

# Analysis of the research progress of acupuncture with massage techniques in the treatment of migraine

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**Abstract.** Migraine is a painful disorder of the lateral side of the head, with a high clinical incidence and recurrent attacks, and is a long-term headache symptom that can damage the physical and mental health of patients and can easily cause anxiety and depression and other mental illnesses. For this reason, if migraine is suspected, patients should be admitted to hospital immediately so that the condition can be effectively controlled. At the present stage, based on the comprehensive promotion of Chinese medicine treatment technology, the advantages of Chinese medicine treatment (massage, acupuncture, etc.) are gradually highlighted, with fewer adverse effects and ideal results, and thus can be widely used in the diagnosis and treatment of various diseases. Based on this, the article focuses on migraine as the main research content, and focuses on the progress of acupuncture and massage treatment together, hoping to be helpful.

**Keywords:** Acupuncture; massage; migraine; research progress.

Acupuncture treatment includes acupuncture and moxibustion, through the stimulation of specific acupuncture points to achieve the therapeutic purpose of regulating qi and blood and opening up the meridians[1]. Clinical treatment strictly follows the principles of TCM identification, and acupuncture points are added or subtracted for differences in disease manifestations, which is more conducive to enhancing the purpose of helping to eliminate evil, and has the effect of unblocking the meridians and harmonizing yin and yang, so that the patient's internal microcirculatory status is significantly improved, and also facilitates the transformation of the endocrine system, microcirculatory status, metabolic status, etc.[2]. The massage techniques, such as pinching, pressing, kneading and tapping, are more conducive to the regulation of tendons and blood circulation and can strengthen the blood and lymphatic circulation effect, thus enhancing the patient's physical condition. In the clinical treatment of migraine, the combination of acupuncture and massage techniques can also enhance the therapeutic effect. Therefore, it is of practical significance to study and analyze the research progress of acupuncture and massage in the treatment of migraine.

## 1. Overview of migraine

Migraine is a primary headache, which usually presents as throbbing headache with moderate to severe severity, and the most common is migraine, and the duration of symptoms can last from 4-72h [3]. According to epidemiology, the incidence of migraine in China can

reach 9.3%, especially the number of female patients is higher than that of male. At this stage, the causes of migraine are not yet determined, while most clinical research data confirm that abnormal metabolism, genetic factors, endocrine and nerve cell excitability disorders are among the risk factors for migraine triggering. At the same time, unscientific dietary habits, environmental changes, excessive stress and unreasonable medication also tend to significantly increase the incidence of migraine. In general, headache is the main manifestation of migraine, and many patients also suffer from nausea and vomiting, blurred vision, polyuria and fear of light and sound, which can affect their normal life and work status if not treated promptly [4]. In the clinical treatment of migraine patients, pharmacological treatment is the most common, but the effect of pharmacological monotherapy is very limited, and even prolonged use of medication can cause many adverse effects such as nausea and vomiting, palpitations and anxiety, so it is necessary to focus on the relief of migraine symptoms.

## 2. Analysis of acupuncture with massage techniques for migraine

The specific methods of combining acupuncture and massage techniques in the clinical treatment of migraine patients include the following.

### 2.1 Acupuncture treatment

First, milliacupuncture. The main purpose of milli-needle treatment is to improve blood circulation in the brain after

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stimulation of meridian points, and at the same time facilitate the unblocking of local qi and blood, thus achieving the therapeutic effect of migraine symptom relief. In a clinical study, some scholars selected migraine patients with qi and blood deficiency (n=128) as the study subjects and divided them into control group (sham acupoints, n=64) and test group (headache points, n=64) using the random number table method. Patients in the test group selected the Hegu, Shenting, Ben Shen, Rate Valley, Baihui, and Fengchi acupoints, while the control group was treated by acupuncture with sham acupoints. In addition, some scholars chose intermittent acupuncture method of liver tonification in the preventive study of migraine, and the main acupoints were selected as Shuigou acupoint, Rate Valley acupoint, Baihui acupoint, Fengchi acupoint, Sanyinjiao acupoint, Sun acupoint and Shuigou acupoint. The duration of each treatment was controlled to 20 minutes, and the treatment was continued for 3 days with an interval of 4 days. In contrast, patients in the control group were given flunarizine hydrochloride capsules at a dose of 10 mg orally each night. After the comparison, the number of headache attacks and headache score improved significantly in both groups after treatment compared with those before treatment, and the comparison between the two groups after treatment confirmed that the improvement in the acupuncture group was much better than that in the western medicine group [5].

