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Ginger-insulated moxibustion for nonacute Bell's palsy: a case report

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Abstract

Peripheral facial paralysis could cause significant incompetence in the sensation and motion of face. With facial paralysis, a long time for the patient could suffer from depression, anxiety, hopelessness. However, in this case we found that ginger-separated moxibustion could cure nonacute peripheral facial paralysis with a short treatment course. A 55-year-old female with disappeared left forehead wrinkles and nasolabial groove, and hypophasis for more than 3 months. For further treatment, she was admitted to the acupuncture department. And, she was eventually cured after two weeks treatment. Based on the thorough history, physical examination, and the electromyography. Ginger-separated moxibustion was performed during the admission period (five times a week for two weeks). The following clinical improvements were detected: facial paralysis symptoms were improved (forehead wrinkles and left nasolabial groove were appeared, less numbness, normal movement of the eyelid); the latency of motor nerve conduction velocity was short and the amplitude of motor evoked potential was significantly improved in electromyography. Patients with nonacute peripheral facial paralysis might be cured by ginger- insulated moxibustion.

Keywords: peripheral facial paralysis; moxibustion; case report.

Practical Application: Ginger-insulated moxibustion treat nonacute Bell's palsy.

1 Introduction

Peripheral facial paralysis is the most common cranial nerve paralysis (George et al., 2020). Peripheral facial paralysis, namely Bell's palsy, typically presents acutely, which will cause significant temporary oral incompetence and inability to close the eyelid. The manifestations are dryness of the eye or mouth, taste disturbance or loss, hyperacusis, sagging of the eyelid orcorner of the mouth, ipsilateral pain around the ear or face (Baugh et al., 2013a) . The diagnosis of peripheral facial paralysis is made after a thorough history and physical examination to exclude alternative etiologies and follow-up to ensure recovery of facial function (Baugh et al., 2013b). However, there are still a lack of high-quality evidence to be able to say that nowadays treatments for facial palsy are effective, in particular regarding recovery time (Agostini et al., 2020). Even few in nonacute phase. Here we report a case of a patient who was suffering from nonacute peripheral facial paralysis and recovered by ginger-separated moxibustion.

2 Case report

A 55-year-old Chinese female with sudden left facial numbness in the rain on March 31, 2020. Her left forehead wrinkles and nasolabial groove were disappeared and was suffered from hypophasis, without hyperacusis, ageusia, blurred vision, local tenderness, and hemiplegia. Therefore, she consulted a physician of the Second Affiliated Hospital of Zhejiang University Medical College for treatment. The physician given the diagnose is peripheral facial paralysis, treatment is as following: 25 mg metacortandracin twice per day, 500 ug mecobalamine intramuscular injection per day for one week. After the treatment, her hypophasis was recovery mildly while other symptoms on the left. On July 22, 2020, she visit the acupuncture department in our hospital due to her symptoms had not recovered.

Though a detailed medical examination, we found that she was unable to lift the left forehead, nasolabial groove was swallow, and was drooping of the angle of the mouth, as shown in Figure 1A. She was evaluated with the electromyography, the result was left facial nerve (the orbicularis oculi, frontalis, the orbicularis oris muscle, and lip muscle) impaired severely, the latency of motor nerve conduction velocity was prolong and the amplitude of motor evoked potential was significantly decreased which compared with the right side, as shown in Table 1.

2.1 The treatment prescribing

Figure 1A the patient was unable to lift the left forehead, nasolabial groove was swallow, and was drooping of the angle of the mouth.

Figure 1B and 3 the patient reported her forehead wrinkles was appeared when lifting the eyes widely, less numbness around her left face, and the left nasolabial groove became visible even without smile, the movement of eyelid was normal.

Figure 2 we used the ginger-separated moxibustion.

During the treatment, we used the ginger-separated moxibustion (Figure 2). Manipulation: four coinsize and 0.5 cm thicknesses of ginger was prepared, the physician used a disposable needle to make

