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International Journal of Physical Therapy -Alsalam University
Faculty of Physical Therapy
Alsalam University
Print ISSN: 3062-5084 / Online ISSN: 3062-5092

International Journal of
Physical Therapy Alsalam University
Journal Home Page: https://ijtau.journals.ekb.eg

Combination of Traditional Chinese Medicine and Physical Therapy for Chronic Bell's Palsy: A Case Study

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ABSTRACT

Background: Bell's Palsy is a neurological condition affecting cranial nerve VII, leading to unilateral facial weakness. While corticosteroids are the primary treatment, alternative approaches such as Traditional Chinese Medicine (TCM) and Physical Therapy (PT) have shown potential benefits.

Case Presentation: This study presents a 45-year-old woman, Mrs. Fathya, who was referred to physiotherapy for chronic right-sided Bell's Palsy. Her symptoms included difficulty drinking, speaking challenges, jaw pain, and right eye dryness. TCM diagnosed her condition as a "Wind" attack on facial meridian channels, causing blood and lymph stagnation.

Intervention: The treatment plan combined PT and TCM approaches, including electroacupuncture, moxibustion, facial muscle strengthening exercises, eye care education, and therapeutic modalities (low-level laser therapy, ultrasound, and soft tissue mobilization).

Outcome: Following two months of treatment, Mrs. Fathya demonstrated near-complete facial muscle recovery, improved facial symmetry, and reduced pain.

Conclusion: This case highlights the potential effectiveness of integrating TCM with PT for chronic Bell's Palsy management. Further studies with larger sample sizes are recommended to validate these findings.

Keywords: *electoacupuncture, Bell's Palsy, Traditional Chinese Medicine, acupoints, chronic.*

1. Introduction

The facial nerve, which feeds all the muscles involved in face expression, is affected by Bell's palsy, an idiopathic, acute peripheral-nerve palsy (1). This disorder usually develops quickly over hours to days and causes abrupt, unilateral facial weakness or paralysis.

Although the precise etiology is still unknown, it is thought to be caused by inflammation of the facial nerve, which may be brought on by viral infections like the herpes simplex virus reactivating(1).
Epidemiologically, Bell's palsy affects approximately 15 to 40 individuals per 100,000 annually, with a recurrence rate of about 10%.

The incidence increases with age, peaking between 15 and 45 years. Both males and females are equally affected. (2). Although the illness can strike anyone at any age, people under 15 and those over 60 are less likely to get it(3). Bell's palsy is caused by inflammation of the facial nerve, which results in vascular distension, edema, and ischemia. These conditions cause nerve compression and dysfunction(4).

Without therapy, Bell's palsy has a generally good prognosis. For 85% of persons, a clinically significant improvement happens within 3 weeks, and for the other 15%, it happens within 3 to 5 months. In terms of facial muscle function, 71% of persons will fully recover (i.e., 61% of those with complete paralysis, 94% of people with partial paralysis). Of the remaining 29%, 17% have contracture, 16% have hemifacial spasm or synkinesis, and 29% have chronic mild to severe residual facial muscle weakness. Self-esteem and quality of life are negatively impacted over time by incomplete facial expression recovery(1).

Interventions are intended to increase the percentage of patients who recover fully or partially, speed up recovery, prevent partial facial palsy from progressing to complete facial palsy, decrease the incidence of motor synkinesis and contracture, lower the risk of eye injury, and minimize treatment side effects(1).

Conventional treatment typically involves corticosteroids and eye care. However, some patients experience incomplete recovery, leading to chronic symptoms. Traditional Chinese Medicine (TCM) identifies Bell’s Palsy as a “deviated mouth” condition, primarily due to:

1. Wind-cold invasion disrupting meridian channels (5).
2. Qi and blood insufficiency causing stagnation in facial circulation (6).

Acupuncture and moxibustion are widely used in China for Bell’s Palsy treatment (7). Some clinical experiences suggest that early electroacupuncture therapy can shorten the disease course and improve outcomes (8).

However, concerns exist regarding its use in acute cases due to the risk of exacerbating facial nerve edema. This study explores the combined effects of PT and TCM on chronic Bell’s Palsy recovery.

2. Material and methods

2.1. Case Presentation:

Patient Background: Mrs. Fathya, a 45-year-old nondiabetic woman, referred from Ain Shams University Specialized Hospital (ASUSH), Cairo. Ain Shams, a leading Egyptian super specialty hospital established in 1984, offers multidisciplinary care focusing on high-quality standards. Accredited by JCI in 2016, it treats over 23,000 patients annually.

