

Sa-am Five-element Acupuncture and *Hwangyeonhaedoktang* Pharmacopuncture Treatment for an Essential Tremor: Three Case Reports

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Key Words

essential tremor, acupuncture, pharmacopuncture, *eight-principle* pharmacopuncture, *Sa-am* five-element acupuncture

Abstract

The purpose of this study was to report the effect of a combination of *Sa-am* five-element acupuncture and *eight-principle* pharmacopuncture (EPP) for the treatment of an essential tremor (ET). This study reviewed the medical records treated at OO Korean medical hospital for ET by using diverse types of acupuncture without herbal medicine, other types of physical therapy, and western medication related ET or Parkinson's disease and was performed after the approval of the institutional review board (IRB). The three cases that were finally selected were then extracted and reviewed. The three cases that were finally selected involved three women in their 70s to 80s. The evaluation of the progress was made by using the numeric rating scale. A combined treatment, the method of liver excess (肝乘格), from among *Sa-am* five-element acupuncture, and *Hwangyeonhaedoktang* EPP at CV23 and CV17, was applied to all cases. In all three cases, the ET was improved, and recurred ETs improved with the same treatment. The results suggest that the combined treatment of *Sa-am* five-element acupuncture and *Hwangyeon-*

haedoktang EPP may be effective for treating an ET, even though this conclusion is based on only three cases.

1. Introduction

Essential tremor (ET) is one of the most common kinetic disorders, and inversely depends on age. An ET is a kinetic tremor that commonly occurs in the arms during voluntary movements such as pouring, drinking, eating, writing, and other daily activities, but especially occurs in the head, neck, and voice, and occasionally in the tongue, trunk, legs and so on [1, 2].

The prevalence of ET varied from 0.008% to 22% [1], but the range of prevalence estimates with other specified method was 0.4%-3.9% [1]. A population-based study in Turkey reported that the prevalence of ET was 4.0% among individuals age 40 yr or older [3].

ET has been treated with diverse methods such as propranolol, primidone, topiramate, clozapine, Botulinum toxin type A, thalamic deep-brain stimulation (DBS), subthalamic nucleus DBS, and so on [4].

Sa-am five-element acupuncture is one of the most representative acupuncture techniques in Korea, and was proposed by *Sa-am* about 360 yr ago. This technique use *five-transporting points* according to the principle of tonification and sedation [5, 6].

Pharmacopuncture is a new form of acupuncture

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combining acupuncture that has been promoted in Korea and is based on the meridian theory and a natural herbal medicine based on qi and flavor theory [7, 8]. *Eight-principle* pharmacopuncture (EPP) among diverse types of pharmacopuncture is a method of treating diseases with the founding eight principles (Yin/Yang, cold/heat, exterior/interior, and deficiency/excess) as the traditional medicine theory, and with acupoints and meridians serving as supplemental resources [8].

Several studies on *Sa-am* five-element acupuncture treatment of an ET such as management of an ET after DBS, and of a submaxillary tremor have been reported [9, 10], but the treatments used these studies were the treatment of combination among acupuncture or Western drugs, and Oriental herbal medicines. No studies on pharmacopuncture treatment for ETs exist. Therefore, this study reports three cases of an ET treated with a combination of *Sa-am* five-element acupuncture and pharmacopuncture.

2. Cases report

2.1. Study methods

We had the medical record officer select the medical records of patients have treated for an ET by using diverse types of acupuncture without herbal medicine or by using other physical therapies at Sangji University Korean Medicine Hospital from March 2006 to December 2011, from which the three cases reported here were selected. The medical records included data such as gender, age, diagnosis, past history, family history, current medical history, intervention, information on symptom improvement (scale or progress, etc.), other related information (laboratory tests, imaging, etc.), and Western medication. The medical records that included a history of herbal medication, anti-ET drug, such as propranolol, primidone, etc., use, anti-parkinsonian drug, such as levodopa, catechol-O-methyl transferase inhibitors, monoamine oxidase inhibitors, bromocriptine, anti-cholinergics, amantidine, use, and so on were excluded.

Three outpatients were finally selected after the secondary data had been reviewed to eliminate individual information. This study was performed with the approval of institutional review board (No: SJ IRB 120229) for a retrospective review of medical records.

2.2. Results

The three cases that were finally selected involved women in their 70s to 80s who had been treated using acupuncture and pharmacopuncture, namely, standard methods of treatment for ET in our hospital. The details are as follows:

2.2.1. Treatment

For acupuncture treatment, 0.25 mm × 3.0 mm sterilized stainless-steel needles (*Dongbang* Acupuncture Inc., Korea), were applied at LU8 and LR4 with tonification and at HT3, and LR2 with sedation on the right side of the body at depths of 0.2-0.4 cm, for a total of 4 needles, by using only directional supplementation and draining (迎隨補瀉) without manipulation for 20 min [5, 6]. For the pharmacopuncture treatment, a 0.2-mL dosage of *Hwangyeonhaedoktang* pharmacopuncture (HHP), among diverse types of EPP, was applied at CV23 and CV17, respectively, at a 0.5-mm depth and a perpendicular angle by using the tapping method [8, 11].