Second, electro-acupuncture therapy. This is a form of acupuncture treatment in which the needles are connected to a micro-electric current close to the body's bioelectricity after acupuncture acupoints have been obtained, and the electric and needle stimulation can effectively prevent diseases[6]. The advantages of this form of treatment are that it can be used as a substitute for manual treatment for a long and continuous period of time, which saves manpower and allows scientific control of the amount of stimulation. In the study, migraine patients (n=120) were selected and divided into non-meridian and non-acupuncture groups, western medicine group, acupuncture group, and vertebral body zone group. The treatment modalities for each group were: 2 inches lateral opening of the vertebral body zone and electroacupuncture; diclofenac sodium enteric dissolved tablets at a dose of 50 mg twice daily; regular selection of bilateral acupuncture points; and acupuncture of the vertebral body zone[7]. According to the comparison of the results, the total effective rate of treatment reached 93.33% for patients in the vertebral body zone group, 63.33% in the non-meridian non-acupuncture group, 70.00% in the western medicine group, and 86.67% in the acupuncture group. In addition, in the clinical study, electroacupuncture was selected to start electroacupuncture treatment at Waiguan point, Shaoyang meridian point and Fengchi point, and the analgesic effect before and 5 min, 10 min, 20 min and 30 min after treatment was compared with that of patients treated with electroacupuncture at non-meridian non-acupuncture points, and the analgesic effect of selecting electroacupuncture at Shaoyang meridian point in acute migraine patients was obvious and more prominent in persistence[8].

Third, bloodletting treatment. This treatment involves the use of needles to puncture or cut specific acupuncture points to release a small amount of blood, which allows the stagnant disease to flow out of the body's veins, thus enhancing the effect of blood circulation and pain relief. In the study, the frequency, pain level and duration of the attacks were significantly better than before the treatment, and the treatment group had better results than the control group.[9] Patients with unilateral migraine headaches were treated with A-Yi, Feng Chi, Sun and Baihui acupoints, while patients with bilateral attacks were treated with bilateral acupoints, while the treatment group received acupuncture and bloodletting treatment and the control group received acupuncture treatment, the results showed that the total effective rate of the treatment group was 91.18% and the total effective rate of the control group was 73.35%.

## **2.2 Massage manipulation treatment**

The patient was placed in a sitting position, and the thumb was used to massage the Fengzhu and Tianzhu points, along the Hall of Indices and to the Shenting point, forehead and solar plexus, for 1 min at each point and 2-3 min overall.[10] The patient was then placed in a supine position, and the body was guided to relax, while the head was tapped with the fingertips of both hands and the eye orbits were pressed for 3 min. After the patient turns over, the patient's neck is tapped bilaterally for 50 times using the rolling method. At the same time, the patient should be pushed and tapped from top to bottom along the patient's lumbar region and the meridian and duo chakras, with a specific time control of 15-20 min. The treatment course is 5 times a week, and a course of treatment is 10 days.

## **3. Effectiveness of acupuncture with massage techniques in migraine treatment**

The combination of acupuncture and massage used in the clinical treatment of migraine patients can lead to significant improvements in muscles, nerves and microcirculation, with positive effects, as reflected in the following aspects.

### **3.1 Inflammatory factors are eliminated**

During a migraine attack, the patient is susceptible to excessive vasodilatation due to the pronounced headache symptoms leading to plasma protein exocytosis, which in turn increases the likelihood of a sterile inflammatory response. However, the inflammatory factors can aggravate the damage to the organism and trap it in a vicious cycle, which in turn makes the headache more intense [11]. With acupuncture treatment, the vasodilatory function of migraine patients is improved and the degree of vasospasm is reduced, which helps to restore the blood circulation in the body as soon as possible and reduces the effect of inflammatory factors. In a study by scholars, thermal moxibustion combined with herbal treatment and conventional herbal treatment were selected, and the C-

