

Research Progress of Ischemic Stroke in Traditional Chinese Medicine

Langlang Cao^{1, a}, Hui Wang^{1, b, *}, Caiping Shi^{2, c}

¹Shaanxi University of traditional Chinese medicine, Xianyang, China

²Sun Simiao Hospital of traditional Chinese medicine, Tongchuan, China

^a1277280396@qq.com, ^bwanghui72612@aliyun.com, ^c1542433822@qq.com

Abstract

In recent years, many doctors have carried out a large number of clinical trials on the pathogenic factors and treatment of ischemic stroke. This paper summarizes the pathological factors of ischemic stroke in the field of traditional Chinese medicine in recent years, such as wind, blood stasis, deficiency and so on, and summarizes the common syndrome types and corresponding treatment methods, as well as the current research progress of acupuncture treatment and prevention and health care, which are valuable experience of traditional Chinese medicine in the treatment of ischemic stroke.

Keywords

Ischemic stroke; Traditional Chinese Medicine; Research progress.

1. INTRODUCTION

The proportion of ischemic stroke (is) in cerebrovascular disease (CVD) is 55% - 80%. Antiplatelet therapy is an important treatment for is in western medicine, but there are still many shortcomings. In contrast, traditional Chinese medicine has achieved ideal effect in the treatment of is. The following summarizes the research progress of ischemic stroke in traditional Chinese medicine.

2. HISTORICAL EVOLUTION

According to Neijing, the disease is related to constitution, diet, mental stimulation and overwork. The lesion is located in the head. The name of apoplexy was first put forward in Synopsis of the golden chamber. Before the Tang and Song Dynasties, most doctors praised the theory of external wind, and after the Tang and Song Dynasties, most doctors praised the theory of internal wind. Zhu Danxi, on the other hand, was caused by dampness, phlegm, heat and wind. In Qing Dynasty, ye Tianshi put forward the theory of liver Yang transforming wind. In Qing Dynasty, Wang Qingren created Buyang Huanwu Decoction to treat hemiplegia. Since modern times, Zhang Shanlei, Zhang Bolong and Zhang Xi have proposed that the pathogenesis of the disease is the imbalance of yin and Yang, the disorder of Qi and blood, and reaching the yuan Shen's mansion.

3. PATHOLOGICAL FACTORS

3.1. Wind

Before the Tang and Song Dynasties, most doctors supported the idea of "external wind" [2]. The disease was caused by the weakness of the body and the feeling of external evil, which was more related to the climate here. The disease often occurred in spring and March, and was

related to the temperature. After the Tang and Song Dynasties, most of them advocated the theory of internal wind. They believed that the occurrence of stroke was due to the deficiency of Qi and blood in organs, the endogenous wind carrying Qi and blood, blocking the Yuanshen's house, or the excessive emotional wind, blocking the brain collaterals with the ascending of Qi and blood.

3.2. Blood Stasis

Qi stagnation can lead to blood stasis, blocking the vein of Yuanshen, which can lead to body movement disorders and other symptoms; Qi deficiency can lead to the weakness of promoting blood, blocking Yuanshen, leading to a series of brain and body symptoms; in addition, Qi and blood reach Yuanshen, resulting in blood stasis. Liu xinju et al. [3] found that qi deficiency and blood stasis is an important pathological mechanism of ischemic stroke through systematic clinical treatment of cerebral infarction.

3.3. Sputum

The spleen can't function normally when the body is tired, sad and depressed, and the spleen can't function normally when the body is weak. Phlegm dampness blocks the vein, which can cause the disease. In addition, eating too much greasy food for a long time can lead to the decline of the spleen and stomach's function, such as rotten food, turbid phlegm, reaching the Yuanshen's house. Irregular drinking and eating can lead to the weakness of the spleen and stomach for a long time, the reduction of the essence of Qi and blood, and the inability of Yuanshen's house To be nurtured can also lead to the disease. Liu Qinglin [4] thinks that the main pathogenesis is phlegm and blood stasis obstructing brain orifices, and phlegm and blood stasis is the main pathological factor.

3.4. Emptiness

People who have chronic diseases for a long time, or who are old and weak in constitution, or who are overweight and deficient in Qi, for a long time, this can lead to the deficiency of Qi and blood. Qi deficiency can produce phlegm dampness, yin deficiency can activate liver wind, and heart fire can reach the yuan Shen's house, which can cause this disease. Wang Hua et al. [5] considered that kidney essence deficiency was the basic pathogenesis of is.