2.2.2. Evaluation

The method to evaluate the progress was the numeric rating scale (NRS) in all cases. The NRS was an 11-point horizontal scale ranging from 0 to 10 (NRS 10 for the most severe conditions of ET on first visit; NRS 0 for no symptoms of ET) [12].

2.2.3. Results of Cases [Table 1, Fig. 1]

Case 1 was an 81-yr-old woman complaining of symptoms such as jaw tremor, tremors in both hands upon action, pain and swelling in the right knee and the right ankle, heart palpitations, red tongue, and tight and rapid pulse, which had started about 9 months earlier. She had been under great stress since the death of her son. The neurological examination at our hospital and the brain computed tomography (brain CT) scan and other examinations at another hospital showed no abnormal findings. She had no past history of tremors and no history of medication, but had had left tinnitus and deafness before the onset of the ET symptoms.

The severity of tremors was decreased 30% on the 4th day after treatment, 70% on the 23th day after treatment, 90% on the 29th day after treatment. After that, slight tremors occurred under stress intermittently. The treatment was terminated because the symptom remained for about one month. The tremor occurred again the next year (Case I-2nd), but the symptom was decreased 90% after treatments. The treatment was finished without worsening of tremors. No improvements in knee pain, tinnitus, and deafness, in spite of two periods of treatment, were noted.

Case 2 was a 76-yr-old woman complaining of the tremor in both her hands and in her jaw and mouth on action, red tongue without fur, tight and rapid pulse, and tenderness in CV17, which had started 20 days earlier. She had the past history of myocardial infarction, hypertension, diabetes mellitus, hypoglycemia shock and ET. She had taken anti-platelet, antihypertensive, and anti-diabetic medications. The brain CT was normal, but the laboratory

Table 1 Characteristics of the three cases

| | Outpatients | | |
|--------------------------|--|--|---|
| | Case 1. | Case 2. | Case 3. |
| Gender/Age | F/81 | F/76 | F/77 |
| Syndrome differentiation | Liver qi depression syndrome | Liver qi depression syndrome | Liver qi depression syndrome |
| Diagnosis | R/O Essential tremor | Essential tremor R/O chronic renal failure Sequelae of myocardial Infarction Hypertension Diabetes | Essential tremor R/O chronic renal failure |
| Onset | 1st attack (2010 year) : about 9 months ago 2nd attack (2011 year) : 3 days ago | 20 days ago | About 2.5 months ago |
| Region of tremor | Jaw tremor Tremor in both hands | Tremor in both hands (Lt > Rt) Jaw and mouth tremor | Jaw tremor |
| Accessory symptom | Right knee pain & swelling Palpitation Indigestion | | Headache Nausea |
| Past history | Left tinnitus and left deafness | 1) Myocardial infarction : stent 5 yr ago 2) Hypertension & diabetes: 30 yr ago 3) Hypoglycemia shock : 2 yr ago 3 time admission 4) Tremor : 2 yr ago | |
| Family history of tremor | None | None | None |
| Medication for tremor | None | None | None |
| Other medications | None | Antiplatelet agent Antihypertensive agent Antidiabetic agent | None |

test showed blood urea nitrogen (BUN) 48 mg/dL, creatinine 3.6 (0.6-1.4) mg/dL, red blood cells $2.43 (3.5-5.5) \times 10^6$ uL, hemoglobin 7.5 (11.5-17) g/dL, which implied renal failure. Korean medical treatment two yr earlier had improved the ET. The NRS score was decreased continuously during the 18 days of treatment.

Case 3 was a 77-yr-old woman complaining of jaw tremor,

headache, and nausea. A mild jaw tremor had occurred intermittently during the previous 7 months, but had worsened during the last 2.5 months. She was diagnosed with chronic renal failure based on the laboratory test and the normal finding on the brain CT scan at another hospital. We diagnosed her as having an ET based on the jaw tremor with no hand tremor and on the normal neurological

examination and brain CT. The symptoms showed good improvement (from NRS 10 to NRS 1) after 3 treatments, despite the long duration of the ET.

3. Discussion

This method of *Sa-am* five-element acupuncture consists of “tonification-sedation between deficiency and excess,” which is well known as the “four-needle technique” [6, 13] or the “eight-needle method” [5, 14]. The principle of this method is based on the engendering (相生) and the restraining (相克) cycles of the five-element theory. The method of liver excess (肝乘格; LEM), among *Sa-am* five-element acupuncture methods, tonifies the destroyer point of the destroyer channel (LU8) and of the self-channel (LR4) and sedates the son point of the son channel (HT3) and of the self-channel (LR2), and has been used for the treatment of liver disease [15], neuromuscular and movement disease in excess syndrome [16], and liver qi depression syndrome on the grounds that the wood element is connected with the liver and the muscles [5, 6]. We presume that LEM has been used because an ET is related to a movement disorder.

