

Progress in Integrated Traditional Chinese and Western Medicine Therapy for Coronary Atherosclerotic Heart Disease

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Abstract: *Coronary heart disease, fully known as coronary atherosclerotic heart disease, refers to a heart disease caused by atherosclerosis in the coronary arteries, leading to lumen stenosis or occlusion and resulting in myocardial ischemia or necrosis. Currently, both traditional Chinese medicine and Western medicine have certain understandings and advantages in the treatment of coronary heart disease. Traditional Chinese medicine can be divided into internal and surgical treatments, while Western medicine can be divided into drug and surgical treatments. When choosing the clinical condition of patients, clinical treatment should be fully considered. This article analyzes the advantages of traditional Chinese medicine and Western medicine in clinical treatment, aiming to improve clinical efficacy, reduce the recurrence of heart failure, promote the recovery of cardiac function, and better protect heart health through the combination of traditional Chinese and Western medicine.*

Keywords: Coronary heart disease, Integration of traditional Chinese medicine and Western medicine, Traditional Chinese medicine, Western medicine, Research progress.

1. Introduction

Coronary heart disease, also known as coronary atherosclerotic heart disease, refers to a condition where atherosclerosis occurs in the coronary arteries, leading to narrowing or blockage of the vessel lumen, and subsequently causing myocardial ischemia, hypoxia or necrosis. The coronary arteries are the main blood vessels that supply blood to the heart muscle. When their internal walls become narrowed or blocked due to atherosclerosis, the heart's blood supply capacity decreases, thereby triggering a series of clinical symptoms. Modern Western medicine believes that the treatment methods for coronary heart disease include drug therapy, surgical treatment, and interventional therapy, etc. The specific treatment approach depends on the severity of the condition and the patient's individual circumstances. Currently, with the development of traditional Chinese medicine, significant progress has been made in the diagnosis and treatment of coronary heart disease in the field of traditional Chinese medicine. Therefore, this article systematically summarizes the diagnosis and treatment of coronary heart disease from both traditional Chinese and Western medicine perspectives, aiming to improve clinical efficacy, reduce the recurrence of angina pectoris, promote the recovery of cardiac function, and better protect heart health through the integration of traditional Chinese and Western medicine.

2. Understanding and Treatment of Coronary Heart Disease in Traditional Chinese Medicine

2.1 Etiology and Pathogenesis

In traditional Chinese medicine, coronary heart disease is classified under the categories of "chest obstruction" and "heart pain" based on its location of onset and main symptoms.

It was first recorded in the "Huangdi Neijing". It can be caused by various factors, such as qi stagnation and blood stasis, invasion of cold pathogen, improper diet, internal injury from the seven emotions, as well as aging and physical decline, and deficiency of vital energy. The disease is located in the heart and is related to the liver, spleen, lung and kidney. From the perspective of traditional Chinese medicine, the pathogenic factors of this disease are mainly divided into two types: "deficiency" and "excess". "Excess syndrome" includes "blood stasis" and "phlegm-dampness", while "deficiency syndrome" is characterized by "insufficiency of qi and blood". The main pathogenesis is "qi stagnation and blood stasis, and intermingling of phlegm and blood stasis".

2.2 Traditional Chinese Internal Medicine

2.2.1 Empirical Evidence

Empirical evidence mainly indicates that it is caused by the combined effect of phlegm-dampness and blood stasis. Phlegm and blood stasis accumulate in the blood vessels, so many clinicians take resolving phlegm and promoting blood circulation as the basic treatment method. The "Plain Questions: Chapter on the Theory of the Five Viscera and the Four Seasons" states: "For heart diseases, there will be chest pain, fullness in the sides, pain below the ribs, pain in the chest, back, shoulders and arms." These symptoms are consistent with those of angina pectoris in coronary heart disease. The medical master Zhang Zhongjing mentioned in "Essential Prescriptions from the Golden Cabinet": "For a person without fever or chills but short of breath and unable to catch their breath, it is a case of excess. For chest obstruction, symptoms include shortness of breath, coughing, chest and back pain, and shortness of breath. The pulse at the cun position is deep and slow, and slightly tight and rapid at the guan position. The prescription of Gualou Xiebai Baijiu Decoction is recommended." This formula consists of Gualou (*Trichosanthes kirilowii*), Xiebai (*Allium tuberosum*), and