3.5. Fire

Emotional disorders, Qi can not be smooth, blood stasis and block the vein of Yuanshen, can lead to this disease. Excessive joy and anger, heart fire reaching the yuan Shen's house, liver yang hyperactivity, mixed with blood, Qi and blood disorder, can lead to this disease. Liu Hejian [6] thought that the pathogenesis of the disease was heart fire and kidney water deficiency.

4. SYNDROME DIFFERENTIATION AND TREATMENT

4.1. Middle Meridians

4.1.1 Wind, phlegm and blood stasis obstructing wind, activating blood circulation and resolving phlegm

Wind phlegm and blood stasis is a symptom caused by wind, phlegm and blood stasis obstructing the meridians and blood circulation. Diao Dian military self-made Chinese medicine (including Apocynum venetum, angelica, rhubarb, dannanxing, etc.) has achieved good curative effect in the treatment of this type of ischemic stroke [7]. Jiang Xiaorong et al. Used xifengtan Tongluo formula (Uncaria, leech, Polygonum multiflorum, etc.) combined with acupuncture to treat this syndrome type of is, and the blood lipid and blood flow of the patients were improved [8]. Li XueGuo treated this type of Apoplexy with Wendan Decoction. The results showed that Wendan Decoction had a satisfactory effect.

4.1.2 Disturbing the upper part of the wind and Yang, calming the liver, calming the wind and suppressing the Yang

Yin deficiency of liver and kidney, phlegm heat accumulation, wind Yang disturbance, meridian obstruction. Cui Yong used Pinggan Qianyang Huoxue Decoction to treat this syndrome. 55 cases of apoplectic patients with wind Yang disturbance were divided into two groups. One group was treated with western medicine, and the other group was treated with Pinggan Qianyang Huoxue Decoction. The results showed that the therapeutic effect of Pinggan Qianyang Huoxue Decoction group was significant [10].

4.2. Viscera

4.2.1 phlegm heat Fu Shi Tong Fu Hua Tan

Phlegm obstruction, Qi can not be smooth, stagnant heat, phlegm mixed with heat evil, then Fu Qi obstruction, resulting in phlegm heat Fu solid. If the Qi mechanism is not favorable, the spleen and stomach will be abnormal, the dampness will not be changed, and the accumulation of phlegm will disturb the Yuanshen's house. Lu's [11] research found that phlegm heat Fu syndrome plays an important role in the early stage of stroke. Rhubarb and mirabilite boiling water can be used for treatment. In addition, Si [12] thought that Tongfu therapy was also effective in recovery period. Liu Jianhong [13] research shows that Sanhua decoction can effectively improve the prognosis and hemorheology of patients with acute ischemic stroke, with good drug safety. Yang Xiaoying et al. [14] observed 28 cases of acute ischemic stroke patients with phlegm heat Fu syndrome treated with Xinglou Chengqi Decoction, and speculated that its mechanism of action may be that it can reduce the inflammatory damage of cerebral ischemia and improve the cerebral circulation.

4.2.2 phlegm, fire and blood stasis, heat clearing and detoxification

The combination of stasis, fire and phlegm is poison, which is caused by internal wind. Modern research results show that [15] heat clearing and detoxification herbs can increase cerebral blood flow perfusion and play an anticoagulant role. Chen Yinyi et al. [16] showed that Huanglian Jiedu Decoction can reduce serum interleukin-6 (L-6) and tumor necrosis factor-A (TNF-a) in patients with acute cerebral infarction, promote the rapid fall of inflammatory factors, so it can reduce the damage of brain tissue caused by strong immune response induced by inflammatory mediators. Zhou Jing et al. [17] treated is with Qingre Huayu II prescription, the results showed that the total effective rate could reach more than 90%.

4.3. Recovery Period

4.3.1 deficiency of liver and kidney, tonifying kidney and strengthening body

The essence of deficiency of liver and kidney is deficiency of kidney essence. Tonifying kidney can produce marrow, then brain marrow is sufficient. On the one hand, marrow can produce blood, blood reaches ischemic area, muscle is nurtured, and disease is treated; on the other hand, brain is sea of marrow, and spirit is nurtured by marrow. Shouwu Bushen prescription with the effect of tonifying kidney and activating blood circulation can better improve the condition of stroke patients and promote the recovery of neurological function [18]. Jin Jieting et al. [19] found that Peiyuan Tongnao capsule has a certain curative effect on is patients with kidney deficiency and blood stasis.

