

Effect of Acupuncture on bell's palsy

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Bell's palsy is a common disease in Chinese clinic in the UK, in particular the persistent symptoms of Bell's palsy. Acupuncture and traditional Chinese medicine (TCM) showed therapeutic effect on this condition through a combination with western medication in the early stage. TCM can help to eliminate virus, regulate facial blood circulation, reduce nerve swelling and inflammation, promote nerve rehabilitation, and improve nerve function.

This enables many patients to have a quick and complete recovery. Although TCM treatment can be used in different period of Bell's palsy, it could be used as early as possible, in particularly at the first month of illness. Here I report three cases to show that using TCM treatment with corticosteroid in the early stage of Bell's palsy makes quick and complete recovery outcome.

Key Words: Bell's palsy; Facial neuritis; Facial paralysis; Acupuncture; Traditional Chinese Medicine (TCM).

INTRODUCTION

Bell's palsy, also known as idiopathic facial palsy or facial neuritis, is a form of temporary unilateral facial paralysis or weakness on one side of the face. It results from dysfunction of cranial nerve VII (facial nerve) which controls the muscles on one side of the face, including those that control eye blinking and closing and facial expressions such as smiling. The facial nerve also carries nerve impulses to the tear glands, the saliva glands, and the muscles of a small bone in the middle of the ear. The facial nerve also transmits taste sensations on the front two-third of tongue [1-3].

The cause of Bell's palsy is unknown so far. Swelling and inflammation of the cranial nerve VII is seen in individuals with Bell's palsy [4]. Most scientists believe that reactivation of an existing (dormant) viral infection may cause the disorder [5,6]. Impaired immunity from stress, sleep deprivation, physical trauma, minor illness, or autoimmune syndrome is suggested as the most likely triggers [6]. As the facial nerve swells and becomes inflamed in reaction to the infection, it causes pressure within the bony facial nerve canal, leading to the restriction of blood and oxygen to the nerve [6]. In some mild cases where recovery is rapid, there is damage only to the myelin sheath [5].

Symptoms of Bell's palsy can vary from person to person and range in severity from mild weakness to total paralysis [7]. The most common symptom is sudden weakness of one side of the face. Other symptoms may include drooping of the mouth, drooling of the frontal line, inability to close eye (causing dryness of the eye), and excessive tearing in one eye [8]. Individuals may also have facial pain or abnormal sensation, altered taste, and intolerance to loud noise. Most often these symptoms lead to significant facial distortion [8,9]. Bell's palsy is known as a facial paralysis, or deflection of mouth and eye in TCM.

It believes that this disease results from "pathogen wind and heat" that invade into the body where Qi against the pathogen is deficiency [7]. Acupuncture is the first choice for this disease in China where it is believed to be the most effective treatment. Chinese herbs in the early stage to clear away pathological wind and heat (inflammation) for detoxification (Neurotoxicity) were normally combined with acupuncture. The earlier TCM treatment of this disease starts, the better the prognosis [10]. In the later stage, TCM treatment still slowly improve the symptoms by replenishing vital Qi, nourishing blood and unblocking the blockage in channels. This is because that in TCM theory the deficiency of vital Qi and meridian is the major cause of the Bell's palsy, and thereby pathogen of wind, cold or heat has got the chance to invade the facial meridians and resulted in blockage of Qi to cause blood stasis in the facial channel, shortage of nourishment on facial muscles, and then leading to facial paralysis (Table 1) [6].

TABLE 1
TCM herbal treatment for Chinese patients and doses

No	Name of patient herbal formulae	Chinese spelling names	Ingredient of formulae in Latin name	Dose(G)
1	Yin qiao san pills	Jinyinhua	Lonicera Japonica Thunb	10
		Lianqiao	Spectabilis	8
		Jiegeng	Platycodon Grandiflorus	6
		Bohe	Herba Menthae	6
		Daqingye	Folium Isatidis	10
		Banlangeng	Radix Isatidis	10
		Douchi	Semen Glycinesmactis Preparatum	6
		Niubangzi	Arctium Lappa	6
		Gancao	Glycyrrhizae Uralensis Fisch	3
		2	Bu yang huan wu tang pills	Huangqi
Danggui	Radix Angelicae Sinensis			10
Chishao	Radix Paeonia Rubrae Fructus			8
Zhiqiao	Aurantii			6
Chuanxiong	Chuanxiong Rhizoma			6
Honghua	Carthamus Tinctorius			6
Tairen	Semen Persica			6
Chenpi	Pericarpium Citri Reticulatae Rhizoma			15
3	Er chen tang pills	Banxia	Pinelliae	10
		Fuling	Sclerotium Poriae Cocos	12
		Gancao	Radix Glycyrrhizae	5

