

Research Status of Migraine in Traditional Chinese Medicine and Western Medicine and Application of Classical Prescriptions

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Abstract: Migraine is a chronic neurovascular disease and a common disease in neurology. The incidence rate of this disease ranks second among all headache types, with patients accounting for about 14% of the global population. The prevalence is still growing, and women are higher than men. The disease has a serious impact on the study, work and life of patients. According to the 2019 Global Disease Burden Study, it has been listed as the second major disability disease in the world. Western medicine mainly treats the disease with drugs, mainly including the treatment and preventive treatment during the attack period. It has a certain short-term effect in clinical practice, but most of the drugs have limitations or adverse reactions. Traditional Chinese medicine has unique advantages in treating this disease through syndrome differentiation. This article mainly focuses on the treatment of migraine by integrating traditional Chinese and western medicine and the application of classical prescriptions in its treatment, in order to improve the curative effect of migraine and reduce or reduce adverse reactions, which can be used for clinical reference.

Migraine is a common type of primary headache, which is a chronic periodic attack of neurovascular headache [1]. Its clinical manifestations are mainly pulsatile severe headache with repeated attacks on one or both sides, which can be combined with symptoms of autonomic nervous system dysfunction such as nausea, vomiting, photophobia, and acoustic phobia [2], and the course of disease is usually 4-72h [3]. At present, the pathogenesis of migraine is still unclear. Some studies believe that it is related to heredity (about 60% of the patients have family history), endocrine and metabolism, lifestyle (sleep, mood, etc.), environmental incentives (voice, smell, etc.) and other factors [4]. Most of them are aggravated by fatigue, mental tension, changes in the external environment and bad living habits [1]. Migraine belongs to the categories of "head wind", "head wind", "brain wind", "migraine wind", "headache due to head pain", "headache due to internal injury", etc. It is clinically diagnosed and treated under the guidance of a holistic view and dialectical treatment, which plays an important role and has unique advantages in its treatment, as

shown in Figure 1.



Figure 1: Migraine symptoms

1. Understanding of Migraine in Chinese and Western Medicine

1.1 Modern Medicine

Etiology and pathogenesis Modern medicine believes that migraine is a neurovascular reaction caused by mutation of the individual's internal and external environment, Its pathogenesis is related to many factors such as genetics, endocrine metabolism, diet and spirit, as well as 5-hydroxytryptamine (5-HT) and prostaglandins [5]. The specific pathogenesis of migraine is still unclear. In literature research, it is found that the mechanisms mainly include vascular theory, neural theory and trigeminal neurovascular theory [6]. Some scholars also put forward the "nitric oxide hypothesis", "diffuse cortical inhibition theory", "acid sensitive ion channel theory", etc. [7]. Its specific etiology and pathogenesis need further study, as shown in Table 1.

Table 1: Classification and clinical characteristics [3]

Serial number	Typing	Clinical characteristics
①	Common migraine	1> The duration of headache attack was 4~72 hours; 2> A. Unilateral; b. Pulsatility; c. Moderate or severe pain; d. Daily activities can aggravate headache; Include at least two of the above characteristics; 3> The headache process is accompanied by nausea, vomiting, photophobia and fear of sound; 4> The number of attacks is more than 5.
②	Typical migraine	1> Presence of aural visual impairment or paresthesia and lasting for 10-20 minutes; 2> One or both sides may have severe pulsating pain or distension pain or jumping pain; 3> It is often accompanied by pale complexion, flushing, dizziness, lacrimation, nasal congestion and even abdominal pain and diarrhea; 4> With nausea and vomiting; 5> The attack lasted for several hours.
③	Hemiplegic and ophthalmologic migraines	1> Most of them are young people; 2> Mild muscle paralysis occurs during or after the attack; 3> The pain can be relieved for a period of time.
④	Basilar migraine	1> Most of them are young women; 2> Have a family history of migraine; 3> Precursory visual impairment and brain stem dysfunction; 4> The occipital region has a strong sense of jumping, accompanied by nausea and vomiting.

Classification and clinical characteristics of migraine (Modern medicine)

1.2 Traditional Chinese Medicine

The name of migraine is also called "headache", "head wind", "brain wind", "migraine wind", "headache in the corners of the head", "headache due to internal injury", "shaoyang headache", etc. in Chinese medicine. It is mainly named according to the location of the pain and the attribution of the meridians. For example, in Danxi Mental Skill, "migraine refers to the pain of the finger wind, which is also called" migraine wind ". Zhang Zhongjing called migraine" shaoyang headache "in his Treatise on Febrile Diseases, as shown in Figure 2.



