



# Five Clinical Cases of Facial Chuna Manual Therapy with Korean Medicine Treatment for Acute Bell's Palsy

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This study individually analyzed the effects of Korean Facial Chuna Manual Treatment (K-FCMT) combined with Korean medicine (KM) treatment (acupuncture, electroacupuncture, pharmacopuncture, and herbal medicine) on five patients with acute Bell's palsy who visited Dongsuwon Korean Medicine Hospital between August 1 and 31, 2022. During inpatient treatment, two of the five patients received K-FCMT 5–6 times a week, and the other three received the same frequency during outpatient treatment for approximately 2 weeks. Patients with a House–Brackmann grading scale (HBGS) score of  $\leq 4$  and Yanagihara unweighted grading system (Y-score)  $\geq 7-8$  began to recover after the 2nd–3rd sessions of K-FCMT, which entered the recovery phase quickly. As patients entered the recovery phase (7–9th sessions of K-FCMT), symptoms improved to HBGS scores of 1–2 and Y-scores of 35–40 points. This study suggests the possibility of applying K-FCMT combined with KM treatment to patients in the acute stage of Bell's palsy.

**Keywords:** Acute Bell's palsy; Facial muscles; Korean Facial Chuna Manual Treatment; Korean traditional medicine

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## INTRODUCTION

Facial palsy is the paralysis of the face caused by facial nerve dysfunction. Bell's palsy has various causes. However, facial palsy can be largely divided into two types: central and peripheral. Bell's palsy, which corresponds to peripheral facial paralysis, is the most common among facial neuropathies, with an incidence of 11–40 people per 100,000 people. It is very common that one in 60 people experience it in their lifetime [1]. The cause of Bell's palsy is not clearly known, and its symptoms include incomplete eyelid closure, drooping eyes, inability to raise the forehead, taste disorders, hyperacusis, crocodile tear syndrome, and dry mouth, which cause discomfort in daily living [2].

Bell's palsy symptoms become more severe within 7 days after onset, and this phase is called the "progress phase" or the "acute phase." Four risk factors highly induce Bell's palsy sequelae: recovery is not observed within 3 weeks after onset, denervation rate of >90% on electromyography/electroneurography, complete paralysis (House–Brackmann grading scale [HBGS] score of 6), old aged (>65 years), diabetes, etc. [2,3]. Therefore, rapid recovery of symptoms with appropriate treatment can help minimize Bell's palsy sequelae and improve the physical and psychological health of the patients.

Currently, Korean medicine (KM) treatment for acute Bell's palsy includes acupuncture, electroacupuncture (EA), pharmacopuncture (e.g., Hwangryunhaedok-tang, placenta, and bee venom), moxibustion, and herbal medicine. In Western medicine (WM), oral steroids alone or in combination with antiviral drugs, surgical facial nerve decompression, and muscle and nerve transplantation are widely used [4].

Korean Facial Chuna Manual Treatment (K-FCMT) is a manual therapy used for patients with Bell's palsy, and it is based on various manual techniques applied to facial paralysis [5]. A previous study using K-FCMT 2–3 times a week in patients who did not improve well in the acute phase, although they received conventional KM and WM treatments, showed improvement in the sequelae of Bell's palsy [6]. However, no studies have applied K-FCMT in patients with acute Bell's palsy. This study showed that patients in the acute phase of Bell's palsy had a rapid improvement when they received K-FCMT 5–6 times a week.

## CASE REPORT

### 1. Patient selection

From August 1 to August 31, 2022, patients with Bell's palsy in the acute phase were selected among those who visited the acupuncture and moxibustion department of Dongsuwon Korean Medicine Hospital and received inpatient or outpatient treatment. A total of five patients were selected, of which two were inpatients, and the remaining were outpatients. All patients received K-FCMT combined with conventional KM treatment. All information about patients was analyzed using electronic medical records. The written informed consent was obtained from all patients. This study was exempted by the Public Institutional Review Board (IRB no. P01-202211-01-031).

### 2. General characteristics

Among the five patients, 2 were males and 3 were females. Except for case 1 in which the patient was 24 years old, patients 2–4 were in their 50s and patient 5 was 43 years old. Patients 1 and 3 had right Bell's palsy, and patients 2, 4, and 5 had left Bell's palsy. Regarding additional factors known to affect the prognosis of Bell's palsy, patients 3 and 5 had hypertension (HTN), and patient 4 had diabetes mellitus (DM). Patient 3 also had a history of Bell's palsy (30 years ago).

### 3. Inclusion criteria

- Patients diagnosed with Bell's palsy at the time of treatment or had no central lesion in brain imaging studies such as brain magnetic resonance imaging or computed tomography.
- Patients who had inpatient and outpatient treatments during the acute phase of Bell's palsy (within 7 days of onset).
- Patients who received K-FCMT once a day and more than five times a week.
- Patients who received K-FCMT more than seven times.
- Adults aged 19–64 years.

### 4. Exclusion criteria

- Patients aged <18 years and older patients aged >65 years.
- Patients who received inpatient or outpatient treatment after the acute phase (patients who received treatment after the acute phase).
- Patients who were diagnosed with central-type facial palsy.

