ISSN 2616-5791 Vol.4, Issue 4: 48-54, DOI: 10.25236/AJMHS.2023.040408

Research progress of CHD combined with anxiety and depression in Chinese and Western medicine

Zhenzhen Li[1,a], Dongmin Liu[2,b,*], Youquan Lu[1,c]

[1]*Shaanxi University of Chinese Medicine, Xianyang, Shaanxi, 712046, China*
[2]*Affiliated Hospital of Shaanxi University of Chinese Medicine, Xianyang, Shaanxi, 712000, China*
[a]*632699314@qq.com*, [b]*2486168890@qq.com*, [c]*2979340776@qq.com*
[*]*Corresponding author*

Abstract: *Coronary atherosclerotic heart disease (CHD) is one of the common diseases of the cardiovascular system, and it is also a common disease that seriously endangers human health. Patients with CHD are usually combined with anxiety and depression. In recent years, a large number of studies have shown that the incidence of CHD combined with anxiety and depression is gradually increasing, which seriously affects the prognosis of the disease and the quality of life of patients. This article reviews the epidemiology, pathogenesis and treatment of traditional Chinese and Western medicine, and provides reference for clinical practice.*

Keywords: *CHD; anxiety; depression; Chinese and Western medicine*

1. Introduction

CHD is a cardiovascular disease caused by myocardial ischemia, hypoxia and necrosis caused by stenosis or obstruction of coronary artery lumen, which belongs to chest obstruction and true heart pain in traditional Chinese medicine. According to the China Cardiovascular Health and Disease Report 2021 [1], there are about 330 million people with cardiovascular disease (CVD) in China, of which CHD accounts for 11.39 million, and the mortality rate is increasing year by year. Anxiety and depression belong to the category of depression syndrome in traditional Chinese medicine; professor Hu Dayi [2] believes that CHD is closely related to psychological factors. Many patients with CHD are accompanied by anxiety and depression. According to his research, the incidence of anxiety in patients with CHD is about 45.8 %, and the incidence of depression is about 9.25 %. With the development of society, the incidence of CHD with anxiety and depression is gradually increasing; in this paper, the related research literatures of CHD complicated with anxiety and depression in recent years were sorted out, and the pathogenesis and treatment of traditional Chinese and Western medicine were reviewed.

2. Western understanding of CHD with anxiety and depression

2.1. Epidemiology

Clinically, cardiovascular disease complicated with psychological disorders is very common, and the incidence rate is gradually increasing. Stewart JC [3] and other scholars found that anxiety and depression have become independent factors in the development of CHD. Previous studies have shown that anxiety and depression often occur together and play an important role in CHD [4]; the study found [5] that the incidence of anxiety and depression in patients with CHD was 29.20 %, and the incidence of anxiety and depression in healthy subjects was 2.73 %. According to the survey [6], the prevalence of CHD combined with anxiety and depression is high, and the recognition rate is low. Therefore, clinical attention should be paid to the psychological state of patients with CHD while paying attention to their chest pain, chest tightness and other cardiovascular symptoms.

2.2. Pathogenesis

2.2.1. Inflammatory response and endothelial injury theory

CHD with anxiety and depression is generally recognized as a theory of inflammation, inflammation is an important factor leading to atherosclerosis [7], is an important part of the

ISSN 2616-5791 Vol.4, Issue 4: 48-54, DOI: 10.25236/AJMHS.2023.040408

development of CHD; depression and anxiety are related to the increase of serum hs-CRP level. The concentration of hs-CRP in serum increases with the severity of depression and anxiety [8], indicating that inflammation plays an important role in the pathogenesis of anxiety and depression. A study [9] showed that the levels of inflammatory factors MPO, LXA4, CRP, IL-8 and TNF-α in serum of patients with CHD complicated with anxiety and depression were significantly higher than those in patients with CHD without anxiety and depression, indicating that anxiety and depression will aggravate the inflammatory response in patients with CHD. At the same time, this study found that s VCAM-1 (soluble vascular adhesion factor-1), as a member of the immunoglobulin superfamily distributed in endothelial cells, was positively correlated with HADS-t, HADS-a and HADS-d in patients with anxiety and depression, while FMD and NMD were negatively correlated with HADS-t, HADS-a and HADS-d, suggesting that vascular endothelial function was severely impaired in patients with CHD complicated with anxiety and depression.