HHP, among EPP, was extracted by collecting distilled water from boiling *Hwangyeonhaedoktang* (*Coptis chinensis* Franch., *Scutellaria baicalensis*, *Phellodendron amurense* Ruprecht., *Gardenia jasminoides* Ellis), adjusting the pH and the concentration of the distilled water, and then filtering and sterilizing the product [8]. HHP has been used to treat headache, insomnia, atopic dermatitis, liver fire syndrome, and heart fire syndrome in Korea [17, 18]. We infer that HHP was selected to treat ET because the symptoms of ET are worsened under stress, anxiety, and depression [1, 2], which is related to liver qi depression syndrome or heart deficiency syndrome.

All three cases were improved, and a recurred ET was also improved by using the same treatment. Case 1-2nd and case 3 showed dramatic improvements after at 2 to 3 treatments. In accordance with a previous similar study [19], the shorter the morbid duration is, the shorter the treatment time is based on the results of case 1 and case 2.

We suggest that this result will provide basic data on Korean medicine treatment for an ET and that this combined treatment can be applied to patients to whom drugs cannot be administered because they suffer from diseases such as renal failure, even though this conclusion is based on only three cases.

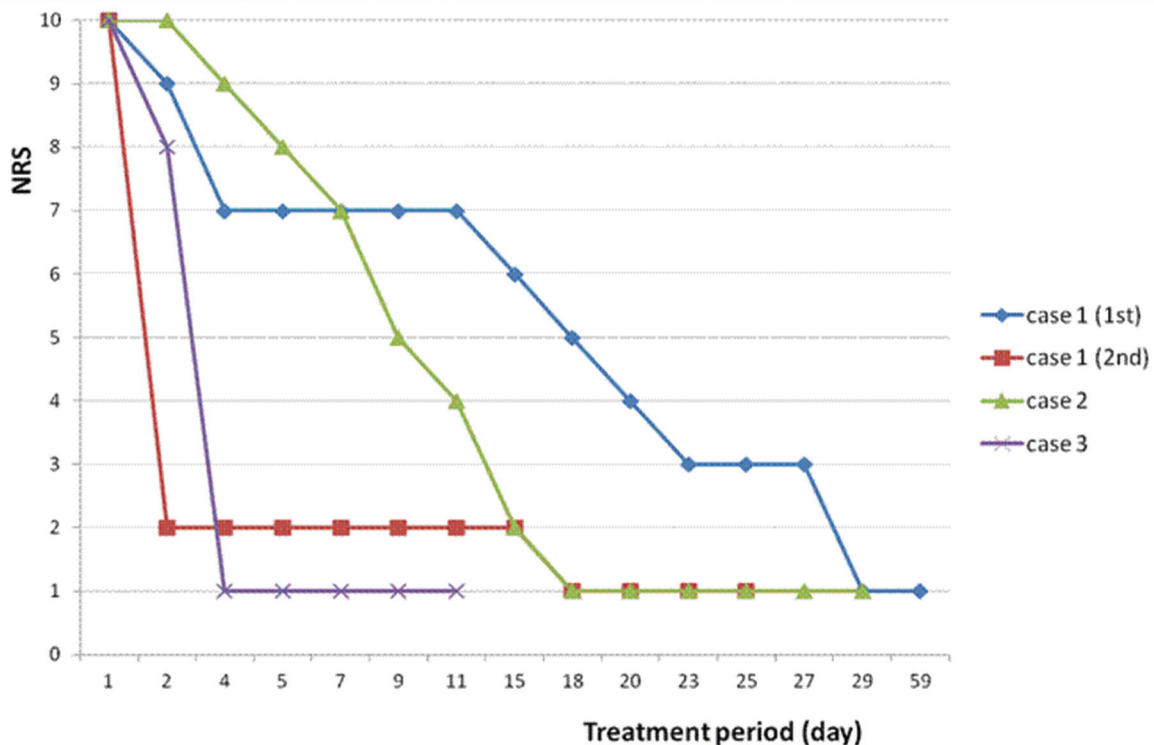


Figure 1 Progress of essential tremor (ET) treatment in the three cases.

NRS is the numeric rating scale. Case 1 (1st) is the first occurrence of an ET in case 1, and Case 1 (2nd) is the recurrence of ET the following year after the first treatment in case 1.

This study has limitations in that the results of three case reports cannot be generalized because of loss of control and an insufficient number of subjects and because which treatment, acupuncture or pharmacopuncture, might have been more effective, if either, could not be identified. Nevertheless, the results suggest that combined treatment of *Sa-am* five-element acupuncture and HHP, two types of Korean medicine, may be effective for treating an ET. In the future, additional systemic research will be needed to find ways to treat an ET by using either acupuncture or pharmacopuncture.

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