4.3.2 Qi Deficiency and Blood Stasis

It is necessary to invigorate the circulation of Qi and blood. Jiang Xuehua [20] used Yiqi Huoxue granule to treat cerebral apoplexy of qi deficiency and blood stasis type. Zeng Qiquan et al. [21] used Buyang Huanwu Decoction to treat 30 cases of acute cerebral infarction. The results showed that Buyang Huanwu decoction had a good effect on acute cerebral infarction of qi deficiency and blood stasis type. Yu Xingjuan [22] used Yiqi Huoxue Huatan Decoction

(composed of *Astragalus membranaceus*, *Pinellia ternata*, *Angelica sinensis*, etc.) to treat is with good effect. Yang Yingmin [23] used the method of Invigorating Qi and removing blood stasis to treat 85 patients with is of qi deficiency and blood stasis type. The results showed that the clinical effect was significantly higher than that of the control group.

5. ACUPUNCTURE TREATMENT

5.1 In addition to the above traditional Chinese medicine treatment, if the patient does not have coma symptoms, taking acupuncture treatment according to the symptoms of numbness and unclear speech can reduce the symptoms, limit the scope of symptoms, prolong the time of reaching the stage of hard paralysis, and improve the long-term prognosis.

5.2 Acupuncture and moxibustion can be the first choice for the treatment of is sequelae, which is the conclusion of thousands of years of treatment practice. Liu qunxia et al. [24] treated 60 cases of ischemic stroke with acupuncture and medicine. The results showed that the clinical effect of the treatment group was better than that of the control

group. At present, western medicine believes that head acupuncture can increase the blood flow of damaged blood vessels, so as to improve the clinical symptoms of limb hemiplegia. In addition, body acupuncture combined with massage Liao FA can also improve the process and speed up the recovery; skin needle percussion has good curative effect in the treatment of limb disadvantageous and pain. It is very good to use acupuncture intervention therapy as soon as possible. Once the patient's condition is basically stable, acupuncture treatment can be carried out to assist rehabilitation exercise and massage therapy, and satisfactory curative effect can be achieved. There are many kinds of acupuncture treatments, such as moxibustion, electroacupuncture, bloodletting and so on. Acupuncture and moxibustion mostly adopts cathartic method, and the commonly used acupoints are Neiguan, Shuigou, Sanyinjiao, etc. Nonstandard methods may not only fail to relieve the pain, but may even lead to aggravation of the disease. When treating with acupuncture and moxibustion, we should bear in mind that this method has a good effect in the acute stage. If the interval is too long, the effect is not good. Acupuncture treatment of the disease, to go to a regular hospital diagnosis and treatment, try not to go to a small clinic. Usually, we should develop a good work and rest to go to bed early, don't stay up late, keep enough sleep time, recover and exercise as soon as possible, eat more grains, and improve the prognosis. Wax therapy is also a better physical heat therapy that has been handed down to the present day. It can improve the symptoms of limb paralysis and neuropathy.

5.3 Through acupuncture and moxibustion, it can promote its brain resuscitation, blood stasis, strengthening the body and removing pathogenic factors, and dredging meridians and collaterals. Zhang Lili [25] found in clinical research that acupuncture can improve the activities of daily living and cognitive function of patients with cerebral infarction. According to various types of ischemic stroke, acupoint location and treatment methods are different. Treat patients in acute stage as soon as possible. Do not select too many acupoints. When acupuncture and moxibustion, first locate the acupoints, and then carry out symptomatic treatment. Is patients should keep a good mood, avoid emotional stimulation, eat less spicy food, and make some basic preparations for acupuncture treatment. The evaluation of curative effect needs a certain period of time, and it needs to adhere to the treatment. After stroke, it is the best way to avoid its aggravation. In addition to acupuncture and moxibustion, it is necessary to cooperate with traditional Chinese medicine, western medicine, blood sugar and lipid control, and light diet. In this way, we can recover quickly. Otherwise, we can only drag the body for the rest of our life after the sequelae of stroke, and the quality of life is very poor. It is a pity. Many doctors have proved that acupuncture treatment combined with rehabilitation therapy and ultraviolet radiation has curative effect in all stages of stroke, and the cost is low, the curative effect is good,

and the curative effect of Western medicine alone is not particularly good, so we should vigorously promote the combination of Chinese and Western medicine, and we should keep our traditional treasures. Zhang Dan et al. [26] used "Tongguan Liqiao" acupuncture combined with rehabilitation training to treat dysphagia after ischemic stroke. The results showed that the clinical effect of the treatment group was better than that of the control group. Acupuncture also has a good effect in the first aid of stroke. Within three hours after stroke, it can prick twelve well points, Su Luo points, etc., and it can also bleed the ear tip, dropping three to four drops of blood. It is very convenient to choose needles such as three edged needles and sewing needles. It is found that the earlier the acute stage is intervened in acupuncture treatment, the better the clinical effect is.