2.2.2. Neuroendocrine theory

Anxiety and depression can activate the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis (HPA). Excessive excitation of sympathetic nerve will cause activation of β1 receptor in sinoatrial node, atrioventricular node and myocardium, increase the concentration of potassium, sodium and calcium in cardiomyocytes, accelerate heart rate, enhance myocardial contractility, increase myocardial oxygen consumption and aggravate cardiac load. In addition, when the cardiac sympathetic nerve is excited, it will contract the coronary artery through the alpha receptor and reduce the myocardial blood supply; when sympathetic excitement, increasing the vertical stress on atherosclerotic plaques will aggravate the instability and rupture of plaques and increase the incidence of CHD [10]. The hyperfunction of HPA axis leads to the release of catecholamines into the blood, which not only acts on adrenergic receptors, but also leads to the imbalance of sympathetic and parasympathetic nerve activities and aggravates myocardial ischemia. And because of increased serum cortisol, leading to a variety of hormone disorders in the body, abnormal glucose and lipid metabolism, increased blood viscosity, slow blood flow, accelerate atherosclerosis, increase the risk of cardiovascular disease [11,12].

2.2.3. Platelet activity theory

Increased platelet aggregation activity can accelerate the formation of thrombus, which is one of the important risk factors for CHD. Studies have shown that [13] 5-hydroxytryptamine (5-HT) plays an important role in the pathogenesis of anxiety and depression. 5-HT binds to 5-HT receptors on platelets, causing myocardial ischemia and increasing the incidence of CHD. Zhuang Xiaoyin [14] found that the concentration of 5-HT in the serum of patients with anxiety and depression was significantly increased, which increased platelet activity and eventually led to the occurrence of cardiovascular disease.

2.2.4. Behavior theory

Clinically, the life rules and eating habits of patients with anxiety and depression are usually unreasonable, such as smoking, drinking, staying up late and other bad living habits, which are important pathogenic factors for CHD; in addition, the treatment compliance of patients with anxiety and depression is poor, and it is usually difficult to take medicine on time according to the doctor's advice, which affects the treatment effect of patients to a certain extent.

2.2.5. Other doctrines

At present, the pathogenesis of CHD complicated with anxiety and depression is not completely clear, which may also be related to adipokine theory and genetic factors.

3. TCM understanding of CHD with anxiety and depression

CHD belongs to the category of chest obstruction and true heart pain in traditional Chinese medicine. Clinically, it is mostly manifested as chest tightness and pain, even chest pain through the back, wheezing cannot lie down, and its main pathogenesis is heart vessel obstruction. Anxiety and depression belong to the category of depression syndrome and dirty irritability in traditional Chinese medicine. Clinically, they are mostly manifested as low mood, anxiety and tension, insomnia, etc. The main pathogenesis is emotional discomfort and qi stagnation. Suwen·Weilun said: Heart governs the blood of the body. Suwen Linglan's Secret Canon: The heart, the monarch's official, the gods come out. It shows that the heart has the physiological function of the main blood vessel and the main spirit. The heart of the blood and the heart of the gods represent the physical and spiritual levels respectively.

ISSN 2616-5791 Vol.4, Issue 4: 48-54, DOI: 10.25236/AJMHS.2023.040408

Suwen· Liujie Zangxiang Theory points out that the heart is the foundation of life and the change of God. It shows that the normal function of heart governing blood and mind directly affects the survival of life. Pivot meridian·Benshen ' said: Heart stores the pulse, and the pulse sheds the spirit, which reflects the close relationship between these two functions. On the one hand, the mind dominates the regulation of physiological activities of the whole body, including the beating of the heart itself and the promotion of blood circulation in the vessels. On the other hand, the mind depends on the nourishment of the heart's blood to play a normal dominant role. Under pathological conditions, the two interact with each other, such as tension, anger, anxiety and other mental changes will cause chest tightness and other discomfort, on the contrary, insufficient blood, blood disorders will appear mental trance, insomnia, anxiety, irritability and other mental disorders, clinical chest pain often combined with depression syndrome. Therefore, the heart and the mind, double heart physiological dependence, pathological damage. In the treatment of CHD with anxiety and depression, it is necessary to reflect the idea of treating spirit and qi, combining body and spirit in traditional Chinese medicine, that is, while treating heart , to identify and pay attention to the patient's psychological ' problems, double heart with disease and treatment [15].