### 5. Assessment methods

#### 1) House–Brackmann grading scale

According to the overall symptoms of facial paralysis, the steps are divided into steps 1–6 based on the following criteria. These criteria are widely used because the evaluation method is relatively simple and can reduce time, as it is an indicator that can compare the improvement stage by evaluating the overall degree of paralysis symptoms, not limited to facial areas. It was performed with the Yanagihara unweighted grading system (Y-score) once a week before and after the start of K-FCMT. The contents of HBGS are shown in Table 1.

#### 2) Yanagihara unweighted grading system

The Y-score is a method of evaluating the severity of facial palsy by calculating the total score of eight items according to the location of the facial muscles. Since items are subdivided into facial muscle sections, inspectors can comprehensively determine the severity of facial palsy by calculating the scores of the divided items so that it can be widely used. A score of 0–4 points can be given depending on each facial muscle function, with a total score of 40 points. The Y-score was measured once a week with HBGS, and for objective evaluation, photos were taken after obtaining consent from the patient. The calculation method of the Y-score is shown in Table 2.

**Table 1.** House–Brackmann grading scale

Grade	Definition
I	Normal symmetrical function in all areas.
II	Slight weakness noticeable only on close inspection. Complete eye closure with minimal effort. Slight asymmetry of smile with maximal effort.
III	Obvious weakness, but not disfiguring. May not be able to lift the eyebrow. Complete eye closure and strong but asymmetrical mouth movements or spasms.
IV	Obvious disfiguring weakness. Inability to lift the brow. Incomplete eye closure and asymmetry of the mouth with maximal effort.
V	Motion barely perceptible. Incomplete eye closure, slight movement of the corner of the mouth.
VI	No movement, loss of tone, no synkinesis, contracture, or spasms.

### 6. Treatment methods

#### 1) Korean Facial Chuna Manual Treatment

Before wrinkle formation, the assist technique was applied to the origin of the paralyzed muscles, and when the wrinkles began to form, the resist technique was applied to the muscle insertion [5]. K-FCMT was applied to the frontalis, corrugator supercillii, zygomaticus major, risorius, orbicularis oculi, orbicularis oris muscle, and platysma. The assist or resist technique was performed for 15 seconds for each site over three times. The length of the total sequence was 5 minutes. After the assist or resist technique, facial massages were performed on both sides of the face, divided into three parts (forehead, chin, and jaw), and were performed from the center to the outside of the face three times (15 seconds per part). The procedure, which included K-FCMT and facial massage, was approximately 8 minutes. Latex examination gloves (Sewoon Medical Co., Ltd., Cheonan, Korea) were used. Both inpatients and outpatients underwent procedures once daily and 5–6 times a week.

#### 2) Acupuncture treatment

Dongbang sterile acupuncture needles, 20 × 30 mm (Dongbang Medical Co., Ltd., Seongnam, Korea), were used in acupuncture treatment (A-Tx). A-Tx was performed on the paralyzed side of Sinjeong (GV24), Duyu (ST8), Chanjuk (BL2), Gwallyo (SI18), Georyo (ST3), Yeonghyang (LI20), Sugu (GV26), Yepung (TE17), Sajukgong (TE23), Cheonggung (SI19), Jichang (ST4), Daeyeong (ST5), Hyeopgeo (ST6), and Georyo (ST3) or the normal side of Hapgok (LI4), Joksamni (ST36), and Taechung (LR3) with EA for 15 minutes, which were well known to stimulate the facial nerve and muscles. Inpatients received A-Tx twice a day, and outpatients had it once daily.

**Table 2.** Yanagihara unweighted grading system

Observation list	Scale of 5 rating
At rest	0 1 2 3 4
Wrinkle forehead	0 1 2 3 4
Blink	0 1 2 3 4
Closure of the eye lightly	0 1 2 3 4
Closure of the eye tightly	0 1 2 3 4
Closure of the eye on the involved side only	0 1 2 3 4
Wrinkle nose	0 1 2 3 4
Whistle	0 1 2 3 4
Grin	0 1 2 3 4
Depress lower lip	0 1 2 3 4

### 3) Pharmacopuncture

Placenta pharmacopuncture ampule 2 mL (Jasaeng Extramural Herbal Dispensary, Namyangju, Korea) was used to restore damaged muscles and the facial nerve. In this study, 1 mL of placenta pharmacopuncture (2–3 times a week in patients 2, 3, and 5) was extracted using a 1-mL Kovax syringe (Korean Vaccine Co., Ansan, Korea) and injected into Chanjuk (BL2), Gwallyo (SI18), Jichang (ST4), and Hyeopgeo (ST6) of the paralyzed side using a 30 G × 13 mm needle (Sungsim Medical Co., Bucheon, Korea) in 0.1–0.2 mL.

### 4) Electroacupuncture

EA was conducted for 15 minutes at Sajukgong (TE23)-Chanjuk (BL2), Gwallyo (SI18)-Georyo (ST3), and Hyeopgeo (ST6)-Jichang (ST4) on the paralyzed side using an electrostimulation machine (Hanil Co., Wonju, Korea) with A-Tx, 3 Hz, and intermittent wave for 15 minutes to activate the facial nerve and muscles of the paralyzed side.