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4	Ba zhen wan pills	Dangshen	Codonopsis Pilosula Nannf	10
		Baizhu	Altraactyloides Macrocephala Koidz	10
		Fuling	Sclerotium Poriae Cocos	8
		Gancao	Glycyrrhizae Uralensis Fisch	5
		Danggui	Radix Angelicae Sinensis	10
		Shudihuang	Rehmannia Glutinosa, Libosch	10
		Baishao	Radix Paeoniae Alba	10

Based on TCM, Bell's palsy can be divided into the following subtypes [11,12]. i). The pathogen of wind and cold type, which clinical manifestations are of a sudden mild facial paralysis, pale tongue with white coating, floating and tight pulse, with a history of exposure cold and wind. This type recovers rapidly [13]. ii). The pathogen of wind and heat type manifests as a sudden facial paralysis with pain behind the ears, or sore throat, ear rash, altered taste, hearing impairment, etc. and a history of exposure to wind-heat, red tongue with thin yellow fur, floating and rapid pulse. This type requires both treatments of acupuncture and Chinese herbs [12]. iii). Blockage of Qi and blood type appears that the condition is not recovery very well after the initial stage of facial paralysis due to various reasons [12]. For type 3, there is still an eye that cannot be completely closed, or a corner of the mouth is still drooping. The TCM treatment includes acupuncture plus electric acupuncture [7], chinese herbal medicine [12,14], plum blossom needle [15], and moxibustion [16].

CASE PRESENTATION

Case 1

History: The patient 1 was a 38 years old breastfeeding mother with first online visit on 31st May 2020. She had a slight left facial abnormal sensation in the morning on 29.05.2020 and were getting worse last three days. On her visit, she complained that she suffered from weak to bite, numbness of left cheek muscle; left neck pain; slight headache and sore throat; bitter and dry mouth, night dream. When I examined her on video on 31.05.2020, her left frontal line incompletely disappeared with upper left eyelid drooping; left eye not closing well; drooping of left mouth; unable to perform cheek blowing; the lower eyelid redness and swelling of the left eye with massive tearing; red tongue with thin white fur. According to her above condition, I diagnosed that she probably had Bell's palsy, and then I suggested she went to A&E for a confirmed diagnosis and she was asked to take steroid immediately.

TCM diagnosis and treatment: It is the pathogen of wind and heat type resulting from vital qi deficiency, liver qi stagnation, exposure to wind and heat, which affect to the facial meridian and muscles. The TCM Treatment principle is to dispel wind, clear heat; smooth and activate liver Qi, regulate channel Qi and blood replenish Qi and blood, nourish facial muscles. The Chinese herbs, Yin Qiao San, Bu Yang, Huan Wu Tang are suitable for this subtype. Therefore, I prescribed her herbal powder, Yin Qiao San to be used with steroid. Acupuncture on following acupoints were performed 2-3 sessions per week, Yang bai (GB14), Yin tang (extra-HN5), Zan zhu (B2), Si zhu kong (SJ23), Si bai (St2), Quan liao (SI18), Ying xiang (LI20), Xia guan (St7), Yi feng (SJ17), Feng chi (GB20), Jia che (St6), Di cang (St4) were selected on her left face. He gu (LI4), Xing jian (Liv2), Yang ling quan (GB34), Qu quan (Liv8), Yang chi (SJ4), Tai bai (Sp3), Xian Gu (St43). Moxibustion was used at home at her facial acupoints once per day for 20-30 minutes.

Treatment observation and outcomes: Her above symptoms were getting worse on 04.06.2020 by online consultation. I instructed her to continue taking herbs with prednisolone by GP. Her first acupuncture treatment was on 06.06.2020, her condition was not much worse which illness was for 9 days. Her left eye could dot close well and looked red with massive tearing. She still got less left forehead wrinkle and left mouth drooping. Her left neck pain was better. Her fifth acupuncture was on 12.06.2020. Her condition was better. Her eighth acupuncture was on 19.06.2020 with a good improvement. Her left mouth was not drooping. She can almost close her left eye without tears. Her left frontal wrinkle almost recovered. Her left

face looked normally on 03.07.2020 when she saw me online for review.