Baijiu (white liquor). In the formula, Gualou is bitter and cold, promoting the elimination of phlegm and the descent of qi, and relieving chest tightness; Xiebai is pungent and warm, promoting yang and resolving stasis to relieve pain; Baijiu promotes yang and assists the efficacy of the other ingredients, allowing the obstruction to be relieved and the chest yang to be invigorated, thus resolving all symptoms.

Zhang Cuiying and Zhang Zhixiang [1] adopted the method of resolving phlegm, removing blood stasis and detoxifying, with *Trichosanthes kirilowii* as the main drug, and self-prescribed a formula to treat unstable angina pectoris of coronary heart disease (with symptoms of phlegm and blood stasis obstruction and internal heat toxicity). They achieved satisfactory therapeutic effects. After standardized treatment with this formula for 45 patients, the total effective rate of the treatment group was 91.11%, which proved that this formula played an important role in alleviating the disease and improving clinical efficacy.

He Yinhui et al. [2] hold that this disease is caused by phlegm coagulation and blood stasis obstruction, with long-term retention of phlegm turbidity and mutual obstruction of phlegm and blood stasis, leading to chest pain. Therefore, Jiawei Gualou Xiebai Banxia Decoction is selected to Promote Yang and Relieve Stagnation, Regulate Qi, and Eliminate Phlegm." They applied this formula in the clinical treatment of 58 patients with effort angina pectoris due to coronary heart disease. The results showed that the total effective rate was 86.21%, indicating that this formula can significantly improve the clinical therapeutic effect, promote the coordination of cardiac function, facilitate blood circulation, and eliminate blood stasis. It also reduces the recurrence rate of angina pectoris.

Research shows that the combination of Gualou Xiebai Baijiu Decoction and Dan Shen Injection at Xinshu acupoint has a certain promoting effect on the treatment of angina pectoris due to coronary heart disease. Tong Fenfen et al. [3] selected 92 patients with angina pectoris due to coronary heart disease and randomly divided them into a treatment group and a control group, with 46 cases in each group. The results showed that the total effective rate of the treatment group treated with Gualou Xiebai Baijiu Decoction combined with Dan Shen Injection at Xinshu acupoint was 93.5%. Therefore, this method can quickly relieve symptoms, reduce the occurrence of angina pectoris, and promote the recovery of patients.

2.2.2 Deficiency Syndrome

Another important cause of coronary heart disease is "deficiency of the body's own essence". The "Huangdi Neijing" records, "When the body's vital energy is strong, external pathogenic factors cannot invade; when pathogenic factors accumulate, it indicates that the body's vital energy is weak." In the "Essential Prescriptions from the Golden Cabinet", under the chapter on chest tightness, heart pain, and shortness of breath (Chapter 9), it is stated, "The master said: When diagnosing the pulse, one should focus on whether it is excessive or insufficient. If the pulse is weak in Yang and taut in Yin, it indicates chest tightness and pain. The reason for this is extreme deficiency. Now, since the Yang deficiency is

in the upper part of the body, the chest tightness and heart pain are due to the taut Yin pulse."

