

Progress in the study of external treatment of hypertension

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Abstract: At present, the death rate caused by cardiovascular diseases ranks high in China, and hypertension's is positively correlated with the onset of cardiovascular diseases, and with the continuous development of hypertension disease, the incidence of its complications cardiovascular diseases will increase. Therefore, at this stage, how to effectively control blood pressure is a problem that medical workers need to solve, and it is also the key to prevent cardiovascular and cerebrovascular diseases. With the development of Chinese medicine in recent years, the greater efficacy of internal and external treatment of internal diseases, as well as the easier acceptance of Chinese medicine external treatment to the general public, make Chinese medicine external treatment in the prevention and treatment of hypertension promising, with irreplaceable advantages, and is expected to become the main research direction in the future.

1. Introduction

Hypertension is characterized by increased arterial blood pressure in the body circulation (systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg), which can be accompanied by functional or organic damage to multiple organs ^[1]. In recent years, after the introduction of age standardization in China, the prevalence of hypertension has increased by 1.4% per year and its prevalence is positively correlated with age ^[2]. The increasing number of hypertension patients and unimproved elevated blood pressure may lead to irreversible damage to multiple organs, and further development can lead to major uncorrectable complications such as heart attack, heart failure, stroke, and cerebral hemorrhage, which can be life-threatening in severe cases. Therefore, the treatment of hypertension requires not only lowering but also stabilizing blood pressure so as to improve the quality of life of patients, and the external treatment of hypertension with Chinese medicine has an exact efficacy and obvious advantages, and has an irreplaceable role in the treatment.

2. Etiology and pathogenesis

However, according to its clinical symptoms, signs and complications, it can be classified as "liver yang", "dizziness" and "headache". It is also believed that the occurrence of this disease is mainly related to congenital deficiency of endowment, poor diet, emotional and mental disorders,

and deficiency of the body after a long illness. Modern medical practitioners believe that hypertension is mainly divided into two main pathological mechanisms: hyperactivity of liver and yang, and deficiency of both yin and yang^[3]. With different understanding, Qian Yuesheng et al^[4] found that the onset of hypertension is related to physical constitution, and phlegm-damp constitution is more dangerous for hypertensive patients; Xia Lili^[5] and other scholars believe that the loss of Qi and blood regulation is the fundamental pathological mechanism leading to hypertension; Sun Yankang et al^[6] found that "phlegm-stasis interconnection" is the main cause of primary hypertension. Sun Yankang et al^[7] found that "phlegm and blood stasis" is the main causative factor of primary hypertension; Sun Lingling^[8] and others speculated that its pathogenesis is closely related to genetic basis and diet and emotional environment. It can be seen that most medical doctors have different focuses on the understanding of refractory hypertension, but most of them focus on the dialectical treatment of the imbalance of the internal organs and yin and yang, and the disease is divided into deficiency and reality, with the actual symptoms blamed on wind, fire, phlegm and stasis, and the deficiency symptoms blamed on deficiency of qi and blood, yin and yang, and yin and essence.

3. Traditional Chinese medicine external treatment methods

3.1 Acupuncture Point Applying

Acupuncture point application is the representative treatment of internal diseases and external treatment, and is also one of the most commonly used external treatment methods in clinical practice, which is simple to use and has considerable curative effect. For example, the three volt paste embodies the Chinese medicine idea of winter and summer treatment and external treatment of internal diseases. Clinical acupuncture points for the prevention and treatment of hypertension are commonly used, such as Neiguan, Sanyinjiao, Shenqu, and Quchi points. Zeng Haiyan et al^[9] randomly divided 84 patients with hypertension with yin deficiency and yang hyperactivity into an observation group (treated with acupressure cream on top of the control group) and a control group (treated with conventional Western medicine), with 42 cases in each group. Liu Wei et al^[10] randomly divided 100 patients into control group (conventional western medicine treatment) and treatment group (control group treated with Chinese herbal acupressure) to observe the changes of systolic and diastolic blood pressure before and after the treatment, the total effective rate of the treatment group was 88.00%, which was significantly higher than that of the control group. The total efficiency of the treatment group was 88.00%, which was significantly higher than that of the control group. This shows that the use of acupressure in addition to conventional clinical treatment for hypertensive patients is not only simple and easy to accept, but also helps to stabilize blood pressure and improve the efficacy of treatment.