### 5) Herbal medicine

Herbal medicine treatment was administered to patients 2, 3, and 5. Li-gi-geo-pung-san-gami is primarily considered for patients with acute Bell's palsy. Patient 2 received Li-gi-geo-pung-san-gami for 1 day and then

Hyangsa Yang Wi tang for 12 days because of anorexia, dyspepsia, and diarrhea. The other two patients received Li-gi-geo-pung-san-gami for 5 and 10 days. All herbal medicines were administered in 120 mL equivalent three times a day. The compositions of Li-gi-geo-pung-san-gami and Hyangsa Yang Wi tang are shown in Tables 3 and 4.

### 6) Oral steroids

All five patients received steroids orally for 2 weeks from the date of diagnosis. Solondo tablet (prednisolone 5 mg) was taken twice daily and tapered for 2 weeks. After taking 30 mg of Solondo for 4 days, the patients took 20 mg for 3 days, 10 mg for 4 days, and 5 mg once a day for 3 days. After tapering, oral steroid treatment was discontinued.

## 7. Results

After week 1 of treatment, Bell's palsy symptoms improved to 50–60% compared with day 1 of treatment, except for patient 5. Especially, patient 3 had pain of the right mastoid process and complained of insomnia and anorexia due to extreme stress caused by symptoms. Those complaints got better as muscle power improved in week 1. On week 2, patients 1–3 ended K-FCMT treatment as symptoms improved to ≥80%. However, patient 4 who had DM got a 70% improvement rate.

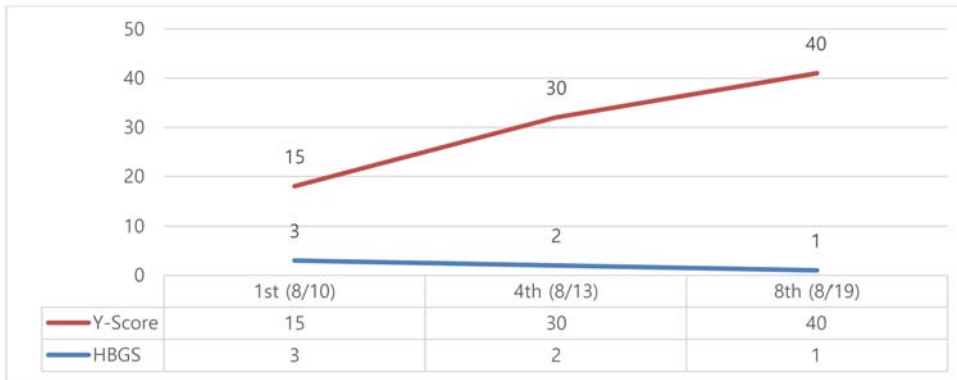
Patient 5, with an HBGS score of 5 points, had severe Bell's palsy symptoms such as left eye ptosis and rare left facial movement and showed relatively slow improvement compared with patients 1–4. His muscle power in the left face was <10% compared with the right face.

**Table 3.** Compositions and quantities of medicinal herbs in Li-gi-geo-pung-san-gami

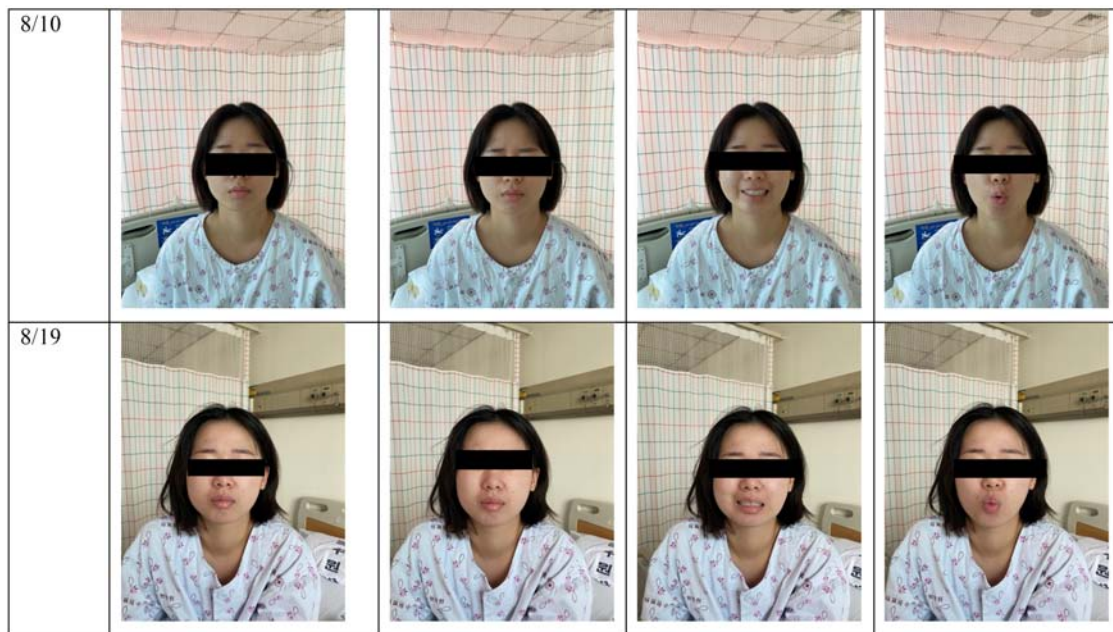
Pharmaceutical name	Total daily dose (g/d)
<i>Glycyrrhiza uralensis</i>	7
<i>Angelica koreana</i> L	7
<i>Platycodon grandiflorum</i>	7
<i>Arisaema amurense</i>	7
<i>Aralia cordata</i> var. <i>continentalis</i>	7
<i>Ledebouriella seseloides</i>	7
<i>Bombyx batryticatus</i>	7
<i>Aconitum coreanum</i>	7
<i>Paeonia japonica</i>	7
<i>Angelica dahurica</i> Bentham et Hooker	7
<i>Lindera aggregata</i>	7
<i>Fructus aurantii</i>	7
<i>Citrus unshiu</i> Markovich	7
<i>Cnidium officinale</i>	7
<i>Gastrodia elata</i>	7
<i>Schizonepeta tenuifolia</i> var. <i>japonica</i>	7
<i>Zingiber officinale</i>	4