reactive protein level of the former decreased significantly, which means that the clinical implementation of acupuncture treatment can better improve the inflammatory response of the body. In addition, some scholars have also studied migraine patients treated with acupuncture and found that this treatment reduced calcitonin gene peptide concentration, IL-1 $\beta$  and TNF- $\alpha$  levels, also confirming that acupuncture treatment facilitates the reduction of inflammatory response [12]. According to modern pharmacology, moxibustion and acupuncture treatment at specific acupuncture points can fully utilize the effect of regulating qi and blood and unblocking the veins, as well as promoting the rapid apoptosis of inflammatory cells along with the effective recovery of blood circulation, organ functions and related tissues, thus significantly improving the inflammatory response. With acupuncture treatment as the basis and massage techniques, massage can be carried out in the direction of blood and lymphatic fluid return, which is more conducive to the strengthening of lymphatic and blood circulation in the body, and ultimately achieve the purpose of treatment to unblock the stagnation [13]. With the improvement of blood circulation, the oxidation-antioxidation balance in the body is

also restored, thus eliminating the inflammatory factors in the body and enhancing the effect of eliminating the inflammatory response.

Therefore, the clinical treatment of migraine patients with acupuncture and massage techniques is more conducive to the elimination of inflammatory factors, and also allows the inflammatory response to be relieved and the clinical manifestations of patients to be reduced.

### **3.2 Significant relief of headache symptoms and enhanced treatment effect**

The interplay of acupuncture and massage techniques in the clinical treatment of migraine patients is more conducive to improving their headache symptoms and has a positive impact on the improvement of treatment outcomes. In a clinical study, headache patients (n=120) were selected as the study subjects, and the combined treatment with massage and warm acupuncture resulted in lower clinical VAS scores and TCM evidence points, as well as increased blood flow in the basilar and vertebral arteries. It can be confirmed that the efficacy of combined acupuncture and massage treatment in the treatment of headache patients is more definite, and the patients' blood flow velocity is improved while their blood circulation is restored to normal[14]. A colloidal analysis of the reasons for this focuses on the following aspects: 1) Acupuncture stimulates the body's meridians, which effectively regulates neurotransmitters and fully releases 5-hydroxytryptamine, thus achieving the effect of vasoconstriction, which facilitates the acceleration of blood flow. Based on the improvement of vasodilation and contraction, the analgesic effect can be achieved. In addition, 5-hydroxytryptamine, as an inhibitory neurotransmitter, can significantly enhance the analgesic effect when its expression is gradually increased, thus relieving the patient's headache.2) Since

neurotransmitters affect the body's endocrine system, acupuncture treatment can improve neurotransmitters and regulate endocrine abnormalities. At the same time, acupuncture facilitates the rapid recovery of the sympathetic adrenocortical system and the hypothalamic pituitary adrenocortical system, ensures the normalization of human metabolism, accelerates the restoration of microcirculation in the body, and finally achieves the effect of headache reduction, which further enhances the clinical treatment effect. 3) Massage techniques mainly include pinching, pressing and kneading, which can effectively unblock the adhesions caused by hematoma mechanization and restore hemodynamics within a short period of time. Within a short period of time to restore hemodynamics, in the blood circulation and lymphatic circulation to improve the role of outstanding [15]. In the mechanism of Chinese medicine treatment, the pain is not painful if it passes, and after massage treatment, the effect of activating blood circulation and removing blood stasis and relaxing tendons can be achieved, which makes the pain caused by meridian and vascular blockage can be reduced. In a study, patients who were treated with acupuncture and massage were found to have significantly reduced pain scores and improved pain levels. In other words, the stimulation of receptors in different parts of the body by acupuncture facilitates the regulation of neurotransmitters, resulting in improved impulse transmission and thus nociceptive regulation.

## **4. Conclusion**

In conclusion, the combination of acupuncture and massage techniques in migraine treatment can achieve the therapeutic goals of qi and blood regulation, and pain relief through the stimulation of different acupuncture points in the body, resulting in the relief of inflammatory reactions and headache manifestations caused by blood and meridians, and significantly improving the headache symptoms of patients based on the effective regulation of microcirculation and inflammatory reactions in the brain. However, because the pathogenesis of migraine has not been determined, there are few studies on the use of acupuncture for neurological treatment, and the effects of acupuncture and massage interventions on migraine patients still need to be further investigated.

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