

Current Status of Research on Chinese Medicine Treatment and Rehabilitation Techniques for Stroke Limb Dysfunction

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Abstract: Stroke is a common cerebrovascular disease that can cause limb dysfunction, adversely affecting patients' daily lives. In recent years, Traditional Chinese Medicine (TCM) has played a significant role in the treatment and rehabilitation of limb dysfunction caused by stroke. Methods such as herbal decoctions, acupuncture, massage, herbal steaming, and bloodletting cupping have demonstrated significant therapeutic effects. Concurrently, TCM rehabilitation techniques are continuously advancing and improving, offering more treatment options for stroke patients with limb dysfunction. This paper discusses the current research on TCM treatments and rehabilitation techniques for limb dysfunction after stroke, aiming to provide valuable reference for clinical medical personnel.

Keywords: Stroke limb dysfunction; TCM treatment; Rehabilitation techniques

Introduction

Stroke, often referred to as 'apoplexy' in TCM, is a sudden disruption of blood supply to the brain, potentially influenced by various factors, leading to ischemic and hypoxic necrosis, unconsciousness, hemiplegia, and other neurological deficits^[1]. With the continuous development and

progress of modern medical technology, TCM treatments and rehabilitation techniques have shown unique advantages in the treatment of limb dysfunction after stroke. TCM treatments not only focus on the patient's overall physical condition but also emphasize individualized treatment to effectively promote the recovery of limb function. In this context, further in-



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depth research on the latest advancements in TCM treatments and rehabilitation techniques for stroke-related limb dysfunction is necessary to provide patients with effective treatment and rehabilitation methods, helping them return to normal life as soon as possible.

1. Etiology and Pathogenesis of Stroke Limb Dysfunction

According to traditional Chinese medicine (TCM), the etiology of limb dysfunction in stroke is closely related to factors such as qi and blood imbalance, visceral dysfunction and meridian obstruction. Chinese medicine generally refers to stroke as ‘apoplexy’, and its pathogenesis is relatively complex, generally due to the weakness of positive qi, liver and kidney yin deficiency, resulting in qi stagnation and blood stasis, and phlegm and turbid obstruction^[2]. Known as ‘apoplexy’ in TCM, its pathogenesis is relatively complex, often resulting from deficiencies in vital energy, liver, and kidney yin, leading to qi stagnation, blood stasis, and phlegm obstruction. These factors collectively prevent the smooth flow of qi and blood, disrupt visceral function, and obstruct meridians, causing limb dysfunction. Following a stroke, specific brain regions, especially those associated with motor functions, are damaged, leading to functional impairments such as hemiplegia, motor incoordination, and muscle weakness.

2. Overview of TCM Treatments and Rehabilitation Techniques for Stroke Limb Dysfunction:

2.1 Herbal Decoctions

As a kind of treatment unique to Chinese medicine, Chinese medicine soup is selected based on the theory of Chinese medicine and the specific conditions of the patient's illness. It exists in the form of liquid extracted from the decoction and soaking of medicines, which is easy to prepare and, due to its liquid nature, can be absorbed by the human body more rapidly, with the medicinal effect exerted quickly. The use of herbal tonics is particularly common when dealing with limb dysfunction such as that caused by stroke. Liang Xuefeng and other scholars have explained the concept of ‘evidence’ in Chinese medicine as a reflection of the essence of the disease, and the treatment should

be based on the differences of ‘evidence’, combined with clinical experience and etiology, and the principle of diagnosis and treatment should be specified into various types, such as deficiency of qi and blood, phlegm and phlegm in the collaterals, wind and yang, and deficiency of the liver and kidneys. The study of Wu Ming et al. showed that the reduced formula of tonifying yang and restoring five soups, together with acupuncture therapy, had a significant effect on relieving or even eliminating inflammation in limb dysfunction and restoring nerve function in stroke patients, which could help the patients to return to a normal life more quickly and effectively^[3].