**Table 4.** Composition of Hyangsa Yang Wi tang

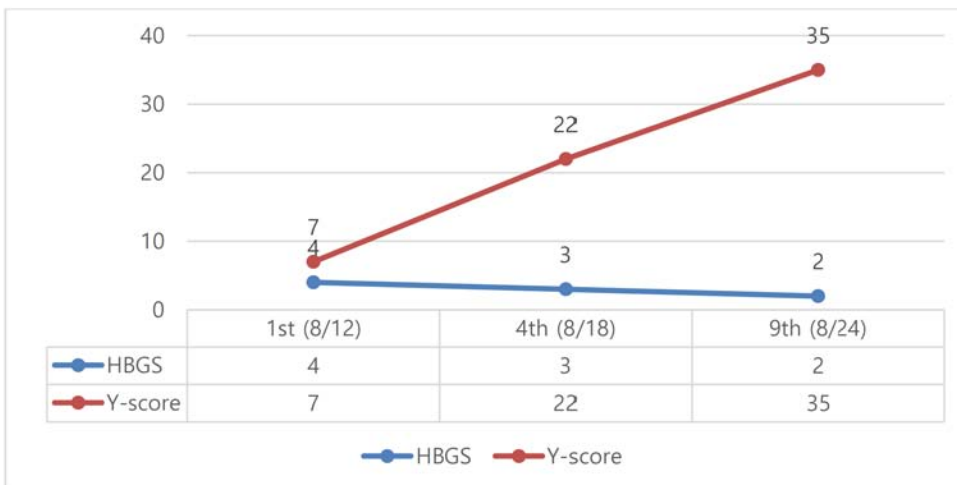
Pharmaceutical name	Total daily dose (g/d)
<i>Panax ginseng</i> C. A. Meyer	8
<i>Pinellia ternata</i> (Thunb.) Breitenbach	8
<i>Amomum cadamomum</i> L	8
<i>Paeonia lactiflora</i> Pallas	8
<i>Atractylodes macrocephala</i> Koidzumi	8
<i>Amomum villosum</i> Lour	8
<i>Crataegus pinnatifida</i> Bunge	8
<i>Citrus unshiu</i> Markovich	8
<i>Cyperus rotundus</i> L	8
<i>Glycyrrhiza uralensis</i> Fischer	8
<i>Zingiber officinale</i> Roscoe	8
<i>Ziziphus jujuba</i> var. <i>inermis</i> Rehder	8



**Fig. 1.** Case 1 (female/24). HBGS and Y-score changes depending on the number of K-FCMT sessions. HBGS, House-Brackmann grading scale; Y-score, Yanagihara unweighted grading system; K-FCMT, Korean Facial Chuna Manual Treatment.



**Fig. 2.** Case 1 (female/24). Changes in symptoms during the course of treatment.



**Fig. 3.** Case 2 (female/53). HBGS and Y-score changes depending on the number of K-FCMT sessions. HBGS, House-Brackmann grading scale; Y-score, Yanagihara unweighted grading system; K-FCMT, Korean Facial Chuna Manual Treatment.





Fig. 4. Case 2 (female/53). Changes in symptoms during the course of treatment.