Figure 2: Migraine territory

Table 2: Dialectical classification [8-9]

Serial number	Typing	Clinical characteristics
①	Wind Yang Upward Disturbing Type	Headache and dizziness, upset and bitter mouth, red and irritable face, thin and yellow tongue coating, floating and counting pulse.
②	Liver qi stagnation type	Headache and hypochondriac distension. The attack is mostly related to emotion. The chest is stuffy and sighs, the tongue coating is thin and white, and the pulse is string and several.
③	Blood Stasis Headache	The head is tingling, and the pain has a fixed location. The pain is aggravated at night, or there is a history of trauma. Women or women have a headache before menstruation. There are ecchymosis spots on the dark side of the tongue, and the pulse is stringy and astringent.
④	Kidney Asthenia Headache Type	The patient has continuous headache, forgetful tinnitus, weak back and legs, frequent urination, red tongue with less fur, and floating ulnar pulse.
⑤	Qi and Blood Deficiency Type	The head is empty and painful, the face is yellow and weak, the amount of menstruation in women is small, the headache is aggravated after menstruation, and the menstruation is gradually relieved. The tongue is pale and the fur is white, and the pulse is weak.
⑥	Phlegm Turbid and Obstructive	Headache and dizziness accompanied by nausea, phlegm and saliva, white and greasy tongue coating, and smooth pulse.

Classification and clinical characteristics of migraine (Traditional Chinese Medicine)

Etiology and Pathogenesis TCM believes that the causes of migraine can be divided into two aspects: exogenous and internal injuries. The onset of migraine is mostly related to dysfunction of viscera, emotional disorder, internal injury to diet, external pathogens and trauma. The disease is located in the brain, closely related to the liver, spleen and kidney. The nature of the disease is based on deficiency and marked by excess. The deficiency and damage of the zang fu organs are based on wind, fire, phlegm and blood stasis. Therefore, in essence, migraine is mainly caused by

phlegm and blood stasis blocking collaterals, "pain due to blockage", and "pain due to lack of qi and blood", which can not nourish the brain [8] , as shown in Table 2.

2. Current status of Migraine Treatment

2.1 Modern Medicine

2.1.1 Drug Treatment

① Non steroidal anti-inflammatory drugs (NSAIDs), opioid analgesics, barbiturates, triptans, ergolines and calcitonin gene related peptide (CGRP) receptor antagonists were mainly used during the attack. ② Main selection during mitigation period β Receptor blockers, calcium channel blockers, antiepileptic drugs and antidepressants. [10]

2.1.2 Non Drug Treatment

① Peripheral nerve block: mainly by injecting lidocaine or bupivacaine for nerve block to achieve the effect of treatment and prevention of migraine, including greater occipital nerve block, supraorbital nerve block, stellate ganglion block, etc. ② Botulinum toxin A injection therapy: At present, some studies believe that intramuscular injection of botulinum toxin A can reduce the release of neurotransmitters and block the transmission of abnormal sensitive signals to the central nervous system. Some studies also indicate that botulinum toxin A may alleviate migraine by inhibiting the central sensitization related nuclei of trigeminal nerve vascular nuclei. The exact mechanism of action still needs further study. ③ Nerve stimulation treatment: It mainly stimulates the nerves through invasive or non-invasive operations to relieve pain, such as vagus nerve stimulation, trigeminal nerve external stimulation, repeated transcranial magnetic stimulation and percutaneous occipital nerve stimulation. ④ Surgical treatment: there are reports on surgical treatment of migraine at home and abroad, mainly focusing on neurolysis/devascularization of the four trigger areas of the head (supraorbital area, ototemporal area, occipital nerve area and intranasal area), arterial resection and nasal surgery. [11] In addition, non drug therapy also includes hyperbaric oxygen therapy, psychological intervention, physical therapy and other methods.

The above oral drugs and treatment methods have certain clinical effects, but have limitations and adverse reactions, such as drug contraindications, addiction or unclear surgical mechanisms and sequelae.

2.2 Chinese medicine



Figure 3: Treatment with Chinese medicine

As shown in Figure 3. According to the frequency statistics of traditional Chinese medicine, it is

found that: ① Common traditional Chinese medicine is Chuanxiong, Angelica dahurica, licorice, angelica, gastrodia, bupleurum, etc; ② The commonly used drug pairs are Chuanxiong Baizhi, Tianma Chuanxiong, Peach Kernel Safflower, Chuanxiong Glycyrrhiza, etc. ③ The commonly used prescriptions are Chuanxiong Tetiao Powder, Tianma Gouteng Decoction, Banxia Baizhu Tianma Decoction, Xuefu Zhuyu Decoction, Tongqiao Huoxue Decoction, Jiawei Siwu Decoction, Bazhen Decoction, etc., which are selected according to different syndrome types and added or subtracted according to symptoms [12].

Chinese patent medicines mainly include Toutouning capsule, Yangxue Qingnao granules, Zhengtian pill, Tianshu capsule, Duliang soft capsule, gastrodin capsule, etc.

Acupuncture and moxibustion mainly include filiform needle needling, electroacupuncture, acupoint catgut embedding, scalp acupuncture, blood letting, acupoint injection, ear points, other characteristic therapies and comprehensive therapies [13].