2.2 Acupuncture

In Chinese medicine, the dysfunction of the limbs after a stroke is called ‘sinew paralysis’, which is mainly caused by the loss of the meridians and tendons. Acupuncture therapy, through precise stimulation of acupuncture points, can unclog the patient's meridians and regulate the flow of qi in the body, thus achieving the desired therapeutic goal. Numerous recent clinical studies have consistently confirmed that acupuncture is effective in improving limb dysfunction after stroke, helping to enhance the patient's limb function while reducing complications. Acupuncture therapy encompasses a variety of types, such as body, head, eye, abdominal, fire and floating needles^[4]. An empirical study by Zhao Duo et al. showed that combining acupuncture with rehabilitation training was beneficial to improving motor function in patients with spastic hemiparesis of the upper limbs after stroke, helping to regulate muscle tone, enhance patients' self-care ability, and further optimise their quality of life, which is of great value for reference and application in clinical practice.

2.3 Massage

Tui Na therapy combines the essence of modern anatomy with the concepts of traditional Chinese medicine, relying mainly on the delicate manipulation of the meridian system and specific acupoints in the patient's body. This treatment aims to harmonise the internal organs and tissues through precise pressure techniques, which in turn promotes local blood flow, opens up meridian blockages and balances qi and blood in the body, thus accelerating the metabolic process and helping to restore the patient's memory and muscle

strength. In addition, through appropriate massage, the limbs affected by dysfunction can be stimulated, which can not only prevent the occurrence of muscle atrophy, but also help to alleviate the state of excessive muscle tension or stiffness, and help patients gradually restore normal muscle function^[5].

2.4 Moxibustion

Moxibustion, anciently known as ‘moxibustion’ and often referred to as moxibustion, is a major feature of traditional Chinese medicine treatment, which uses mugwort as the main raw material, burned and applied directly or indirectly to acupuncture points on the surface of the body with hot compresses. Moxibustion occupies a pivotal position in traditional acupuncture therapy, with a variety of functions, including warming the meridians and collaterals, unobstructed flow of qi and blood, dispelling cold, dissolving dampness and stagnation, and eliminating swellings and relieving pain, etc. It is able to effectively regulate the various physiological functions of the human body in a bidirectional manner. It is particularly effective in improving muscle spasm in stroke patients caused by hemiplegia. Xiong Li and other researchers selected 124 cases of spastic paralysis of the lower limbs triggered by ischaemic stroke and randomly divided into two groups of 62 people each. On the basis of basic treatment, they performed assisted activities twice a day, including good limb position placement, neuromuscular electrical stimulation, bed rolling, knee and hip joint control training, foot dorsiflexion evoked training and standing balance training, etc., for 45 minutes each time. For the observation group, they added balance moxibustion treatment by applying moxibustion to specific acupoints on the affected limbs. It was found that this method, together with functional exercises, was extremely effective in relieving the symptoms of spastic hemiparesis, significantly improving the patients' balance and motor function, and also had a positive effect on preventing complications. Moxibustion can not only comprehensively improve the patient's whole body condition and physique, but also eliminate fatigue and play a good regulatory role. Due to its easy availability of materials, simple operation, low cost, and significant therapeutic effect, moxibustion has great practicality and promotion potential in clinical practice^[6].

2.5 Bloodletting and Cupping

Ancient literature refers to cupping as ‘Jiao Fa’. By piercing the skin and releasing blood, it can promote metabolism, eliminate blood stasis and unblock the meridians. The aim of jiao cupping therapy, which combines traditional acupuncture techniques and bloodletting therapy, is to expel blood stasis and relieve blockages, while also promoting the smooth flow of meridians and regulating qi and blood in the body, which can help relieve muscle spasms. Cheng Zhiqing and other researchers carried out local vibration therapy together with acupuncture and cupping on patients with spasticity of the upper limbs after unilateral stroke, and the results showed that after 4 weeks, the patients who received this comprehensive treatment showed better improvement in muscle tone, clinical efficacy, function of the upper limbs, and muscle mobility than the patients who only received local vibration therapy, which proved that acupuncture and cupping had a significant effect on the improvement of spasticity in the upper limbs' muscle function. The core of Chinese medicine treatment is to activate blood circulation, remove blood stasis, and regulate qi. Clinical studies by many scholars in China have shown that the combination of multiple therapies such as acupressure cupping, cerebral acupuncture, and acupressure, supplemented by rehabilitation training, can effectively promote the blood circulation of the brain and limbs of stroke patients, stimulate the nerve endings, activate the damaged nerve cells, and then improve the sensory and motor functions, enhance the ability to take care of themselves, and have a positive effect on the process of rehabilitation. It has a positive effect on the rehabilitation process.

