state, and grade 4 is the most severe stage, indicating a contracture condition that is fixed in extension or flexion and does not resolve passively or actively [6]. Before treatment, the patient's initial status was recorded as a video, and the patient was asked to record Quinnell's grades.

4. Patient information

This case is a retrospective case report of one patient who visited Bareunmom S Korean Medicine Clinic from April 9, 2022, to May 28, 2022. The retrospective analysis of patient data was approved by the Institutional Bioethics Committee (IRB) of Woosuk University Oriental Hospital (WSOH IRB H2208-01).

1) Patient

OO Park (M/51)

2) Onset date

Around February 2022

3) Treatment period

April 9, 2022-May 28, 2022

4) Diagnosis

Trigger finger on the left fifth finger

5) Main symptoms

Oppressive pain and heat sensation around the MCP joint of the left fifth finger.

Table 1. Grade of triggering of the digit

Grade	Description
0 none	Even movement during flexion/extension
1 mild	Uneven movement during flexion/extension
2 moderate	Actively correctable;interferes with normal hand function
3 severe	Passively correctable
4 locked	Fixed in flexion

Locking feeling and discomfort when extending the left fifth finger after flexion.

6) Reason of onset

Pain occurred in the MCP joint of the left fifth finger while playing golf around February 2022.

7) Medical history

Took P.O. med., Western medicine, for four weeks after being diagnosed with trigger finger around March 2022.

8) Family medical history

None.

9) Social history

Height 182 cm, weight 92 kg, fleshy physique, smoking (-), drinking (+), and white-collar employment.

10) Present illness

The patient visited the clinic because of trigger finger in the left fifth finger, which developed around February 2022. He took P.O. med for four weeks, Western treatment, but it was not improved. He had clear trigger finger symptoms in the MCP joint of the left fifth finger at the time of the visit and the triggering grade was 2.

5. Treatment procedures

1) April 9, 2022

At the first medical examination, a snapping symptom that could impair hand function was observed. The locking of extension and flexion could be resolved actively. It was judged that there was inflammation present because the MCP joint had pain and heat sensation.

2) April 16, 2022

The pain in the MCP joint was reduced to VAS 3. The triggering grade was 2, unchanged, and there was clear locking. However, discomfort and heat sensations were relieved.

3) April 23, 2022

The subjective pain and functionality of the left fifth finger were greatly improved. The patient indicated that the discomfort was somewhat alleviated as compared to the second session. Discomfort increased at night, but it could be improved

by massage. In addition, the daytime pain drastically decreased. When patient complained of pain developing at night, the VAS was 3.

4) April 30, 2022

The patient complained that the discomfort persisted in the morning and at night even though the pain and functionality improved somewhat during the day after the first three treatments. The VAS was 3 when pain occurred in the morning and at night.

5) May 7, 2022

Previously, the patient complained of discomfort in the morning and at night. However, after the fourth session, the patient indicated that he had discomfort only at night and the morning discomfort disappeared. The triggering grade was 0, and no issue was observed visually. When pain occurred at night, the VAS was 2.

6) May 14, 2022

The existing inflammation was relieved, and the discomfort in daily life vanished. However, the patient still complained of stiffness in the early morning, so Chukyu pharmacopuncture treatment was performed. The triggering grade was 0, and there was no visual issue. When pain occurred at dawn, the VAS was 2.

7) May 21, 2022

Although pain and locking had declined in daily life, the patient stated that stiffness persisted for about 30 minutes when waking up in the morning. The triggering grade was 0 and the VAS was 2 when pain occurred in the morning.

8) May 28, 2022

The patient complained of stiffness at dawn, and the pain level was VAS 2. The triggering grade was 0. The symptoms did not improve after the seventh treatment.

6. Follow-up observation and results

1) June 25, 2022 (F/U)

All symptoms the patient had previously complained about disappeared after eight treatments, so the patient did not visit the clinic. The patient visited the clinic after four weeks, and the triggering grade and VAS were 0 (Fig. 1, Table 2).

DISCUSSION

Trigger finger is the most common cause of hand pain in adults [4]. Although the main cause is unknown, it is associated with inflammation of the tendons, fibrocartilage metaplasia of the A1 pulley, and constant uneven force applied to the hand [7].

Trigger finger can be divided into an acute phase and a chronic phase depending on its progress. In the acute phase, there are inflammatory changes in the A1 pulley [8]. However, no inflammatory changes are observed in the chronic phase, and degenerative fibrocartilaginous hyperplasia appears in the A1 pulley and tendon [8].

In Western medicine, steroid injection treatment is widely used as a conservative treatment. However, side effects such as pain at the injection site, stiffness, tendon rupture, ecchymosis, and subcutaneous fat atrophy have been reported [9, 10]. In addition, steroids are repeatedly injected, and most patients ultimately undergo surgical treatment, potentially leading to long-term effects [11].

