

Clinical Research Progress of Acupuncture for Migraine

Xue Li¹, Rilan Chen^{2,*}

¹Graduate School of Guangxi University of Traditional Chinese Medicine, Nanning, Guangxi, China.

²Department of Acupuncture and Moxibustion, Ruikang Hospital Affiliated to Guangxi University of Chinese Medicine, Nanning, Guangxi, China.

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***Corresponding author:** Rilan Chen, Department of Acupuncture and Moxibustion, Ruikang Hospital Affiliated to Guangxi University of Chinese Medicine, Nanning, Guangxi, China. Email: 787767032@qq.com

Abstract

Migraine is a common clinical primary headache of moderate to severe, pulsatile, and unilateral attacks. Generally, the pain can last for 4 to 72 hours and can be induced by emotional changes. Daily activities and sound stimulation can make the degree of headache worse. It has the characteristics of repeated disease course, severely reduced quality of life and high disability rate. In the research on the treatment of migraine in China in the past 5 years, it was found that acupuncture in traditional Chinese medicine has the advantages of significant curative effect, low price and few side effects in the treatment of migraine. This study aims to provide a reference for clinicians and scholars to study different acupuncture methods for migraine by summarizing the methods and curative effects of acupuncture for migraine, and to propose improvement suggestions for the shortcomings of current acupuncture therapy. In order to provide some reference for future clinical and research.

Keywords

Migraine, Acupuncture, Research Progress, Review

Migraine is a primary headache characterized by hemian-onset, moderate or severe, throbbing headache, usually lasting 4 to 72 hours [1], with a male-to-female ratio of 1:2-1:3. Large [2], often accompanied by nausea and vomiting and other discomfort, light, sound, activities, etc. can further aggravate clinical symptoms [3]. According to the Global Burden of Disease Study, migraine ranks 15th in terms of disability in terms of life-years lost, and the disability rate among young and middle-aged people is on the rise [4]. Domestic and foreign guidelines mostly recommend Western medicine for treatment, triptans in the acute phase, and beta-blockers and antiepileptic drugs in the recovery phase [5]. Although oral Western medicine has a certain therapeutic effect, more than 1/3 of patients are not satisfied with the curative effect of the recommended acute treatment regimen [6], some patients will lead to cardiovascular disease, liver and kidney damage, gastrointestinal reactions, etc. [7], and long-term use may easily lead to drug-induced migraine [8]. Acupuncture and moxibustion is gradually favored by the majority of patients due to its remarkable curative effect, low cost and few adverse reactions in the treatment of headache. There are various ways of acupuncture to treat migraine, mainly divided into single treatment and combined treatment. In the past 5 years, acupuncture methods include filiform needle, electroacupuncture, fire needling, thread embedding, acupuncture, etc. The treatment of acupuncture for migraine is as follows.

1. Acupuncture

The filiform needle is based on the theory of viscera, qi and blood, meridians, and eight cardinal syndromes. Through acupuncture, it can achieve the effect of “Yin and Yang balance, and spiritual inner guard” through acu-

puncture [9]. The filiform needling method mainly adopts local acupoint selection “where the acupoints are located, where the indications are located” combined with the distal selection of points along the meridian to relax the meridians and activate the collaterals, so as to circulate qi and blood. Zhang Ying [10] and others used the purging method on acupoints such as Fengchi, Taiyang, Hegu, Siguan, Touwei, Baihui, and Lieque for 20 consecutive days, and found that the acupuncture group had lower platelet aggregation rate, anterior, middle, and posterior cerebral arteries. The flow rate was faster, and the results showed better efficacy in the acupuncture group. Xiao Xuzhen [11] and others randomly divided 60 patients with acute migraine into two groups, the control group was oral ibuprofen tablets combined with non-meridian and non-acupoint acupuncture group (30 cases), and the treatment group was meridian acupuncture combined with placebo drugs (30 cases), the pain VAS score of the experimental group decreased more than that of the control group at 20 and 40 minutes after the treatment, and the levels of CGRP and substance P were also decreased with statistical significance.

2. Electroacupuncture

In electro-acupuncture, the filiform needle is inserted into the acupoint to obtain qi, and then connected to the electro-acupuncture machine, and different waveforms, frequencies, etc. are adjusted to replace acupuncture by manipulation to a certain extent. Chang Yingle [12] randomly divided 150 patients with migraine into a control group and an experimental group. Both groups were given flunarizine hydrochloride capsules orally. The experimental group used dense waves to stimulate the patient’s acupuncture points, Wangu, Touwei, Taiyang, Fengchi, Shuaigu, for 15 consecutive days, 30 minutes a day to stimulate the above acupuncture points. Wind pool, rate valley stimulation, 30 minutes a day for 15 consecutive days. Pain score and headache frequency were used to evaluate the curative effect, and serum matrix metalloproteinase-9, D-dimer and serotonin levels were used to evaluate the curative effect mechanism. It was found that the pain score and headache frequency of the experimental group were lower than those of the control group, which may be related to the D-dimer decreased. Wang Yong [13] treated 66 migraine patients with Fengchi, Shuaigu, Touwei and Taiyang points for 3 months, 2/100 Hz, 0.1-1 mA electrical stimulation, 6-month effective rate were 69%, 76%, 82%, 75%, the effective rate, VAS score and attack frequency were lower than the control group.