Modern medical expert Guo Qi [4] treated the disease based on the five internal organs: 1) For the method of tonifying the spleen and nourishing the heart, benefiting qi and generating blood, the prescriptions of Shengmai San and Guipi Tang were modified to replenish the source of qi and blood production, ensuring abundant blood and unobstructed meridians, thus nourishing the heart. There were also methods of strengthening the spleen and warming yang, eliminating phlegm and dispelling cold, with prescriptions like Wen Dan Tang modified; and methods of strengthening the spleen and benefiting qi, promoting blood circulation and removing blood stasis, with Danshen Yin modified. 2) For the method of soothing the liver and regulating qi, eliminating phlegm and removing blood stasis, prescriptions like Chaihu Shugan San and Yueju Wan were modified; there were also methods of clearing liver heat and nourishing the heart to calm the spirit, with Danzhi Xiaoyao San and Suanzaoren Tang modified; and methods of warming the meridians and dispelling cold, warming the liver and unblocking the meridians, with prescriptions like Danggui Sini Tang, Guizhi Jia Gui Tang or Zhishi Xiebai Guizhi Tang modified; and methods of nourishing yin, softening the liver, calming the heart and soothing the spirit, with prescriptions like Buxian Tang and Yiguanjian modified to nourish yin and enrich blood. 3) For the method of nourishing kidney yin, prescriptions like Liuwei Dihuang Wan and Zuogui Wan were modified to treat the syndrome of water in the lower jiao failing to ascend to nourish the heart, resulting in excessive heart fire; there were also methods of warming and tonifying kidney yang and qi, with prescriptions like Jingui Shenqi Wan, Yougui Wan and Zhenwu Tang modified to treat the syndrome of the five internal organs losing warmth, spleen yang deficiency, and inability to transform water and dampness, which accumulate to form phlegm and block the heart meridians. 4) For the method of tonifying the lung and benefiting qi, promoting blood circulation and removing blood stasis, Baoyuan Tang combined with Danshen Yin were modified; if lung qi deficiency and insufficiency of zongqi occurred, it could lead to heart qi deficiency. Qi is the leader of blood, and qi deficiency would result in weak blood circulation and blood stasis, causing coronary heart disease; for the method of regulating qi and purging the lung, eliminating phlegm and removing fluid retention, Erchen Tang, Tingli Dazao Tang and Sanren Tang were modified to treat the syndrome of lung qi dysfunction, fluid retention and phlegm accumulation, and phlegm blocking the meridians, with the meridians being blocked, thus regulating qi and purging the lung, eliminating phlegm and removing fluid retention.

2.3 External Treatments in Traditional Chinese Medicine

The external treatment of ovarian cysts with traditional Chinese medicine mainly includes acupuncture, moxibustion, acupoint application, massage therapy and other methods. The external treatment of traditional Chinese medicine has significant importance in modern clinical applications because it is simple and convenient to operate and has remarkable clinical effects.

Acupuncture therapy involves stimulating corresponding

acupoints through needle insertion or moxibustion to conduct and activate the qi along the meridians, promote the circulation of blood and qi, and balance yin and yang, thereby achieving the effect of unblocking the heart meridian and strengthening the heart yang. In clinical practice, the Ren meridian acupoint Danzhong, the Bladder meridian acupoint Xinshu of the Foot-Taiyang meridian, and the Pericardium meridian acupoint Neiguan of the Hand-Jueyin meridian are commonly used for treating angina pectoris due to coronary heart disease [5]. Ding Dong [6] treated 30 patients with angina pectoris due to coronary heart disease with acupuncture (main acupoints being Danzhong, Neiguan, Xinshu, and Jueyinshu) and compared the results with those of 30 patients treated with Compound Danshen Dropping Pills. After one year, the effective rate of acupuncture treatment was 93.3%, significantly higher than that of the control group.

Acupoint application therapy combines the theory of meridians and the eight principles of syndrome differentiation. It involves applying drugs to specific acupoints to stimulate the meridians through the absorption of the drugs, achieving effects such as promoting blood circulation and removing blood stasis, relaxing muscles and tendons, clearing heat and relieving pain. Chen Ruili et al. [7] randomly divided 80 patients with angina pectoris due to coronary heart disease into two groups. The control group was treated with nitroglycerin or nifedipine, while the experimental group was treated with traditional Chinese medicine acupoint application (the drug composition included: *Salvia miltiorrhiza*, *Pueraria lobata*, *Astragalus membranaceus*, borneol, *Aquilaria sinensis*, *Hirudo nipponia*, *Panax notoginseng*, and musk. The selected acupoints were Neiguan, Zhongfu, Xinshu, and Jue). The results showed that the effective rate of the experimental group (95%) was significantly higher than that of the control group (80%).