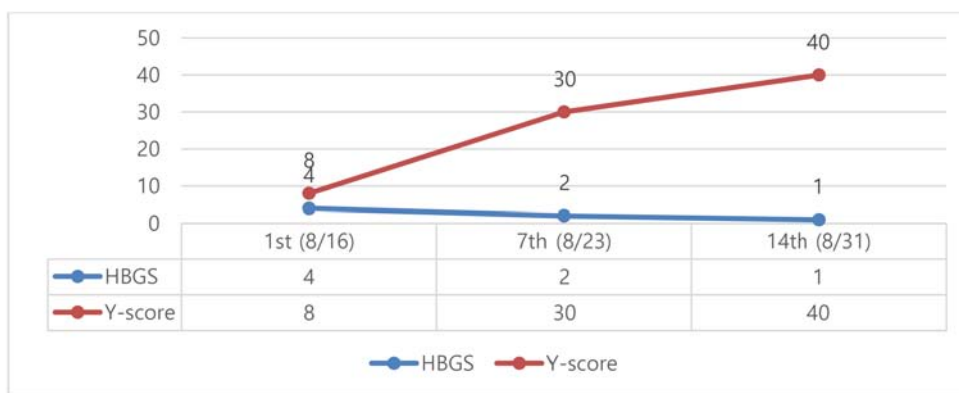


Fig. 5. Case 3 (male/59). HBGS and Y-score changes depending on the number of K-FCMT sessions. HBGS, House-Brackmann grading scale; Y-score, Yanagihara unweighted grading system; K-FCMT, Korean Facial Chuna Manual Treatment.

Therefore, he did not get much improvement until week 2. However, on week 3, his symptoms improved by 60%. Details of improvement are shown in Figs. 1-10.

### DISCUSSION

Only 23.3% of patients with Bell's palsy received WM treatment, 54.4% received KM treatment, and 22.3% received both treatments. The demand for KM treatment is significantly higher than that for WM treatment [7]. Conventional treatments for facial palsy in KM, including pharmacopuncture (Hwangryunhaedok-tang and Soyeom), herbal medicine (Li-gi-geo-pung-san or Gyunjeong-san), and EA, have been reported to be effective

[8-10]. In WM treatment, oral steroid therapy or combination therapy with antiviral drugs is widely known [7].

Bell's palsy has four phases, namely, acute (progress phase), plateau, recovery, and sequelae [5]. The acute phase is the period 7 days after its onset, and paralysis can progress at this phase. The prognosis varies depending on the progression of symptoms in this phase; thus, it is essential to provide active treatment in the acute phase to prevent serious progression [11,12]. Furthermore, owing to the nature of the disease, Bell's palsy usually has a long course; some have not recovered completely, and some have left sequelae. Moreover, patients often complain of psychological anxiety because of their appearance [12,13]. Therefore, minimizing Bell's palsy symptoms that can progress in the acute phase should



Fig. 6. Case 3 (male/59). Changes in symptoms during the course of treatment.

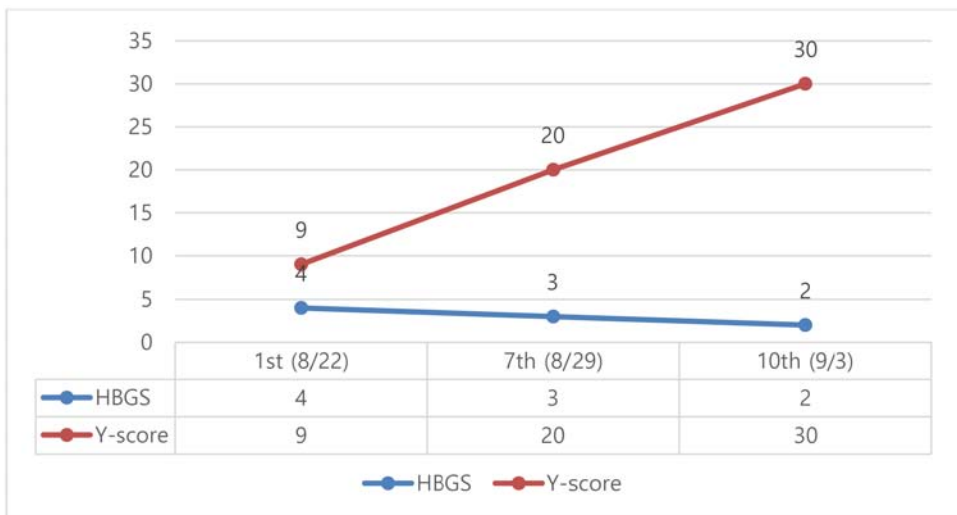


Fig. 7. Case 4 (female/58). HBGS and Y-score changes depending on the number of K-FCMT sessions. HBGS, House-Brackmann grading scale; Y-score, Yanagihara unweighted grading system; K-FCMT, Korean Facial Chuna Manual Treatment.