3. Acupoint ligat thread embed

Acupoint catgut embedding is to embed medical absorbable sutures such as catgut into the acupoints. Based on the theory of “long-term sickness, evil qi goes deep, stab the sick person, deep inside and stay for a long time”, the use of medical sutures to continuously stimulate the acupoints to cure the disease the goal of Shi Shuai [14] used PGLA thread for catgut embedding at bilateral Fengchi points in 40 migraine patients, once every 7 days for 3 courses of treatment. Even better, the total efficiency is 92.5%. Zhu Zhengping [15] used 2-0 Di palmit collagen line to carry out thread therapy for 30 cases of migraine, using Naokong to Fengchi, Naohu to Fengfu, once every 2 weeks. After 3 months of treatment, the effective rate in the observation group was as follows: 93.3%.

4. Triangular Needle Therapy

Three-edged acupuncture therapy refers to a method in which a doctor uses a three-edged needle to pierce the skin and release an appropriate amount of blood. On the basis of the control group, Liu Liyan [16] and others selected bladder meridian’s Zhiyin, gallbladder meridian’s Zuqiaoyin, and stomach meridian’s Lidui for bloodletting on the basis of the control group. VAS evaluation showed that the analgesic effect of the observation group was better than that of the control group. Ma Xinyu [17] bleeds a few drops of Baihui, Bilateral Fengchi and Sanyinjiao in 64 cases of migraine with liver-yang hyperactivity type, once every other day for 3 weeks. Treatment group is more pronounced.

5. Fire-needle Therapy

Fire-needle, also known as “Fan acupuncture”, was called “Cuici” in ancient China. It refers to a therapy in which a special needle is burned with an alcohol lamp until the needle body is white, red or reddish, and it penetrates the skin and rushes in and out quickly. Yan Shizhi [18] used fire acupuncture on 30 patients with stagnation of cerebral collaterals. After disinfection of the Ashi point on the head, the fire needle burned until it became red and punctured the pain point for 2 to 3 times, and the needle was inserted about 1 mm. After continuous treatment for 5 days, rest for 2 days. Days, pain and symptom scores were performed after 30 days of treatment. The results

showed that the efficacy of the fire-needle group was better than that of the simple filiform acupuncture group, $P < 0.05$. Feng Wei [19] took 50 cases of migraine with stasis and collateral type migraine. The diameter of the needle body of fire needle was 0.6mm. 1 time, the left and right. Neiyingxiang points were alternately treated with acupuncture 10 times, the total effective rate was 95.83%, and the VAS score of the observation group was still lower than that of the control group in the 6-month follow-up after the treatment.

6. Hydro-acupuncture

Acupoint injection, also known as “water injection”, refers to a method of preventing and treating diseases by injecting Chinese and Western medicines such as *Salvia miltiorrhiza* injection, vitamin B12 injection, lidocaine, etc. You Xingzheng [20] used acupoint injection to treat 40 patients with menstrual migraine. The selection of Shuaigu, Touwei, Naohu, Baihui, C6 transverse process, lidocaine or metoclopramide solution were alternately performed, 5 days before menstruation. Start the treatment, once every other day, 3 times/course, after 3 courses of treatment, the pain VAS score was significantly reduced, and the follow-up was followed up after 6 months, and the effective rate was 97.5%. Zhou Zhongyuan [21] used 2 mL of ligustrazine injection + 1 mL of vitamin B12 in 60 migraine patients with acupoint injection of Fengchi, Xuanlu, Shuaigu, Dazhui, and Waiguan for 15 consecutive days, and the total effective rate was 91.67%. Chen Lijing [22] randomly injected 105 patients with safflower liquid, sodium chloride, and mecobalamin. Each group was given 1ml of the drug at bilateral Fengchi points, once every two days, for 7 consecutive times. The Hua injection group had the best curative effect.

7. Embedding

Intradermal acupuncture can also be called “buried acupuncture”, which is to pierce a pushpin or wheat-type intradermal needle into the skin and fix the needle tail with tape, and leave the needle for a few days to take out. This is derived from the method of “Staying for a long time” in “Su Wen” to continuously stimulate the acupuncture points. Yu Haijie [23] used pressing acupuncture to treat 50 cases of migraine for 2 courses, selecting Ashi, Tongziliao, Touwei, Qubin, Taiyang, Shuaigu, Tinghui, and Waiguan. 1 course of treatment, the total effective rate was 96%. Zhang Jianguo [24] buried acupuncture at ear points forehead, temporal, and occipital points for 4 courses of treatment in 50 patients. The needles were retained for 6 days in each course of treatment, and the treatment was continued after taking the needles for 3 days. The results showed that the effective rate was 92%.