Massage therapy is one of the traditional external treatment methods in traditional Chinese medicine. For treating coronary heart disease, acupoints such as Neiguan and Xinshu are often selected. By applying gentle massage techniques or acupoint pressing, it aims to warm and invigorate heart yang, promote blood circulation and remove blood stasis, regulate qi and relieve pain, and nourish the kidney and heart. Zhang Hongxia et al. [8] randomly divided patients with coronary heart disease into two groups: the control group was treated with Danshen injection; the treatment group, on the basis of the control group, selected acupoints such as Neiguan, Gongsun, Shenmen, Zusanli, and Sanyinjiao. For patients with phlegm obstruction, Fenglong was added; for those with blood stasis, Xuehai was added; and for those with qi stagnation, Taichong was added. The massage techniques used included finger rubbing, point rubbing, and pressing. Results: The treatment group showed better therapeutic effects on angina pectoris, higher effective rates in improving electrocardiograms, and greater improvements in hemorheology compared to the control group.

Moxibustion refers to the therapeutic effect achieved by leveraging the medicinal power of mugwort leaves, combined with gentle and sustained heat, and relying on meridians and acupoints. Clinical studies have shown that its mechanism of action mainly involves anti-atherosclerosis and stabilizing atherosclerotic plaques, thereby treating angina pectoris.

Wang Jing et al. [9] divided 120 patients with coronary heart disease and angina pectoris into a treatment group and a control group. The treatment group, in addition to oral Western medicine, was given intermittent moxibustion with medicinal intervention and bloodletting at the Xulie acupoint. The improvement in clinical symptoms of angina pectoris, electrocardiogram (ECG), and ambulatory ECG in the treatment group was superior to that in the control group.

3. Western Medicine's Understanding and Treatment of Coronary Heart Disease

3.1 Causes of the Disease

The main cause of coronary heart disease is atherosclerosis. The development of coronary heart disease is usually associated with multiple factors, including hypertension, hyperlipidemia, diabetes, smoking, obesity, etc., which can accelerate the process of atherosclerosis. The clinical manifestations of coronary heart disease include angina pectoris, myocardial infarction, arrhythmia, etc. In severe cases, it may lead to heart failure or sudden death.

Research shows that the main mechanisms of coronary heart disease are as follows:

- 1) Atherosclerosis: Due to damage to the inner lining of the arteries, cholesterol and other lipid substances gradually deposit on the vessel walls, forming plaques, which lead to arterial narrowing and hardening.
- 2) Insufficient coronary artery blood supply: When the coronary arteries are narrowed or blocked, the heart muscle cannot obtain sufficient blood and oxygen, resulting in angina pectoris.
- 3) Thrombosis: When plaques rupture, they trigger platelet aggregation and thrombosis, further exacerbating arterial blockage and even causing myocardial infarction.

3.2 Drug Therapy

Most patients with early coronary heart disease have no obvious symptoms, but as atherosclerosis progresses, symptoms such as chest pain and shortness of breath may occur. Drug therapy is the core of the entire management of coronary heart disease and is applicable to all patients, especially those who cannot tolerate surgery or have low-risk lesions. For patients with stable coronary heart disease or low-risk lesions, drug therapy is the main approach.

3.2.1 Western Medicine Treatment

Dual antiplatelet therapy, namely aspirin combined with P2Y12 inhibitors (such as ticagrelor), can significantly reduce the risk of thrombotic events. Current guidelines recommend that patients with coronary heart disease after drug-eluting stent implantation take clopidogrel for at least one year and continue to take aspirin for life. [10]

Zhao Shuiping [11] believes that statins can prevent the occurrence of atherosclerosis, stop the progression of atherosclerotic plaques or cause them to regress, prevent and

relieve the symptoms of myocardial ischemia, prevent and treat acute coronary syndrome, and stabilize vulnerable myocardium. The IMPROVE-IT trial showed that ezetimibe combined with atorvastatin could further reduce the risk of cardiovascular events by 6.4%.