Case 2

History: Patient 2 was 21 years old male who initially visited on 3rd July 2020. He had suffered from Bell's palsy for 4 weeks. He had a drooping mouth on right face with less taste in the evening on 03.06.2020. His symptoms were getting worse following two days, such as being unable to blow on right cheek, not closing his right eye well with massive tearing, completely drooping of right frontal muscles and mouth. He was diagnosed as Bell's palsy by GP on 05.06.2020 and the prednisolone and acyclovir for 10 days' supply by prescription. He had recovered very slowly following the 27 days without acupuncture treatment since he was onset.

TCM diagnosis and treatment: His first acupuncture and Chinese herbal treatment was on 03.07.2020. His complaint was ageusia on front 2/3 of his tongue, heavy hearing on right ear, stiff on right face, right eye with tearing,

On examination, he looked the lack of right frontal lines, unable to close right eye well and cheek blow, drooping of right month. His tongue was dark red with thick grease fur, and had deep pulse, both chi weak, a bit big both guan.

Differentiation of symptoms by TCM: It was the pathogen of blockage of qi and blood resulting from a little long illness and slow recovery, which caused his body low vital energy qi and lack of nutrition to facial nerve, meridian and muscles.

TCM Treatment principle: Replenish vital qi, regulating stagnation qi and blockage of blood, harmony his yin and yang, nourish to facial nerve and muscles.

Chinese herbs: Bu yang huan wu tang, Ba zhen wan.

Acupuncture: Yang bai (GB14), Yin tang (extra-HN5), Zan zhu (B2), Si zhu kong (SJ23), Si bai (St2), Tai yang (EX-HN5), Quan liao (SI18), Ying xiang (LI20), Xia guan (St7), Yi feng (SJ17), Feng chi (GB20), Jia che (St6), Di cang (St4) were selected on right face. Both lower 2/5 of MS6 and MS7 on scalp acupuncture were used. He gu (LI4), Xing jian (Liv2), Yang ling quan (GB34), Hou xi (SI3), Shen mai (B62), Gong sun (Sp4), Wai guan (SJ5), Nei gaun (P6) were taken based on his pulse.

GB14 and Tai yang was connected by electrical acupuncture, as well as St4 to St6, St7 to SI18. His acupuncture was operated for 2-3 sessions a week [5].

Moxibustion: I suggested him to do moxibustion at home at her facial acupoints once per day for 20-30 minutes.

Treatment observation and outcomes: His fifth session acupuncture was on 12.07.2020. His taste came back normally, and hearing became normal. The rest symptoms were slightly improved. His fifteenth session acupuncture was on 18.08.2020. His right frontal line was not almost back normally. His right cheek was still unable to blow properly. His right mouth was a bit drooping. His right eye was almost closed normally.

Case 3

History: Patient 3 was a 35 years old breastfeeding mother with Initial visit online on 3rd September 2020. She had suffered Bell's palsy for one day. She had a slight stiff on her left face in the morning on 02 .09. 2020, and then her symptoms were getting worse in the evening, so that she went to hospital. GP prescribed prednisolone for her 10 days' supply and acyclovir for 7 days' supply.

I examined her on video on 03.09.2020, she looked like her left frontal line almost disappearing; drooping upper left eyelid; left eye not closing well; drooping of left mouth; unable to perform cheek blowing; the lower eyelid redness and swelling of the left eye with tearing; pale tongue with thick white fur.

She had got her left ear pain with a large pimple for two weeks before suffering from Bell's palsy.

According to above her condition, I prescribed her the herbal powder Yin qiao san and Er cheng tang, and suggested she took herbs combination with GP's prednisolone.

TCM diagnosis and treatment

Differentiation of symptoms by TCM: It was in the pathogen of heat and damp type resulting from vital qi deficiency; spleen qi deficiency and phlegm-damp stagnation; exposure to wind and heat, which affected her facial meridian and muscles.

TCM Treatment principle: Dispel wind; clear heat and damp; regulate channel qi and blood; replenish vital qi and blood; nourish facial muscles.

Chinese herbs: Yin qiao san, Er chen tang .

Acupuncture: Her first session acupuncture was on 07.09.2020. Yang bai (GB14), Yin tang(extra-HN5), Zan zhu (B2), Si zhu kong (SJ23), Si bai (St2), Quan liao(SI18), Ying xiang (LI20), Xia guan(St7), Yi feng (SJ17), Feng chi(GB20), Jia che (St6), Di cang (St4) were selected on left face. He gu (LI4), Jing qu (L8), Yang xi(LI5), Yang chi (SJ4), Tai bai (Sp3), Xian Gu (St43) were taken based on her pulse.

Moxibustion: I suggested her to do moxibustion at home at her facial acupoints once per day for 20-30 minutes since she was ill.