For a long time, the safety of traditional Chinese medicine in treating migraine has been widely recognized, and randomized controlled studies on the efficacy have also been carried out, such as Duliang Soft Capsule [14]. A meta-analysis shows that the effect of treating migraine with Tongtouning capsule is better than that of western medicine alone, and it may have better effect when combined with western medicine [15]. Acupuncture, massage and other treatment methods also have good effects on migraine [16].

3. Application of Classic Prescriptions in Migraine

3.1 Classic Prescriptions,

In a narrow sense, refer to the prescriptions contained in Treatise on Febrile Diseases and Synopsis of the Golden Chamber, in contrast to the "time prescriptions" appearing after the Song and Yuan Dynasties; In a broad sense, Jingfang refers to a medical system, which is a medical system guided by Zhongjing Theory. The formation of the system originates from the summary of drug use experience from the ancient Shennong period to the Han Dynasty. From the application of single medicine to compound medicine, it gradually forms a system of prescription and pathology theory. Its main theories are the eight principles and six meridians, which are characterized by distinguishing the six meridians first, then distinguishing the prescriptions and syndromes, and obtaining the corresponding cure of diseases [17].

3.2 Classic Prescriptions for Migraine (partial)

Xiongma decoction is derived from the Daxiong pill in the General Record of Shengji, which is called Tianma pill in the Compendium of Materia Medica. The pill is changed into a decoction in the Medical School Jinjian, which is named "Xiongma decoction". It is mainly used for the treatment of migraine, dizziness, physical fatigue and other diseases [18]. At present, some studies have proved the therapeutic effect of Xiongma decoction on migraine through the theory of pharmacodynamics and volatile oil. Yin Yan used Chuanxiong Tianma Powder (modified Xiongma decoction) as the basic prescription to treat 60 cases of migraine of all types with dialectical addition and subtraction, with a total effective rate of 95% [19].

Bupleurum like policies for the treatment of migraine, Professor Mei Guoqiang dialectically used Bupleurum like policies according to the relevant theories in Treatise on Febrile Diseases, and achieved good clinical efficacy. For example, people with migraine and neck back or limbs spasms should be given more Chaihu Guizhi Decoction, and Shaoyang and the sun should be treated together to reconcile Shaoyang and the camp; Migraine affects the face, or has abdominal pain and

diarrhea, and the tongue is red. Give Chaihu and Gegen Qinlian Decoction. Treat Shaoyang and Yangming together to reconcile Shaoyang and clear Yangming; Migraine can also cause dizziness, insomnia and dreaminess. Give Chaihu Wendan Decoction to reconcile Shaoyang, clear heat and remove phlegm; In addition, if migraine is accompanied by blood stasis, use Chaihu Siwu Decoction to reconcile Shaoyang and promote blood circulation and remove blood stasis [20]. Professor Mei's clinical experience vividly reflects what he said: "When classical prescriptions are used together, it is a new method".

Siwu Decoction, a modified prescription, was first published in the Secret Recipe of the Tang Dynasty, and was included in the first official drug standard of our country, "Prescription of Taiping Benefiting the People and Medication Bureau" in the Song Dynasty. The whole prescription is composed of four herbs, including Radix Rehmanniae, Radix Angelicae, Radix Angelicae, Radix Paeoniae Alba and the Liver, Rhizoma Chuanxiong, which can promote blood circulation and qi circulation to relieve pain. The combination of the four herbs plays a role in enriching blood, promoting blood circulation, regulating menstruation and relieving pain, and is mainly used to treat the disorder of lunar water After the treatment of abdominal pain and other women's diseases [21], later generations of doctors called it the "women's holy medicine" [22], which is "the first part in gynecology" and "regulates all blood syndromes", and applied it to the treatment of migraine according to the syndrome differentiation, achieving good results. For example, Li Jin treated 60 cases of migraine with Jiawei Siwu Decoction, with a total effective rate of 91.7% [23]; Su Fengling treated 82 cases of migraine with Jiawei Siwu Decoction, with an effective rate of 91.4%, and there was no significant change in blood routine, liver function, kidney function, etc. [24]; Cai Xingguo used Jiawei Siwu Decoction to treat 20 cases of headache of blood deficiency type, with a total effective rate of 95%, and no side effects were observed [25]. Another scholar used Taohong Siwu Decoction to treat migraine with blood deficiency and blood stasis, and achieved good results [26].

4. Summary

Migraine has a high incidence rate and great harm, but there are some deficiencies in diagnosis and treatment, such as low rate of visits, lack of prevention and treatment, and excessive use of analgesics [11]. The treatment of migraine by traditional Chinese medicine has a history of thousands of years, and has accumulated rich experience. It has unique advantages in the treatment of migraine. Through the differentiation of symptoms and signs, the traditional prescriptions are refined, new Chinese patent medicine preparations are developed, and combined with western medicine, it not only effectively reduces the number of migraine attacks, alleviates the degree of pain, improves the quality of life of patients, but also reduces side effects and adverse reactions, making it widely used in clinical practice, good curative effect has been achieved.

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