Integrated Traditional Chinese and Western Medicine Therapy for Myocardial Infarction

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Abstract: Myocardial infarction (MI) is an acute and critical cardiovascular disease characterized by acute myocardial ischemia and necrosis due to coronary artery occlusion. It has the characteristics of high morbidity, rapid progression, and high mortality, seriously threatening human life and health. Western medicine has mature treatment systems for MI, such as reperfusion therapy, antiplatelet aggregation, and lipid-lowering therapy, which can quickly relieve acute symptoms but have limitations in improving long-term prognosis and reducing complications. Traditional Chinese Medicine (TCM), based on the holistic concept and syndrome differentiation and treatment, has unique advantages in regulating qi and blood, unblocking collaterals, and promoting myocardial repair. Integrated Traditional Chinese and Western Medicine (TCM-WM) therapy combines the advantages of both, complementing each other to optimize the treatment effect.

Keywords: Integrated Traditional Chinese and Western Medicine;Myocardial infarction;Syndrome differentiation and treatment;Reperfusion therapy;Rehabilitation nursing

1. Theoretical Basis of Integrated TCM-WM Therapy for Myocardial Infarction

1.1 TCM Theoretical Cognition of Myocardial Infarction

In TCM, MI belongs to the categories of “chest pain,” “heart stuffiness,” and “syncope due to heart disease.” Its occurrence is closely related to congenital deficiency, old age and physical decline, improper diet, emotional disorders, and cold pathogen invasion. The core pathogenesis of MI is “qi deficiency and blood stasis,” which runs through the entire course of the disease. Qi is the driving force of blood circulation; when qi is deficient, it fails to promote blood circulation, leading to blood stasis blocking the heart collaterals, resulting in chest pain. In addition, phlegm-damp obstruction, cold coagulation, and qi stagnation are also important pathological factors.

1.2 Western Medicine Pathophysiological Mechanism of Myocardial Infarction

Western medicine holds that MI is caused by the rupture of atherosclerotic plaques in the coronary arteries, leading to platelet aggregation and thrombosis, which acutely occludes the coronary lumen.The key pathophysiological process is acute myocardial ischemia and hypoxia. When the coronary artery is occluded for more than 20-30 minutes, myocardial cells begin to undergo irreversible necrosis. The extent of myocardial necrosis is related to the location and duration of occlusion: the longer the occlusion time, the larger the necrotic area, and the higher the risk of complications such as heart failure and arrhythmia. In addition, the body’s excessive inflammatory response after MI, oxidative stress, and myocardial remodeling are important factors affecting prognosis. The inflammatory response can aggravate myocardial damage, while myocardial remodeling after necrosis leads to ventricular hypertrophy and decreased cardiac function, affecting long-term cardiac function.

1.3 Convergence Points of TCM and Western Medicine Theories

Although TCM and Western medicine have different theoretical systems, there is a clear convergence in the treatment of MI, providing a basis for integrated therapy.

In terms of therapeutic goals, both aim to relieve symptoms, protect cardiac function, reduce complications, and improve prognosis. Western medicine focuses on quickly unblocking the occluded coronary arteries to restore perfusion, while TCM focuses on regulating qi and blood to unblock collaterals, and both achieve the goal of improving myocardial ischemia[1].

In terms of pathological targeting, TCM’s “blood stasis” is consistent with Western medicine’s “thrombosis and microcirculation disturbance”; TCM’s “qi deficiency” is related to Western medicine’s “myocardial dysfunction and decreased cardiac reserve capacity”; TCM’s “phlegm-damp” is associated with Western medicine’s “atherosclerotic plaque formation and inflammatory response.” This consistency makes it possible to combine TCM and Western medicine in targeted treatment.

In terms of treatment strategies, Western medicine’s rapid reperfusion therapy solves the “urgent problem” of acute occlusion, while TCM’s syndrome differentiation and treatment regulates the body’s internal environment, solves the “root problem” of qi deficiency and blood stasis, and forms a complementary relationship of “treating acute symptoms with Western medicine and chronic diseases with

TCM."

2.Clinical Application Paths of Integrated TCM-WM Therapy for Myocardial Infarction

2.1 Acute Phase: Emergency Treatment with Priority to Western Medicine and Supplementary TCM Therapy

Western medicine is the mainstay of treatment during this period. Emergency reperfusion therapy is performed as soon as possible: for patients within the time window, percutaneous coronary intervention (PCI) is the first choice to directly open the occluded coronary artery; for patients who cannot undergo PCI in time, thrombolytic therapy is used to dissolve the thrombus and restore blood flow. At the same time, standardized drug treatment is given, including dual antiplatelet therapy (aspirin combined with P2Y12 receptor antagonists), anticoagulant therapy (heparin, low-molecular-weight heparin), beta-blockers, angiotensin-converting enzyme inhibitors/angiotensin receptor blockers, and statins to prevent thrombosis recurrence, reduce myocardial oxygen consumption, and protect cardiac function.