2.6 Herbal Steaming

Fumigation is a traditional Chinese medical treatment in which the affected area is smoked or washed with steam produced by boiling herbs. This therapy utilises both the medicinal properties of the herbs and heat to raise the skin temperature, encourage capillary dilation, and speed up blood circulation and lymphatic flow. Fumigation soothes muscle tension, relieves spasms, improves localised pain, and is remarkably effective for problems such as stiff joints and limb dysfunction. It also promotes the body's absorption of medication and improves therapeutic efficiency, making it a gentle and

effective natural treatment. In post-stroke rehabilitation, Chinese medicine fumigation is often used in combination with other therapies to enhance the overall rehabilitation effect. Possessing a variety of effects, such as warming the meridians, promoting blood circulation, expelling cold and dampness, eliminating swelling and resolving knots, it has a bi-directional effect on regulating the functioning of various body systems, and especially shows excellent efficacy in relieving muscle spasms due to hemiplegia in stroke patients^[7]. Zou Na and other researchers explored the role of traditional Chinese medicine fumigation in the rehabilitation of post-stroke limb dysfunction, and found that combined with exercise therapy, it could significantly improve the muscle spasm condition of the patients and improve the flexibility of the joints of the upper limbs. Wang Yu and other scholars have adopted the compound therapy of acupuncture and traditional Chinese medicine fumigation, which confirms that these two methods have their own efficacy and synergistic effect with each other. Traditional Chinese medicine fumigation uses hot steam to warm up the patient's skin and dilate the capillaries, thus promoting the smooth flow of blood and lymphatic circulation. This therapy not only effectively relieves spasticity on one side of hemiplegia, but also significantly improves limb dysfunction, which plays an active role in promoting rehabilitation.

2.7 Rehabilitation Nursing

Rehabilitation nursing is a specialised medical care service mainly for patients with limited physical function or disabilities, such as stroke, post-trauma and post-surgery. Its goal is to help patients maximise the recovery, maintenance or improvement of their physical functions, enhance their quality of life and return to independent living as far as possible through a series of comprehensive interventions, including physiotherapy, occupational therapy, speech therapy and daily living skills training. Rehabilitation care emphasises individualised treatment plans, focuses on the psychological and social needs of the patient, and aims to promote holistic physical and psychological recovery, as well as providing continuity of support and guidance after discharge to ensure that the patient receives appropriate care at different stages. Stroke attacks are often sudden and rapidly evolving,

causing patients to experience loss of neurological function, which in turn leads to various degrees of limb dysfunction. In extreme cases, even after treatment, patients may not be able to fully regain their pre-morbid abilities, especially their ability to live independently, which puts tremendous pressure on patients, their families and even society. Although modern medical advances have significantly improved the survival rate of stroke patients, treatment options for physical dysfunction are still imperfect, so scientific and efficient rehabilitation care is crucial in the recovery process of patients. Studies have classified the rehabilitation process of stroke into three stages: initial (within 1 month after onset), intermediate (1-6 months) and long-term (more than 6 months). To help patients return to normal life as soon as possible, healthcare professionals should start guiding rehabilitation training as early as possible, within two weeks after stabilisation. Usually, 8 to 12 weeks after the onset of the disease is the best period for functional recovery, and if rehabilitation is continued correctly during this period, the survival rate of patients can be increased to 97%^[8]. Therefore, timely rehabilitation care is crucial to help rebuild patients' brain function and alleviate limb impairment. Rehabilitation care is not limited to the hospitalisation period, but also includes continuous guidance and care after discharge. With the development of medical care, the continuity of care model is attracting more and more attention. Extending hospital care services to the home environment after patients' discharge from hospitals is closer to the actual needs of patients and has the potential to play a greater role in clinical practice.

Conclusion

In summary, Chinese medicine has shown remarkable clinical effectiveness in treating limb dysfunction in stroke patients, but the research field still needs to be deepened. In the future, it is necessary to continuously promote rigorous scientific research design, optimise efficacy assessment criteria, and strengthen post-discharge follow-up of patients in order to accurately assess long-term efficacy so as to improve the credibility of research results. In this process, the unique advantages of TCM in coping with stroke should be explored in depth, and its application in clinical treatment and rehabilitation care should be

continuously broadened to provide more scientific, comprehensive and effective solutions for stroke patients in order to improve their quality of life.

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