At present, there is no uniform standard for the syndrome differentiation of CHD complicated with anxiety and depression in clinical practice. Su Xiang et al. [16] statistically analyzed the TCM syndromes of 445 patients with CHD complicated with anxiety and depression, and found that the order from high to low was qi stagnation and blood stasis, qi and yin deficiency, phlegm and blood stasis, qi deficiency and blood stasis, phlegm turbidity, heart and kidney yin deficiency, heart and kidney yang deficiency. According to the ' expert consensus on the diagnosis and treatment of integrated traditional Chinese and Western medicine for double heart disease [17] and many scholars ' research on TCM syndromes of CHD with anxiety and depression [18-21], it is believed that the TCM syndromes of CHD with anxiety and depression are mainly blood stasis, combined with qi stagnation, qi deficiency, phlegm turbidity and other syndrome elements. According to the principle of superposition of syndrome elements and combination of disease and syndrome, four basic treatments for CHD with anxiety and depression were proposed: regulating qi and activating blood, activating blood and resolving phlegm, benefiting qi and activating blood, soothing liver and regulating qi.

4. Western medicine treatment

At present, western medicine for the treatment of CHD with anxiety and depression is mostly based on the secondary prevention of CHD combined with anti-anxiety and depression treatment. Secondary prevention drugs for CHD mainly include: antiplatelet aggregation drugs, statins, nitrates, β-blockers, angiotensin converting enzyme inhibitors (ACEI) and angiotensin II receptor antagonists (ARB). Antianxiety and antidepressant drugs mainly include: tricyclic drugs, tetracyclic drugs, selective serotonin reuptake inhibitors (SSRIs), selective serotonin norepinephrine uptake inhibitors (SNRIs) and benzodiazepines [22-25]. Tricyclic drugs include imipramine and amitriptyline, but these drugs have been shown to have many other cardiotoxic effects, including orthostatic hypotension, prolonged QT interval, decreased heart rate variability and increased risk of hypertension [26].Therefore, patients with CHD should avoid using these drugs. Tetracyclic representative drug mirtazapine and SNRIs representative drug venlafaxine can improve anxiety and depression symptoms in patients with CHD and anxiety and depression, and can be used as second-line drug therapy. These two drugs will interact with cardiovascular drugs, resulting in bleeding, chronic arrhythmia and other risks [23]. SSRIs are the first-line anti-anxiety and anti-depression drugs. Studies have shown that [27, 28] SSRIs have high safety, definite curative effect, small side effects, and are relatively safe for patients with cardiovascular diseases. The representative drugs are sertraline and citalopram, but high-dose citalopram will lead to QTC interval prolongation. It is recommended that sertraline should be the first choice. Benzodiazepines are mainly used for the treatment of anxiety and insomnia, and can be used with selective serotonin reuptake inhibitors. Commonly used drugs include diazepam, estazolam, lorazepam, and alprazolam. It should be noted that long-term use of benzodiazepines is prone to dependence [29]. At present, the new drug compound preparation flupentixol melitracen (Deanxit) is also widely used in clinical practice; li Hongguo et al [30] found that elderly patients with CHD and anxiety and depression combined with flupentixol and melitracen tablets on the basis of basic treatment of CHD can significantly improve anxiety and depression while improving the efficacy of angina pectoris. Yan Chengying et al. [31] found that CHD patients with chest pain were more prone to anxiety and anxiety. Flupentixol and melitracen tablets and psychological counseling can improve patients' anxiety and depression.

Modern medical treatment of CHD with anxiety and depression often combines non-drug treatment,

ISSN 2616-5791 Vol.4, Issue 4: 48-54, DOI: 10.25236/AJMHS.2023.040408

such as music therapy, biofeedback therapy, psychotherapy, exercise therapy, etc., which is of great significance for its efficacy and prognosis.