TCM therapy is used as a supplement to assist in relieving symptoms and reducing the side effects of Western medicine. Based on syndrome differentiation, the main treatments are "activating blood circulation to remove blood stasis" and "relieving pain by unblocking collaterals." Representative prescriptions include Xuefu Zhuyu Decoction, Taohong Siwu Decoction, etc., which can improve microcirculation, reduce myocardial ischemia, and relieve chest pain. For patients with obvious qi deficiency, astragalus and codonopsis are added to replenish qi and promote blood circulation. In addition, TCM non-drug therapies such as acupoint massage (massaging Neiguan, Xinshu, Tanzhong and other acupoints) can be used to relieve chest pain and anxiety, and improve the tolerance of patients to Western medicine treatment.

2.2Recovery Phase:TCM-Based and Western Medicine-Supported Rehabilitation Program

Western medicine mainly adopts secondary prevention treatment during this period, adhering to long-term standardized medication to control risk factors such as hypertension, diabetes, and dyslipidemia. At the same time, gradual cardiac rehabilitation exercise is guided, starting from low-intensity activities such as walking, and gradually increasing the intensity and duration under the monitoring of heart rate and blood pressure to improve cardiac reserve function. Regular reexaminations are performed to adjust the treatment plan according to the recovery of cardiac function.

TCM therapy plays a leading role in regulating the body's constitution and promoting rehabilitation. Based on the core pathogenesis of "qi deficiency and blood stasis" in the recovery phase, the main therapeutic principles are "replenishing qi and activating blood circulation," "strengthening the spleen and nourishing the heart," and "nourishing yin and soothing the heart." Representative prescriptions include Buzhong Yiqi Decoction combined with Xuefu Zhuyu Decoction, Guipi Decoction, and Shengmai San. According to different syndromes, corresponding adjustments are made: for patients with phlegm-damp obstruction, add Poria cocos and Atractylodes macrocephala to resolve dampness and eliminate phlegm; for patients with yin deficiency and fire hyperactivity, add Ophiopogon japonicus and Schisandra chinensis to nourish yin and reduce fire.

3. Clinical Value and Potential Mechanisms of Integrated TCM-WM Therapy

3.1 Clinical Value

First, it improves the curative effect of acute phase treatment. The combination of Western medicine's rapid reperfusion and TCM's blood circulation promoting and collateral unblocking can quickly relieve chest pain, shortness of breath and other symptoms, improve myocardial microcirculation, and reduce the scope of myocardial necrosis. Compared with single Western medicine treatment, integrated therapy can improve the rate of myocardial perfusion recovery and reduce the incidence of no-reflow phenomenon after PCI.

Second, it reduces the incidence of complications. MI complications such as heart failure, arrhythmia, and post-infarction angina are important factors affecting prognosis. Integrated TCM-WM therapy can regulate the body's qi and blood balance, improve cardiac function, and reduce the occurrence of complications. For example, TCM's qi-tonifying and blood-circulating drugs can improve myocardial contractility and reduce the risk of heart failure; soothing the liver and relieving stagnation therapy can stabilize autonomic nerve function and reduce arrhythmia[2].

Third, it improves long-term prognosis and quality of life. The recovery phase integrated therapy focuses on "replenishing qi and strengthening the body" and "preventing recurrence," which can improve patients' physical fitness, enhance cardiac reserve function, and reduce the recurrence rate of MI and readmission rate. At the same time, TCM's holistic regulation can improve patients' fatigue, chest tightness, and other discomforts, and enhance their quality of life.

3.2 Potential Mechanisms

In terms of improving myocardial perfusion, Western medicine's PCI and thrombolytic therapy directly open the macro-coronary

arteries, while TCM's blood circulation promoting drugs (such as salvia miltiorrhiza, panax notoginseng) can dilate microvessels, improve microcirculation perfusion, and solve the problem of microcirculation obstruction that is difficult to solve by Western medicine alone.

In terms of anti-inflammatory and anti-oxidative stress, Western medicine's statins have a certain anti-inflammatory effect, while TCM's qi-tonifying and blood-circulating drugs (such as astragalus, angelica) can inhibit the overexpression of inflammatory factors, reduce oxidative stress response, and alleviate myocardial inflammatory damage, thereby reducing myocardial remodeling[3].

In terms of protecting myocardial cells, Western medicine's beta-blockers and cardioprotective drugs can reduce myocardial oxygen consumption and protect damaged myocardial cells. TCM's active ingredients (such as ginsenoside, salvianolic acid) can inhibit myocardial cell apoptosis, promote myocardial cell repair and regeneration, and enhance myocardial cell tolerance to ischemia and hypoxia.

In terms of regulating lipid metabolism and stabilizing plaques, Western medicine's statins are the main drugs for lipid-lowering and plaque stabilization. TCM's phlegm-resolving and blood-stasis-removing drugs can reduce blood lipid levels, inhibit the formation and rupture of atherosclerotic plaques, and delay the progression of coronary artery disease.

4.Conclusion

Myocardial infarction, as an acute and critical cardiovascular disease, requires a scientific and effective comprehensive treatment strategy. Integrated TCM-WM therapy combines the advantages of Western medicine's rapid emergency treatment and TCM's holistic regulation, forming a complementary treatment model of "treating acute symptoms with Western medicine and consolidating the root with TCM." It has significant clinical value in improving acute phase efficacy, reducing complications, improving long-term prognosis, and reducing Western medicine side effects.

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