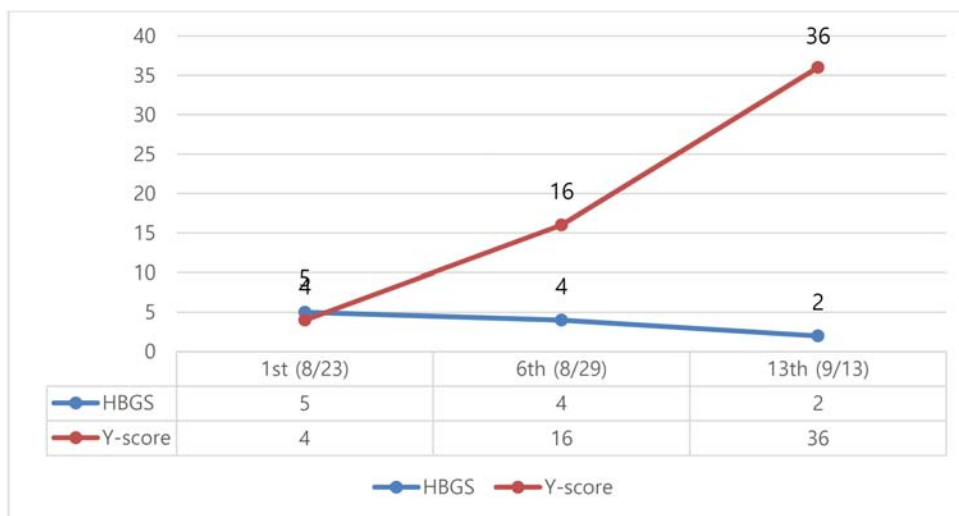
be the main goal of treatment in this phase.

Chuna is a traditional Korean medical manual therapy that treats functional problems by correcting the pa-

tient's body structure neuromuscularly [14,15]. Chuna is mostly used to correct pain or imbalance in the musculoskeletal system; however, recently, treatments that ap-



**Fig. 8.** Case 4 (female/58). Changes in symptoms during the course of treatment.



**Fig. 9.** Case 5 (male/43). HBGS and Y-score changes depending on the number of K-FCMT sessions. HBGS, House-Brackmann grading scale; Y-score, Yanagihara unweighted grading system; K-FCMT, Korean Facial Chuna Manual Treatment.

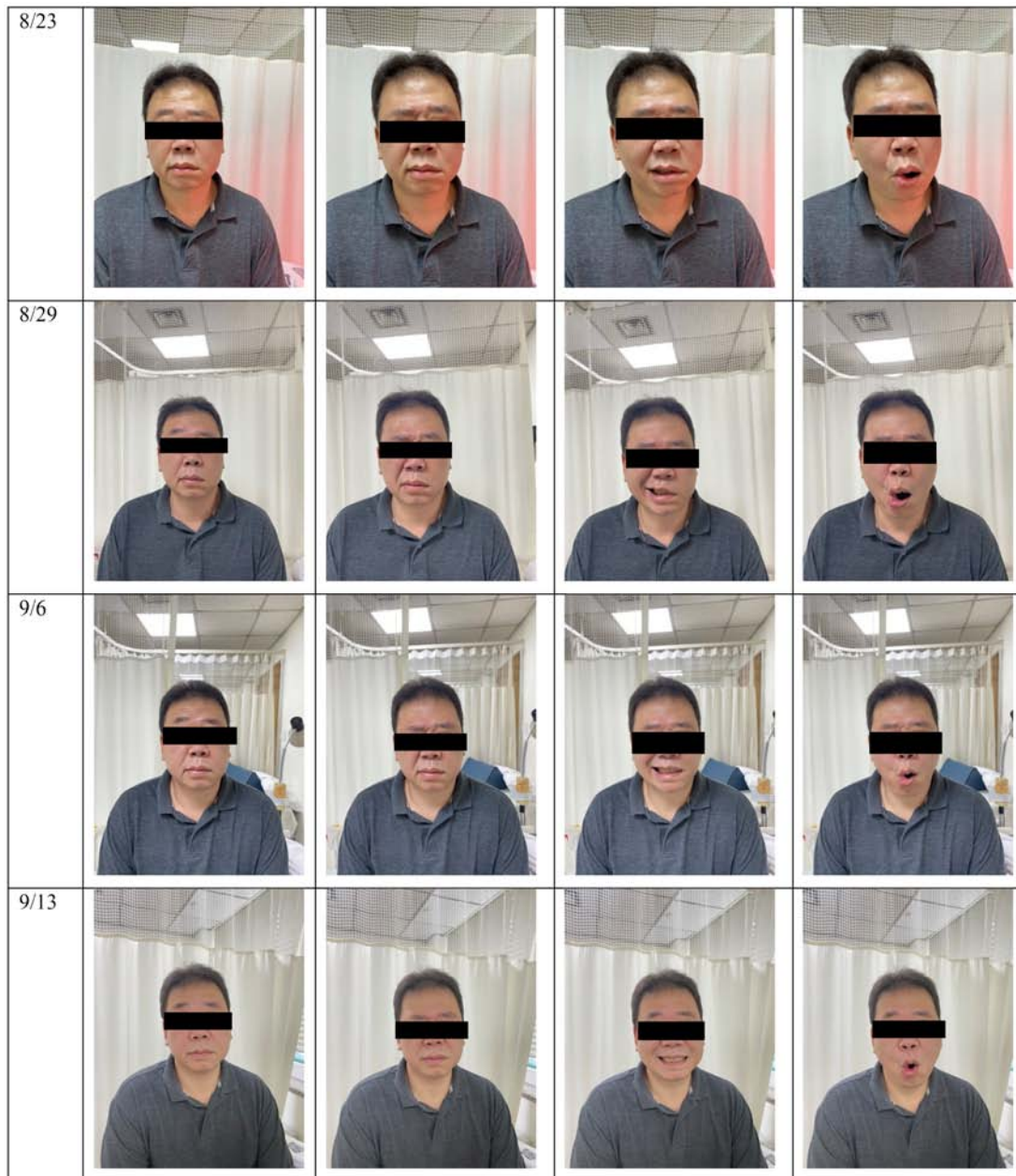
ply Chuna techniques to facial palsy have been actively evaluated.