3.2 Tui Na treatment

It has been reported that the current compound techniques of Tui-Na in Chinese medicine for the treatment of hypertension mainly include pressing, kneading, pushing, wiping, moistening, patting, rolling, holding, plucking, stretching and sweeping, etc., according to the distribution of acupuncture points and anatomical structure according to the situation^[11]. Shoukas et al^[12] found that effective and correct tui-na techniques can trigger the cortical reflexes by acting on human acupuncture points, and then achieve central nervous system regulation, and Shoukas et al applied pressure on carotid sinus pressure receptors by pushing the bridge arch and other massage techniques to slow down the heart rate and dilate the peripheral blood vessels, thus achieving a hypotensive effect. Kang Zhi^[13] believed that Tui Na was sufficient to regulate qi, blood, yin and

yang, dissipate blood stasis, and open the ligaments, reflecting the TCM idea of seeking the root of the disease. Wang Qinjian ^[14] used 40 patients as the study subjects, and the treatment group was given the "force point pressure method", and the results showed that the total effective rate of the treatment group reached 81.20%, which is a considerable effect. Therefore, Tui Na is one of the effective ways to treat hypertension and consolidate the therapeutic effect.

3.3 Footbath treatment

Deng Lao once said, "In clinical work, the simpler the therapy, the more we cannot ignore its therapeutic effect, and the foot bath is a representative of this". According to traditional medicine [15], the foot corresponds to all five and six internal organs of the human body by projection, and the foot is the starting point of the three yin meridians and the end point of the three yang meridians of the foot. Zhang Guangqing and Qiu Dingrong [16] used 120 cases of hypertensive patients as clinical study subjects and applied Deng Lao's foot bath formula, and the experimental and control groups differed significantly and achieved better clinical efficacy. Therefore, foot bath, as an effective adjunctive therapy for hypertension, should be used along with standardized treatment of hypertension to improve symptoms and quality of life.

3.4 Music therapy

The theory of "five sounds to cure disease" was first described in the Yellow Emperor's Classic of Internal Medicine [17]. Zhou Jiaying et al [18] combined five-tone therapy with mind mapping to form a risk warning health education program and applied it to the health management of elderly patients with hypertension, and the results showed that the knowledge and treatment compliance scores of patients in the test group were higher after the intervention than those in the control group and before the intervention, and the blood pressure levels of patients in the test group were lower than those in the control group and before the intervention. Therefore, the health management of elderly hypertensive patients by using the risk warning health education program of five-tone therapy combined with thinking maps on the basis of conventional health education can improve patients' awareness of and compliance with the disease and improve patient satisfaction while lowering blood pressure. Liu Weili et al [19] suggested that the application of Chinese medicine five-tone therapy intervention for hypertension could have the effect of mobilizing the blood vessels and soothing the mind and body, achieving the effect of health maintenance and treatment. It was concluded that acupuncture point application combined with music therapy was effective in the treatment of primary hypertension in young and middle-aged people and could be promoted for clinical use.

3.5 Acupuncture therapy

The acupuncture therapy is guided by the theory of meridians and acupoints through different acupuncture techniques in order to achieve the effect of unblocking the meridians and channels, helping to eliminate the evil and harmonizing yin and yang. Studies have confirmed that acupuncture can achieve the effect of lowering blood pressure, and the clinical efficacy is very good. In terms of antihypertensive mechanism, studies have confirmed that it is closely related to the renin-angiotensin-aldosterone system, neural mechanisms, vascular endothelial function, and oxidative stress ^[20]. As an extra-meridian point, the "four flower points" have been shown to be effective in the treatment of hypertension ^[21]. Gao Bin et al ^[22] found that the clinical symptoms of patients treated with conventional western medicine improved, but the blood pressure fluctuated, and the use of acupuncture therapy combined with Chinese medicine in patients recovering from

hypertensive cerebral hemorrhage could alleviate the clinical symptoms and pain of patients, indicating that acupuncture therapy could not only lower blood pressure but also improve the prognosis. Clinical studies have confirmed^[23] that acupuncture therapy is effective not only for mild cases of hypertension, but also for acute cases of hypertension, which can reduce the rate of neurological deficits, relieve symptoms, and rapidly lower blood pressure, and is worthy of clinical promotion.

3.6 Moxibustion therapy

Modern studies have shown^[24] that moxibustion can increase the level of diastolic factors and decrease the level of vasoconstrictor factors to antagonize the effect of elevated blood pressure and achieve the purpose of lowering blood pressure. Xu Su'e^[25] found that moxibustion could reduce SBP and DBP in 45 patients with first-episode prehypertension, and different treatment frequencies might affect the effect of moxibustion in regulating blood pressure. Zheng Liwei et al^[26] treated 59 cases of phlegm-damp congestion in randomized groups, 30 patients in the control group were treated with conventional therapy and health education, 29 patients in the observation group were treated with moxibustion therapy on the basis of interventions, taking bilateral Fenglong and Foot Sanli for moxibustion, and it was found that moxibustion therapy could reduce blood pressure, regulate blood lipids, and improve the Chinese medicine symptoms in patients with phlegm-damp congestion evidence of hypertension.

4. Summary

Only by continuously increasing the research progress on the external treatment of Chinese medicine in the prevention and treatment of hypertension, so that it can play an advantage in the treatment process, can Chinese medicine play a greater therapeutic role in the future medical field.

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