Mrs. Fathya presented to the ECU Clinic three months post-onset of Bell’s Palsy. There are no signs of central nervous system involvement, such as limb weakness, sensory loss, or cognitive changes. And no significant history of trauma, dental procedures, or other factors that could contribute to facial nerve dysfunction.

Her primary complaints included:

- Right-sided drooping of the face
- Jaw pain
- Difficulty speaking and drinking
- headache
- Right eye dryness

She had received corticosteroids and ibuprofen, with incomplete symptom resolution.

2.2. Clinical examination:

• Observation: Facial droop on the right side, difficulty closing the right eye, and mouth asymmetry.

• Cranial Nerve VII Testing: Preserved taste sensation in the anterior two-thirds of the tongue.

• House-Brackmann facial paralysis scale: Grade IV Moderately severe dysfunction (obvious and disfiguring asymmetry, significant synkinesis) Incomplete eye closure, moderate forehead movement (9).

• Phase of Recovery: Chronic (3 months post-onset).

TCM Diagnosis: TCM assessment indicated Wind-cold invasion affecting facial circulation, leading to blood and lymph stagnation, edema, and functional impairments.

2.3. Intervention:

Table 1: frequency, intensity and rationale for interventions.

Intervention	Frequency	Intensity	Rationale
Eye closing exercises	5 reps every hour	Active-assisted	Strengthen eyelid muscles and reduce dryness (10)
AAROM (smile, eyebrow raise, frown, pucker lips)	10 reps, 3x daily	Isometric holds	Improve facial muscle strength (10)
Low-Level Laser Therapy (LLLT)	3x per week	10 J/cm² for 2 min	Enhance muscle function for drinking and speaking (11)
Soft Tissue Mobilization	3x per week	5 min	Improve facial circulation (12)
Pulsed Ultrasound (US)	3x per week	1000 kHz, 0.5 W/cm²	Facilitate tissue healing (13)
Electroacupuncture	3x per week	low F (2-15 HZ) 20 min	Enhance recovery and circulation (7)(14)(15)
Moxibustion	3x per week	1 min on each TE17 and ST7 acupoints	Improve warmth and circulation in facial muscles (6)

Table 2: Specific acupoints used for electroacupuncture:(16)(17)

Point	Location	Insertion angle	effects
BL 2	At the medial end of the eyebrow, just above the inner canthus of the eye	Obliquely	Dispels wind, improve vision
GB 14	1 cun above the middle of the eyebrow, medio pupillary line	Subcutaneously	Dispels wind from the head and eyes
ST 4	Directly below the pupil, lateral to the corner of the mouth	Subcutaneously towards ST 6	Soothing Qi and stimulating facial nerve
ST 6	at the belly of the masseter muscle with teeth clenched	Perpendicular	Soothing Qi and activating muscle fibers

Patient Education: Mrs. Fathya was advised to adhere to the prescribed sessions (3x weekly) and home exercise program. Eye care education was emphasized, including the use of an eye patch during sleep to prevent corneal damage (18).

3.Results

After two months of intervention, significant improvements were noted:

- Facial muscle strength: Near-complete recovery
- Pain reduction: Decreased jaw discomfort
- Improved function: Restored ability to drink without spillage and improved speech clarity

4.Discussion

This case highlights the potential of integrating TCM with PT for chronic Bell's Palsy rehabilitation.
Individual Response Variation: Not all patients respond equally to EA, and factors such as severity of nerve damage and duration of paralysis may influence outcomes.

Need for Standardized Protocols: More clinical studies are needed to establish optimal treatment frequency, intensity, and duration of EA combined with PT.

Patient Compliance: Consistent participation in PT exercises and EA sessions is crucial for achieving significant improvements

Prior studies have demonstrated acupuncture's efficacy in enhancing nerve regeneration and facial muscle recovery (5)(8). To confirm these results on a broader scale, more controlled experiments are necessary

5.Conclusion

This case study suggests that a combination of electroacupuncture, moxibustion, and PT modalities may offer a beneficial approach for chronic Bell's Palsy management. Given the promising results observed, further research with randomized controlled trials is warranted to establish standardized treatment protocols.

6.Disclosure

There is no conflicts of interest in this research.

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