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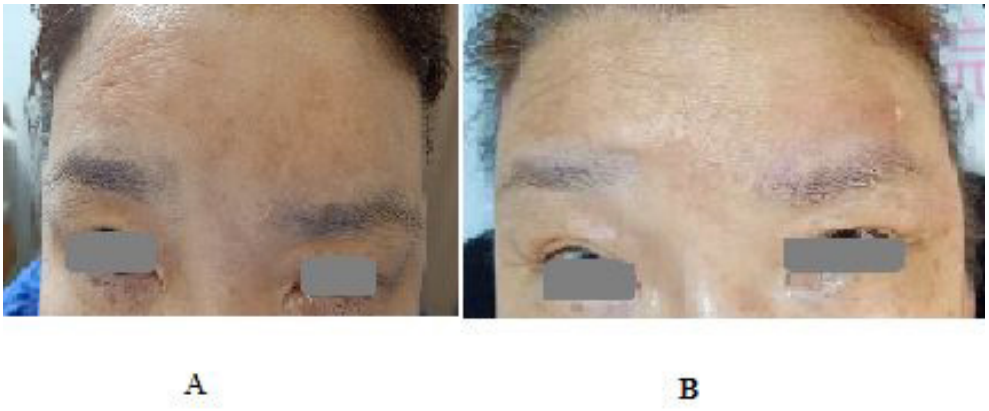

Figure 1. A: the patient was unable to lift the left forehead, nasolabial groove was swallow, and was drooping of the angle of the mouth. B: The patient reported her forehead wrinkles was appeared when lifting the eyes widely, less numbness around her left face, and the left nasolabial groove became visible even without smile, the movement of eyelid was normal.

Figure 2. We used the ginger-separated moxibustion.

Figure 3. The comparison of patient's face before and after the treatment.

Table 1. The electromyography of facial nerve motor transduction function (2020.7.22).

Direction	Nerve branch	Point of stimulation	point of recording	Latency time(ms)	amplitude of motor evoked potential(mv)
Right	Temporal branches	In front of earlobe	Orbicularis oculi	3.01	1.46
Right	Temporal branches	In front of earlobe	Frontalis	3.01	0.76
Right	Buccal branch	In front of earlobe	Orbicularis oris	3.07	4.10
Right	Rami zygomatici	In front of earlobe	Paranasal muscle	3.25	1.25
Right	Marginal mandibular branch	In front of earlobe	Sublip muscle	3.09	1.21
Left	Temporal branches	In front of earlobe	Orbicularis oculi	4.20	0.16
Left	Temporal branches	In front of earlobe	Frontalis	4.04	0.06
Left	Buccal branch	In front of earlobe	Orbicularis oris	5.15	0.99
Left	Rami zygomatici	In front of earlobe	Paranasal muscle	3.33	0.22
Left	Marginal mandibular branch	In front of earlobe	Sublip muscle	3.17	0.18

Table 2. The electromyography of facial nerve motor transduction function (2020.8.07).

Direction	Nerve branch	Point of stimulation	point of recording	Latency time(ms)	amplitude of motor evoked potential(mv)
Right	Temporal branches	In front of earlobe	Orbicularis oculi	2.54	0.94
Right	Temporal branches	In front of earlobe	Frontalis	2.94	0.81
Right	Buccal branch	In front of earlobe	Orbicularis oris	3.80	2.10
Right	Rami zygomatici	In front of earlobe	Paranasal muscle	4.20	1.70
Right	Marginal mandibular branch	In front of earlobe	Sublip muscle	4.28	0.53
Left	Temporal branches	In front of earlobe	Orbicularis oculi	3.96	0.32
Left	Temporal branches	In front of earlobe	Frontalis	4.44	0.16
Left	Buccal branch	In front of earlobe	Orbicularis oris	4.99	0.43
Left	Rami zygomatici	In front of earlobe	Paranasal muscle	4.44	1.04
Left	Marginal mandibular branch	In front of earlobe	Sublip muscle	6.34	0.054

several holes on the ginger, and thus a better effect could be got. Then put the prepared ginger on Yangbai(GB14), Taiyang(EX-HN5), Jiache((ST6), Dicang(ST4) with appropriate size moxa. The two moxa cones were ignited and burnt out on each ginger (Figure 2). The whole process was last about 30min, once a day for 2 weeks. During the treatment, we paid attention to the patient feeling, if she feels too hot, we will change the positions of the ginger.

The patient's facial palsy improved quickly. After 2 weeks treatment, she reported her forehead wrinkle appeared when lifting the eyes widely, less numbness around her left face, and the left nasolabial groove became visible even without smile, the movement of the eyelid was normal (Figure 1B and 3).

On the electromyography, the latency of motor nerve conduction velocity was shortened compared with the previous examination, and the amplitude of motor evoked potential was significantly improved (Table 1 and Table 2).