The muscle energy technique of the upper trapezius and sternocleidomastoid muscles positively affects Bell's palsy by promoting the circulation of the carotid artery to the face and activating the lymph and vascular circulation system [14]. Subsequently, a previous study [15] used Chuna not only on the cervical area but also on the face. A previous study [6] also showed that K-FCMT was effective in patients with sequelae, although patients received conventional KM treatment such as A-Tx, EA,

pharmacopuncture, and herbal medicine in their acute phase. Moreover, a study [16] reported that SJS non-resistance technique-facial palsy manual therapy based on the restoration of muscle nerves by re-education of the paralyzed muscles was effective in cases that were not responsive to conventional KM treatment such as acupuncture and EA. Recently, some studies [17,18] have analyzed the effects of K-FCMT combined with conventional KM treatment on patients with Bell's palsy in the plateau phase and sequelae phase.

In general, several studies have shown that acupunc-





**Fig. 10.** Case 5 (male/43). Changes in symptoms during the course of treatment.

ture, pharmacopuncture, and herbal medicine can have good effects on the treatment of acute Bell's palsy [11,19]. However, the effect of K-FCMT on acute Bell's palsy has not yet been reported. K-FCMT promotes the recovery of patients with acute Bell's palsy, as it stimulates the origin and insertion of facial muscles appropriately so that it re-educates the paralyzed nerves and restores muscles [8,20].

In this study, five patients with acute Bell's palsy who received inpatient and outpatient treatment from August

1 to 31, 2022, received WM treatment (oral steroids) and K-FCMT combined with KM treatment (A-Tx, EA, pharmacopuncture, and herbal medicine) to improve symptoms, such as facial muscle paralysis and eye drooping. When K-FCMT was applied once daily (5–6 times a week) to patients with acute Bell's palsy who visited the hospital within 7 days after the onset, the HBGS score usually decreased by 1 point and the Y-score increased by 15 points within the 5th session of K-FCMT. After 9–10 sessions of K-FCMT, HBGS score decreased by 2 points, and

the Y-score increased by 27.6 points on average compared with the first session, which meant that K-FCMT minimized sequelae by shortening the plateau phase so that the patient could quickly enter the recovery phase. When comparing the improvement rate and level of those who received inpatient treatment (patients 1 and 2) and outpatient treatment (patients 3, 4, and 5), those who received inpatient treatment decreased by an average of 2 points for the HBGS before and after treatment and 2.6 points for those who received outpatient treatment; therefore, inpatient and outpatient treatment was not related to the improvement rate.

Furthermore, patients 3–5 have a history of HTN and DM, which act as a poor factor in the prognosis of Bell's palsy; however, the HBGS and Y-scores were comparable to patients 1–2 at the end of treatment. The difference between the first and last treatment in patients 3–5 was better than that in patients 1–2; therefore, the past history of the patients and improvement rate were not related.

However, in patient 5, the initial Bell's palsy symptoms had an HBGS score of 5 (which had more severe symptoms than other cases), the improvement was more dramatic after 9–10 sessions of K-FCMT than after 5 sessions, and the plateau period was approximately 3 days longer than the other four cases. In general, recovery began in the 4th to 7th sessions of K-FCMT; since then, K-FCMT has been shown to be an effective treatment for patients with acute Bell's palsy. Additionally, patients with an HBGS score of  $\leq 4$  points usually started to recover in the 2nd and 3rd sessions of K-FCMT, and they entered the recovery phase quickly from the plateau phase.

Through this study, the combination of K-FCMT with oral steroid treatment and conventional KM treatment can be applied to patients with acute Bell's palsy.

This retrospective study has the following limitations: it may have biases in patient selection, it is difficult to prove universality as there are only five clinical cases, and the treatment (e.g., pharmacopuncture and herbal medicine) applied to each patient is different. Therefore, prospective comparative control studies are necessary to unify the patient's treatment environment.

## AUTHOR CONTRIBUTIONS

Conceptualization: JMS, HS. Data curation: JMS. Formal analysis: HSY. Investigation: HSY, ECL. Methodology: JYL, DYH. Project administration: JMS, HS. Resources:

CHP. Software: SWK. Supervision: HS. Validation: JMS. Visualization: CHP, SWK. Writing – original draft: JMS. Writing – review & editing: All authors.

## CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

## FUNDING

None.

## ETHICAL STATEMENT

This study was exempted by the Public Institutional Review Board (IRB no. P01-202211-01-031).