8. Needle knife

Needle knife therapy refers to a series of operations such as incision and separation by using acupuncture to pierce soft tissues such as fascia and tendons without removing tissues and organs, so as to restore the balance of soft tissue, bone and joint forces [25]. Yang Xianyu [26] treated 100 patients with migraine with needle knife therapy, at the fascia point of the occipital neck, the point of the transverse process of the first cervical vertebra, the lateral edge of the spinous process of the second cervical vertebra, the points between the first and second cervical vertebrae, and the occipital magnum. After sterilizing the skin at the nerve exit point, the needle knife was inserted vertically into the skin quickly, and after the needle blade reached the bone surface, the needle was quickly cut with 2 to 4 knives and the needle was quickly withdrawn. The treatment was performed once a week, and the total effective rate was 89% after 2 treatments. Ma Xiang [27] took the midpoint of the line connecting the external occipital carina and the spinous process of the second cervical vertebra, and the reflection point (induration, tender point and cord) of the line connecting the external occipital carina and the migraine affected side for cutting, cervical vertebra flexion 45 degrees, cut 2 to 3 knives at each point after vertical skin needle insertion, and treat once every 5 days. The total effective rate is 98% after 3 treatments.

9. Integrative Therapy

Comprehensive acupuncture therapy is also common in the clinical treatment of migraine. Fire acupuncture combined with plum-blossom acupuncture, filigree acupuncture combined with triangular acupuncture, etc. also have good curative effects. Liu Peizhi [28] treated 30 patients with fire needling combined with plum blossom needles. First, the gallbladder meridian and Ashi acupoints on the affected side of the head were repressed with plum blossom needles for 15 minutes, and then Touwei, Shuaigu, Ashi, Xuanlu, Qubin, when the fire needle is burning red, pierce 2-4 mm quickly and pull it out, once a day in the acute phase, once every 3 days in the remission phase, for 1 course of treatment (1 month), the results suggest that the comprehensive headache score is sig-

nificant reduce. Chen Rilan [29] used blood pricking combined with ear acupuncture for 30 cases of migraine with hyperactivity of liver yang. Massage the back of the affected side of the ear to reveal the collaterals. 0.5-1 mL is appropriate, once every other day, 3 consecutive treatments and then rest for 2 days. The total effective rate is 96.7% after 6 treatments.

10. Summary

The etiology and pathogenesis of migraine is still unclear, and the existing pathological mechanisms cannot explain all its symptoms, which may be related to vasomotor dysfunction [30], neurological dysfunction [31], and trigeminal neurovascular complex dysfunction [32], genetic [33] and other factors, there are vascular theory, neural theory, trigeminal neurovascular theory and so on. This disease can be classified into the categories of “headache”, “head wind” and “brain wind” in traditional Chinese medicine. Exogenous wind-cold, damp-heat and head trauma can lead to stagnation of meridians and collaterals. Fatigue, etc., make the Marrow Sea lose its nourishment, “if it is not prosperous, it will hurt” [34]. There is a saying in the “Nei Jing”: “If you just wash your hair and feel the wind evil, you will get head wind... Exogenous wind pathogens move up the meridians and enter the Fengfu point, which will cause headaches” [35]. The first is to point out the cause of headache and meridian lesions. Zhang Zhongjing mentioned in “Shang Han Lun”: “Treating patients with retching, drooling, and headache with Wuzhuyu Decoction” [36]. Divide headaches into classics and list prescriptions for treatment. In short, the cause of headache is nothing more than external and internal injuries, and can also be divided into meridian dialectics.

To sum up, it can be found that various types of acupuncture have good curative effect in migraine and less adverse events occur, but the research in the past 5 years still has the following deficiencies: 1. Follow-up: The author found that the treatment of migraine, The curative effect during the acupuncture treatment period to the end is significant, but there is a lack of follow-up, lack of evaluation of the stability of the long-term curative effect, and the follow-up time is not fixed, so it is difficult to compare the long-term curative effect of different treatment methods horizontally; 2. Some studies lack specific descriptions of electroacupuncture frequency and waveform; 3. When catgut embedding is used to treat migraine, there is a lack of descriptions of the length of the thread, and there are few studies on the treatment of diseases with different absorbable thread lengths; 4. In the past 5 years, there are few high-quality literatures on single acupuncture in the experimental group, and most of them are the combined treatment of acupuncture and the comparison of drugs; 5. Outcome indicators: Most of the studies were subjective evaluations of patients and lack of objective indicators; 6. Follow-up: Many literatures lack follow-up. Although the curative effect is significant at the end of the treatment, the long-term curative effect is still unknown, and the follow-up time is not fixed, so it is difficult to compare the long-term curative effect of different treatments horizontally. In the future research on acupuncture treatment of migraine, the above shortcomings can be optimized to provide high-quality research literature for acupuncture treatment of migraine.

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