5.4 Relationship between acupuncture treatment time window and treatment effect: there is not enough data to support how to determine acupuncture treatment time window. However, a large number of clinical trials have proved that acupuncture can delay or even block the progress of the disease, improve the quality of life and promote functional recovery. If the vital signs were stable, the patients with is were treated with acupuncture 48 hours after onset. In patients with ischemic stroke, whether the time of acupuncture is directly proportional to the clinical therapeutic effect remains to be explored. However, for patients with ischemic stroke acupuncture intervention as soon as possible, the clinical treatment effect is obvious is beyond doubt, the majority of medical workers should pay enough attention to this, cultivate the concept of acupuncture treatment time window, observe, study and explore in clinical practice, so that the treatment of ischemic stroke has qualitative change and higher development.

6. PREVENTION AND HEALTH CARE

Early treatment of hypertension, hyperlipidemia, hyperglycemia, blood uric acid, homocysteine and other is induced diseases, according to the doctor's advice to take medicine on time, often monitor blood pressure changes, pay attention to stroke precursor symptoms, such as dizziness, numbness of hands and feet, etc., once found to have symptoms, go to the hospital for treatment in time; encourage a healthy lifestyle, orderly life schedule, do not worry Stay up late and get enough sleep; avoid emotional stimulation, strenuous exercise and stimulating activities, such as watching favorite ball games, etc.; in addition, defecation can also lead to stroke; in terms of diet, you can eat more bean products, fruits, etc, Research found that: fruits and vegetables because of its large quantities of vitamin C, such as potassium and other mineral elements, and a large amount of dietary fiber can reduce the incidence rate of stroke; remove bad habits such as smoking, try to eat less fat foods such as fat, etc., temperature, we should gradually adapt to the ambient temperature, indoor air conditioning temperature should not be too high, try to avoid sudden change from a higher temperature environment. Move to a lower temperature outdoor, go out to try to avoid the evil wind; to moderate physical exercise, go out for a walk, happy mood; to avoid the influence of the weather, high blood pressure and other patients when the weather is bad mood fluctuations.

7. CONCLUSION

This paper summarizes the pathological factors of is in the field of traditional Chinese medicine in recent years, such as wind, blood stasis, deficiency, and so on, and summarizes the main syndrome types and corresponding treatment methods, as well as the latest acupuncture treatment and preventive health care. Traditional Chinese medicine treatment of is because of its less side effects, significant clinical efficacy, can effectively make up for the shortcomings of Western medicine treatment, but now traditional Chinese medicine treatment of is also has many shortcomings, for the etiology and pathogenesis of the disease, syndrome differentiation and treatment has not yet formed a consensus view, lack of a large number of clinical sample

observation, whether it can be widely applied to wait for clinical examination. I believe that with more in-depth research, the clinical application prospect of traditional Chinese medicine in the treatment of it will be broader.