3 Discussion

For treatment-seeking patients, facial paralysis has a significant physical and emotional toll on them. Facial paralysis not only leads to all patients with facial nerve paralysis and signs of incomplete eye closure, but is significantly associated with depression, anxiety, hopelessness, and low quality of life (Arslan et al., 2018), especially for females.

The causes of facial paralysis vary widely, to date, they can be categorized into the following six pathogenesis (Owusu et al., 2018): idiopathic facial paralysis, infectious, paralysis resulting from tumors, developmental, traumatic, latrogenic. And different treatments are used for different causes. Oral steroid therapy which is only valid for within 72 hours of symptom onset for patients with Bell's palsy (Baugh et al., 2013a). New surgeries get more sophisticated, such as using the modified tarsoconjunctival flap with lateral eyelid, coupling of peripheral facial paralysis (Dedhia et al., 2018), minimal nasolabial incision technique for nasolabial fold modification (Faris et al., 2018). Botulinum toxin is also used in common treatment for unilateral peripheral facial paralysis (Yildiz et al., 2007; Yücel & Aritürk, 2012). Physical therapy is among the primary as well as adjunctive modalities used for the treatment of facial paralysis due to its no harm in patients (Wamkpah et al., 2020). Meanwhile, in China, traditional Chinese medicine (TCM) always have positive effects in treating intractable diseases, such as cancer (Guo et al., 2022; Yu et al., 2022), chronic obstructive pulmonary disease (Huang et al., 2021), ischemia (Zhao et al., 2022) and also achieve good results in treating peripheral facial paralysis. Particularly in acupuncture and moxibustion, and cupping (Huang et al., 2019; Jin et al., 2020; Ma et al., 2015; Wang et al., 2019; Yang et al., 2018).

Moxibustion is a kind of traditional medical therapy which originated in China. Its manipulation is using the heat of burning

moxa to stimulate acupoints or meridians. It is considered safe and effective (Xu et al., 2014). In TCM theory, moxibustion has a dual effect of tonification and purgation, which can dredge meridians and regulate qi blood and has been used to prevent and cure diseases (Deng & Shen, 2013). Ginger is a very common condiment and a kind of indispensable food. Ginger has the following functions in TCM: dispelling cold and relieving the exterior, warming the middle warmer. Also, ginger has good effect on reducing inflammation and easing pain. Hao et al.'s (2022) research supports that ginger attenuates neuroinflammation by AKT/STAT3, MAPK, and NF-κB signaling in animal experiment. Xu et al.'s (2019) study illustrated the ginger essential oil (GEO) has anti-inflammatory and protective effect on chemically-induced cutaneous inflammation. Sultan et al. (2021) finds that ginger exhibited superior impact in lowering pain as compared to peppermint and control groups. Moxibustion with ginger takes physical and chemical effects to produce comprehensive effects (Deng & Shen, 2013). When the above effective factors act on the acupoints, the signal of the peripheral neural pathways will be activated, so as anti-inflammatory responding of the body will be put into effect, the final disease will be cured (Jiang et al., 2013; Zhang et al., 2011).

This paper reports the using ginger-separated moxibustion for nonacute peripheral facial paralysis. We provide a detailed description of patient condition, electromyography, and photos of pretherapy and posttreatment even operating time. Thus, we provide a strong basis for verifying the effectiveness of moxibustion for peripheral facial paralysis. Moreover, we put forward evidence for the therapy of nonacute peripheral facial paralysis, because the patient received the poor effects of western medicine in the acute phase.

However, this case report has a limitation. Because the patient received drug therapy before our treatment and the disease has a certain tendency to self-healing, we could not determine the efficacy of the individual interventions of ginger-separated moxibustion. This case gave promising results, ginger-separated moxibustion could be a valuable treatment option for patients with peripheral facial paralysis. Nevertheless, high-quality scientific work needed to confirm the effectiveness and safety of ginger-separated moxibustion.

Conflict of interest

No competing financial interests exist.

Availability of data and material

Some or all data, models, or code generated or used during the study are available from the corresponding author by request.

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Author contributions

Xinyun Li and Kelin He are co-authors. Conceptualization: Xinyun Li, Kelin He, Ruijie Ma. Funding acquisition: Xinyun Li, Kelin He. Investigation: Xinyun Li, Kelin He. Methodology: Xinyun Li, Kelin He, Ruijie Ma. Project administration: Xinyun Li, Kelin He. Writing – original draft: Xinyun Li, Kelin He. Writing – review & editing: Xinyun Li, Kelin He.

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