Treatment observation and outcomes: Her first session acupuncture was on 07.09.2020. Her condition was not much worse when her illness was in seventh day. Her left eye could not close well. She got less forehead wrinkle on left face, left mouth drooping, unable to blow cheek. Her third session acupuncture was on 13.09.2020, she got a very good improvement. Her left mouth was not drooping. She can almost close her left eye. Her left frontal wrinkle almost recovered. When she took her fifth session acupuncture on 23.09.2020, she looked almost normal.

DISCUSSION

Firstly, I support that some patients take prednisolone in the beginning who suffers from Bell's palsy in 72 hours [17-21], which can quickly reduce facial nerve swelling and inflammation to prevent possible further nerve damage. It is very suitable for far part impairment of facial nerve of Bell's palsy. For example, prednisolone was used for the patient 2, whose Bell's palsy was located at the stapedius and chorda tympani which caused the altered taste and sensitive hearing. It indicates that the pathogen location was at the tympanic cavity, so that the condition was a little difficult to be treated, resulting in the slow recover.

Secondly, Chinese herbs Yin qiao san works against virus which herbs was important for the beginning phase of Bell's palsy because it is now believed that the pathogen of Bell's palsy is virus. The function of Yin qiao san clears the pathogen wind and heat in TCM, which is significant in pathogen wind and heat type for Bell's palsy in the beginning phase that is diagnosed in TCM as a wind and heat type. Both patient 1 and patient 3 have taken herbs Yin qiao san in the early stage of their illness from Bell's palsy, therefore they achieved a good result, but patient 2 did not have.

Moreover, I gave herbal Bu yang huan wu tang after two weeks of suffering from Bell's palsy [14], which aimed to replenish qi for nourishing facial muscles and unblock the blockage in channels for nerve rehabilitation, on other hand which further reduced the restriction of blood and oxygen to the nerve cells. I have prescribed it to the patient 1 after 16 days and patient 2 after 28 days.

Thirdly, the most Chinese acupuncturists believe that acupuncture indeed help quickly the recovery of Bell's palsy and plays a significant role for Bell's palsy [6,7,13]. Acupuncture regulates the blood circulation on facial nerve and muscles so that it supplies the massive oxygen to nerve [22,23].

In my opinion acupuncture can be available after 5-7 days of Bell's palsy onset, because the early acupuncture is possible to cause the more nerve swelling. The patient 1 and patient 3 received acupuncture in day 9 and day 7 after illness who got a good treatment result. The patient 2 took acupuncture in day 28 after illness, so that there was almost not change before acupuncture. For acupuncture's manipulation I suggest do gentle manipulation in first three weeks.

In addition, patient 2 shows that acupuncture still work for second month of Bell's palsy, which the patient 2's ageusia and heavy hearing have gone from TCM treatment [11,12].

Fourthly I gave three patients moxibustion treatment to regulate the circulation and nourish the facial muscles and nerve.

Fifthly, Bell's palsy recover may depend on the focal anatomy of facial nerve's impairment. Patients may recover quickly and easily if the affected area is outside stylomastoid foramen. Patients may recover slowly if the affected area is inside stylomastoid foramen, or in tympanic cavity, or stapedius and chorda tympani, or geniculate ganglion.

Patient 1 and patient 3 were damaged inside the stylomastoid foramen in where the damage is relatively easy to be recovered, but patient 2 was damaged in stapedius and chorda tympani in where it is hardly to be recovered, as well as it is another reason that patient 2 did not get herbal and acupuncture treatment which failed to control the development of disease.

Finally, it is the best solution that steroid is a combination with Chinese herbs and acupuncture for the most patients with Bell's palsy, which is massively possible for patients to recover completely and impossible to leave post-bell's palsy.

I believe that patient 3 recovered quickly due to receiving early all treatment, so she got a very effective result. Patient 2 recover was very slow due to being lately given steroid interference, which should be given in first three days, as well as Chinese herbs Yin qiao san should be used first week, which both treatments are significant for facial nerve recover for severe case, as well as the acupuncture treatment was given so much late for patient 2.

I think that the timer of acupuncture treatment is crucial for nerve recover of Bell's palsy [6,13], because the earlier treatment, the better result. In all, it is necessary for us to do TCM combination with steroid for the severe Bell's palsy which the facial nerve is damaged at far the stylomastoid foramen into cerebellopontine angle.

CONCLUSION

Through my observation of three cases for Bell's palsy, which had been practiced in the Chinese medicine clinic in summer 2020, it shows the early TCM interference can greatly reduce the poor outcome of Bell's palsy.

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