The patient of this case had acute trigger finger. The main symptoms were oppressive pain and heat sensation in the MCP

joint of the left fifth finger and locking and discomfort during extension after flexion. Sweet BV is a pharmacopuncture solution made by separating and purifying melittin, which has excellent analgesic and anti-inflammatory effects [12]. Therefore, sweet BV pharmacopuncture treatment was used on the first visit to alleviate inflammation.

At the second visit, the symptoms of discomfort and heat sensation were relieved. Lee et al. [13] revealed that Scolopendrae Corpus pharmacopuncture had analgesic effects for neuropathic pain that could not be controlled by conventional painkillers such as NSAIDs and opioids. Other testing indicated that it was effective against inflammation and entrapment neuropathy [14]. Therefore, this study used Scolopendrae Corpus pharmacopuncture to control pain after treating inflammation. Scolopendrae Corpus pharmacopuncture was used until the 5th injection procedure.

By the sixth visit, the discomfort in daily life had disappeared. However, the patient expressed stiffness that persisted for about 30 minutes when the patient first woke up. Chukyu pharmacopuncture is the most convenient formulation to use for treating joint diseases and it is composed of medicinal herbs for dispelling wind-dampness, Tonify blood, and Tonify qi [15, 16]. The persistent stiffness symptom upon waking up at dawn was judged as progression from an acute phase to a chronic phase. Therefore, Chukyu pharmacopuncture was used for the purposes of Tonify qi and Tonify blood, in addition to pain treatment.

At the seventh visit, Chukyu pharmacopuncture was injected in the same way as the sixth treatment. However, because the morning pain and stiffness were not alleviated, the case was regarded as the chronic trigger finger phase. Hominis Placenta pharmacopuncture is used for treating chronic diseases that require hormonal effects [16]. Cervi Parvum Cornu is a drug used for chronic arthritis, and Yin-deficiency inflammatory diseases [16]. Therefore, Hominis Placenta, and Cervi Parvum Cornu pharmacopunctures were used during the eighth visit

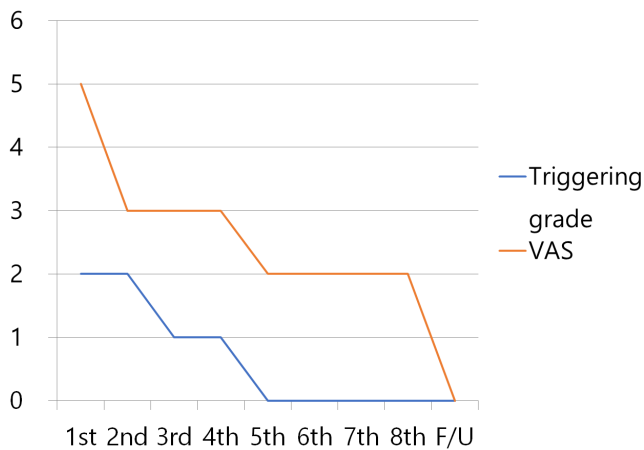


Figure 1. Changes of Quinell's grade and VAS score.

Table 2. Measurements results of the patient

Visit	1st	2nd	3rd	4th	5th	6th	7th	8th	F/U
Date	'22/4/9	4/16	4/23	4/30	5/7	5/14	5/21	5/28	6/25
Triggering grade	2	2	1	1	0	0	0	0	0
VAS	5	3	3	3	2	2	2	2	0
Heat sensation	++	+	+	+	+	-	-	-	-
Discomfort	++	+	+	+	+++	+++	+++	+++	-

VAS, visual analogue scale. ++: severe, +: weak, -: none. *Increased at night, **only at night, ***stiffness in the morning.

for the purpose of Yin-tonifying.

The treatments were completed in eight visits. The follow-up observation after four weeks revealed that the trigger finger symptoms were completely cured. There were no adverse reactions during the treatment period.

Previous case studies used one pharmacopuncture for treating trigger finger patients, instead of using different pharmacopunctures depending on treatment progression. We expected favorable results by applying different pharmacopuncture treatments after dividing the symptoms of trigger finger into an acute phase and a chronic phase according to the patient symptoms and the treatment evolution. The results of this study illustrated that using different pharmacopunctures according to the medication progress could be effective in reducing pain and alleviating locking.

However, because this study is based on only one case and this study did not have a control group, it is insufficient to confirm the effectiveness of pharmacopuncture treatment according to disease progression. Therefore, additional trigger finger cases are needed, using pharmacopuncture treatments according to disease progress, and a large-scale controlled study is necessary to prove its effectiveness.

CONCLUSION

1. Different pharmacopunctures were used for a patient with trigger finger according to the treatment and disease progress. As a result of treatments, the visual analogue score decreased from 5 to 0 and the Quinnell's trigger score decreased from 2 to 0.

2. The importance of this study is that the discomfort of a patient with trigger finger was reduced by using different pharmacopunctures according to the treatment progress, not using the same pharmacopuncture repeatedly.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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