Chen Yunda [12] proposed that the therapeutic mechanism of beta-blockers for coronary heart disease can mainly be summarized as their inhibitory effect on the formation of coronary atherosclerotic plaques and their suppression of the sympathetic nervous system. Metoprolol improves angina symptoms by reducing myocardial oxygen consumption. The CIBIS-II trial confirmed that it reduces the mortality rate of heart failure patients by 34%.

3.2.2 Integrated Traditional Chinese and Western Medicine Treatment

Ye Taisheng [13] analyzed 23 randomized trials on the overall therapeutic effect of Compound Danshen Dropping Pills in treating coronary heart disease. The results showed that Compound Danshen Dropping Pills could significantly relieve the symptoms of angina pectoris in patients with coronary heart disease and had good tolerance.

Tongxinluo Capsules can exert varying degrees of effects in multiple links such as abnormal lipid metabolism, changes in hemorheology, inflammatory response, oxidative stress, injury to vascular endothelial cell function, intimal hyperplasia of the vessel wall, inflammation of the adventitia and angiogenesis of the adventitial nourishing vessels, and can play an anti-atherosclerotic role from multiple aspects. It is an excellent choice for clinical treatment of atherosclerosis [14].

3.3 Interventional Therapy

For patients with high-risk lesions (such as left main coronary artery stenosis > 50%, multi-vessel disease with diabetes) or acute coronary syndrome, revascularization is the core treatment strategy.

Interventional therapy is a minimally invasive cardiovascular surgery. By puncturing the blood vessels in the wrist or groin, it uses cardiac catheterization techniques to mechanically dilate and implant stents in the lesion sites of the coronary arteries, thereby improving myocardial blood supply. This treatment method does not require general anesthesia or thoracotomy, and it features small trauma, quick postoperative recovery and remarkable therapeutic effects.

4. Conclusion

Coronary heart disease, as a chronic progressive disease involving the coronary arteries, requires a treatment strategy based on a comprehensive decision-making process that takes into account the severity of the lesion, symptom presentation, and patient risk characteristics. Although its pathogenesis has not been fully elucidated, the collaborative development of Western medicine, surgical techniques, and traditional Chinese medicine theories has significantly enhanced the efficiency of disease management.

Traditional Chinese medicine emphasizes overall regulation

and treating both the symptoms and root causes, with syndrome differentiation and treatment as the core. Differentiating various syndrome types such as qi stagnation and blood stasis, phlegm turbidity obstruction, and deficiency of heart and kidney yang, individualized herbal prescriptions are used to “activate blood circulation, unblock meridians, and resolve phlegm to relieve obstruction”. In addition, acupuncture, moxibustion, acupoint application, and massage therapy can be combined to enhance the therapeutic effect of traditional Chinese medicine and alleviate patient pain. Moreover, due to the obvious therapeutic effect and lack of significant side effects of traditional Chinese medicine, its ability to relieve pain has been widely recognized. In Western medicine, anticoagulant drugs, lipid-lowering drugs, beta-blockers, angiotensin-converting enzyme inhibitors (ACEI)/angiotensin II receptor antagonists (ARB), nitrates, and calcium channel blockers (CCB) are commonly used for conservative drug treatment of coronary heart disease.

However, for patients with stable angina pectoris, unstable angina pectoris, non-ST-segment elevation myocardial infarction, ST-segment elevation myocardial infarction, restenosis after percutaneous coronary intervention (PCI), and other indications, surgical treatment is still recommended in clinical practice.

In short, modern medicine offers various treatment methods for coronary heart disease, allowing for the selection of treatment plans based on the patient's clinical situation. A comprehensive treatment plan combining traditional Chinese and Western medicine can effectively make up for the shortcomings of both, better remove plaques, reduce the recurrence of coronary heart disease, and promote the normal recovery of cardiac physiological functions. The integration of traditional Chinese and Western medicine and the in-depth study of the treatment of coronary heart disease and other cardiovascular diseases have significant clinical significance.

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