REFERENCES

- [1] Linsen. Research progress on the treatment of ischemic stroke with traditional Chinese and Western Medicine [J]. Guide of traditional Chinese medicine, 2011, 17 (3): 119-121.
- [2] he Xuming. Treatment of ischemic stroke with traditional Chinese medicine [J]. Huaxia medicine, 2014,27 (6): 170-173.
- [3] Liu xinju, ou yanghao, Liu Yong, et al. Treatment of ischemic stroke of qi deficiency and blood stasis type [J]. Jiangxi medicine, 2010, 45 (4): 367.
- [4] Liu Qinglin. The pathogenesis of stroke [J]. Guangming traditional Chinese medicine, 2008, 23 (6): 839-840.
- [5] Wang Hua, Chen zetao. Discussion on the relationship between kidney deficiency and ischemic stroke [C]. Collection of the 13th National Academic Seminar on deficiency syndrome of integrated traditional Chinese and Western medicine and geriatrics, 2013.
- [6] Han Yan, Hu Sumin. Jin Yuan physicians' understanding of stroke syndrome and treatment [J]. Journal of Jiangxi University of traditional Chinese medicine, 2013, 25 (4): 3-4, 9.
- [7] Diao Dianjun. Clinical experience of syndrome differentiation and treatment of ischemic stroke [J]. Inner Mongolia traditional Chinese medicine, 2007 (09): 19-21.
- [8] Jiang Xiaorong. Clinical observation on the treatment of wind phlegm stasis type of apoplexy aura with acupuncture and medicine [J]. Journal of practical Chinese medicine, 2013,29 (4): 30-35.
- [9] Li XueGuo. Observation on the therapeutic effect of Wendan Decoction on stroke of wind phlegm stasis type [J]. Guangming traditional Chinese medicine, 2009, 24 (7): 15-20.
- [10] Cui Yong. Progress of Pinggan Qianyang Huoxue Decoction in treating ischemic stroke of wind Yang disturbance type [J]. Journal of medicine, 2013, 9 (3): 19-23.
- [11] Lu Liyan. Professor Yan Dexin's experience in treating apoplexy based on blood syndrome differentiation [J]. New traditional Chinese medicine, 2008,40 (1): 7 - 9.
- [12] Si Guomin. Experience of 165 cases of stroke in convalescence treated with traditional Chinese medicine [J]. Sichuan Traditional Chinese medicine, 2005,23 (3): 49 - 50.
- [13] Liu Jianhong. Treatment of 28 cases of acute ischemic stroke with Sanhua Decoction [J]. Western Chinese medicine, 2011, 24 (7): 61-63.
- [14] Yang Xiaoying, Zhang Genming. Clinical efficacy of Xinglou Chengqi Decoction in treating ischemic stroke [J]. Journal of Beijing University of traditional Chinese medicine: clinical edition of traditional Chinese medicine, 2009, 16 (3): 14-16.
- [15] Yu Li, Wei Jianglei. Application of heat clearing and detoxification method in acute stage of ischemic stroke [J]. Chinese Journal of emergency of traditional Chinese medicine, 2013,22 (5): 763-769.
- [16] Chen Yinyi. Effect of Huanglian Jiedu Decoction on serum IL-6 and TNF-a in patients with acute cerebral infarction [J]. Capital medicine, 2007, 4:35-36.
- [17] Zhou Jing, Deng Zhi, Dai Lei. Study on curative effect of Qingre Huayu II in treating ischemic stroke and its influence on neurological deficit score and TCM syndrome score [J]. World Journal of traditional Chinese medicine, 2014,9 (2): 183-188.
- [18] Zhang Qiang. Clinical observation of Shouwu Bushen formula in the treatment of acute ischemic stroke [J]. Chinese Journal of emergency medicine, 2010, 19 (10): 1661-1662.

- [19] Jin Jieting, Yang Jinlu. Peiyuan Tongnao capsule in the treatment of 102 cases of ischemic stroke of kidney deficiency and blood stasis type [J]. Shanghai Journal of traditional Chinese medicine, 2014,48 (5): 36.
- [20] Jiang Xuehua. Therapeutic effect of Yiqi Huoxue Granule on stroke sequela of qi deficiency and blood stasis type [J]. Journal of misdiagnosis of traditional Chinese medicine, 2012,12 (7): 1540-1541.
- [21] Zeng Qiquan, sun Zhifeng, Chen qiangsong, et al. Buyang Huanwu Decoction in the treatment of 30 cases of acute cerebral infarction [J]. Journal of traditional Chinese medicine, 2010,51 (2): 147-148.
- [22] Yu Xingjuan, Ding Yuanqing. Clinical study on treating ischemic stroke with Yiqi Huoxue Huatan Decoction [D] Shandong: Shandong University of traditional Chinese medicine, 2006:2-39.
- [23] Yang Yingmin. Treatment of 85 cases of ischemic stroke in convalescence with the method of Invigorating Qi and removing blood stasis. Zhejiang Journal of traditional Chinese medicine, 2009, 44 (6): 419.
- [24] Liu qunxia, Zhang huailiang, Li Dan. 60 cases of ischemic apoplexy treated with acupuncture and medicine [J]. Guangming traditional Chinese medicine, 2010, 25 (1): 74-75.
- [25] Zhang Lili. Application of acupuncture in the treatment of cerebral infarction [J]. Journal of practical medicine, 2012, 29 (10): 883-884.
- [26] Zhang Dan, Zhang Chunhong, Meng Zhihong. Therapeutic effect of "Tongguan Liqiao" acupuncture combined with rehabilitation training on dysphagia after ischemic stroke [J]. Chinese Journal of traditional Chinese medicine, 2018,33 (4): 1649-1652.