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## REFERENCES

1. Korean Neurological Association. Textbook of neurology. 3rd ed. Beom Mun Education; 2017:235.
2. Korean Acupuncture and Moxibustion Medicine Society. Acupuncture medicine. Hanmi Medical Publishing; 2016;639-641.
3. Lim H, Lee Y, Lee S, Kim YS. Effectiveness and safety of Korean medicine treatment based on the clinical practice guidelines in patients with acute peripheral facial palsy: a protocol for a multicenter, prospective, observational study. *Medicine (Baltimore)* 2022;101:e29864. doi: 10.1097/MD.00000000000029864
4. Kim SJ, Lee HY. Acute peripheral facial palsy: recent guidelines and a systematic review of the literature. *J Korean Med Sci* 2020;35:e245. doi: 10.3346/jkms.2020.35.e245
5. Kim JS. Kim's facial chuna manual therapy. *Wiz Communications*; 2020;110-115.

6. Choi GY, Park YK, Woo SH, Lee JH, Lee YK, Lee HJ, et al. Facial chuna manual therapy and acupuncture treatment for the sequelae of peripheral facial nerve palsy: two clinical cases. *J Acupunct Res* 2022;39:70-75. doi: 10.13045/jar.2021.00269
7. Kim D, Jung B, Cho MU, Song SB, Chung SH, Park TY, et al. Analysis of medical services provided to patients with peripheral facial palsy in Korea: a descriptive, cross-sectional study of the health insurance review and assessment service national patient sample database. *BMC Health Serv Res* 2021;21:1178. doi: 10.1186/s12913-021-07078-9
8. Shin HW, Kang JH, Lee H. Efficacy of Soyeom Pharmacopuncture on postauricular pain accompanied with peripheral facial paralysis. *J Korean Acupunct Moxib Soc* 2009;26:41-49.
9. Yang TJ, Lee JH, Kim SW, Jeong JY, Wei TS. 25 cases of facial paralysis inpatients by Korean medical treatment with Hwangryunhaedok-tang Pharmacopuncture. *Korean J Acupunct* 2014;31:229-233. doi: 10.14406/acu.2014.027
10. Wang WH, Jiang RW, Liu NC. Electroacupuncture is effective for peripheral facial paralysis: a meta-analysis. *Evid Based Complement Alternat Med* 2020;2020:5419407. doi: 10.1155/2020/5419407
11. Yu Z, Shen M, Shang W, Wu J, Xuan L. Timing of acupuncture treatment in peripheral facial paralysis: a systematic review and meta-analysis. *Comput Math Methods Med* 2021;2021:4221955. doi: 10.1155/2021/4221955
12. Bae HB, Yoon HJ, Ko WS. A retrospective study of facial paralysis sequelae for Korean medical treatment. *J Korean Med Ophthalmol Otolaryngol Dermatol* 2019;32:59-73. doi: 10.6114/jkood.2019.32.1.059
13. Kim PK, Sung WS, Goo BH, Ryu HK, Suk KH, Lee JH, et al. Retrospective study on factors influencing facial nerve damage of acute peripheral facial palsy patients: by electromyography. *The Acupuncture* 2013;30:155-167. doi: 10.13045/acupunct.2013054
14. Park JH, Lee YJ, Ryu HM, Lee SJ, Park EJ, Song CH, et al. Effects of muscle energy technique of upper trapezius and sternocleidomastoid muscles on Bell's palsy. *J Acupunct Res* 2017;34:190-196. doi: 10.13045/jar.2017.02131
15. Park YK, Lee CI, Lee JH, Lee HJ, Lee YK, Seo JC, et al. A facial chuna manual therapy for peripheral facial nerve palsy. *J Acupunct Res* 2019;36:197-203. doi: 10.13045/jar.2019.00283
16. Choi JH, Yoon YS, Lee KJ, Park KS, Shin JS, Ha IH. The effect of SJS non-resistance technique-facial palsy on a patient with post-acute phase Bell's palsy unresponsive to conventional treatment: a case report. *Explore (NY)* 2021;17:203-207. doi: 10.1016/j.explore.2019.12.002
17. Lee YH, Chai JW, Choi DJ, Ku SH, Kim SH, Moon HW. Three case reports of patients with facial nerve palsy treated by SJS non-resistance technique-facial palsy (SJSNRT-F) combined with Korean medicine treatment. *J Chuna Man Med Spine Nerves* 2021;16:87-95. doi: 10.30581/jcmm.2021.16.2.87
18. Choi YA, Ryu SM, Lee SM, Heo YJ, Lee Ey, Lee CK, et al. Effect of facial chuna manual therapy combined with Korean medicine treatment for Bell's palsy. *J Acupunct Res* 2022;39:222-228. doi: 10.13045/jar.2022.00087
19. Chen Q, Chen F, Li YN, Bao WT, Zhang H. Clinical efficacy of electroacupuncture dilatational wave treatment of acute-stage facial paralysis. *Acupunct Electro Ther Res* 2021;46:405-418. doi: 10.3727/036012921X16237619666085
20. Manikandan N. Effect of facial neuromuscular re-education on facial symmetry in patients with Bell's palsy: a randomized controlled trial. *Clin Rehabil* 2007;21:338-343. doi: 10.1177/0269215507070790