5. TCM treatment

5.1. Traditional Chinese medicine decoction

According to the pathogenesis characteristics of CHD complicated with anxiety and depression, the treatment is mostly based on regulating qi, activating blood, resolving phlegm and soothing liver. Meta-analysis of traditional Chinese medicine decoction in the treatment of CHD with anxiety and depression showed that traditional Chinese medicine could significantly improve the anxiety of patients and improve the curative effect [32]. Yang Liqiang et al. [33] found that the application of modified Chaihu Shugan Powder in the treatment of CHD with anxiety and depression can improve the clinical efficacy and symptoms. Its prescription is based on the principle of soothing the liver and relieving depression, promoting qi and activating blood circulation. Its treatment not only treats the heart, liver and spleen at the same time, but also regulates qi and blood, phlegm and dampness. At the same time, it makes a clinical analysis of the intervention effect of modified Chaihu Shugan Powder in the treatment of CHD with anxiety and depression. The conclusion of the study shows that it can significantly improve the improvement of electrocardiogram in patients. SDS and SAS scores are better than the control group. Zhang Yuanwen et al. [34] conducted a meta-analysis of 25 articles on the treatment of CHD with anxiety and depression with Chaihu Plus Longgu Muli Decoction, a total of 1870 patients. The results showed that Chaihu Plus Longgu Muli Decoction could improve angina pectoris and ECG efficacy to a certain extent and improve the anxiety and depression scores of patients. Li Chengfang et al. [35] observed the clinical efficacy of 40 patients with CHD complicated with anxiety and depression treated with Chaihu plus Longgu Muli Decoction, and found that it could improve the anxiety and depression of patients and improve the efficacy. Gao Denan [36] studied 50 patients with CHD complicated with depression. The patients in the observation group were given Xuefu Zhuyu Decoction on the basis of basic treatment. The results showed that the total effective rate of the study group was higher than that of the control group, indicating that Xuefu Zhuyu Decoction had a significant effect on the treatment of CHD complicated with depression and had clinical promotion value. It can be seen that the current clinical treatment of CHD with anxiety and depression in patients with multiple in regulating qi, activating blood and resolving phlegm, traditional Chinese medicine decoction combined with western medicine, can enhance the efficacy, should be promoted in clinical practice.

5.2. Chinese patent medicines

Chinese patent medicine has the advantages of classic prescription, convenient carrying, low cost and so on. Its clinical use is based on TCM syndrome differentiation. The commonly used drugs are Xinkeshu, Yixinshu Capsule, Guanxinning Tablets and so on. Xinkeshu is used to treat CHD with anxiety, depression, qi stagnation and blood stasis. The scores of anxiety scale and depression scale before and after treatment are significantly reduced, and the symptoms of anxiety and depression and chest pain are significantly improved [37, 38]. Li et al. [39] observed the clinical efficacy of Yixinshu capsule in the treatment of anxiety and depression after percutaneous coronary intervention (PCI) for CHD. The results showed that it could improve the quality of life of patients after operation, reduce anxiety and depression, and improve prognosis. Huang Xiaocheng et al. [40] found that Guanxinning tablets have the effects of promoting qi and blood circulation, removing blood stasis and dredging collaterals to relieve pain, which can effectively improve the heart and depressive symptoms of patients, with high clinical efficacy and good safety. At present, the efficacy and safety of Chinese patent medicine are recognized, and it has become a common drug for clinical treatment of CHD with anxiety and depression.

5.3. Acupuncture treatment

The main treatment principle of acupuncture treatment is to relieve depression and tranquilize the mind, and to dredge collaterals and relieve pain. The acupoints are mainly acupoints on the governor vessel, hand jueyin pericardium meridian, hand shaoyin heart meridian and foot jueyin liver meridian. The study [41, 42] found that acupuncture treatment can significantly improve the patients insomnia and depression and anxiety, and has safety. Liu Lili [43] 60 patients with CHD and depression were randomly divided into treatment group (acupuncture Baihui, Danzhong and other points) and control

ISSN 2616-5791 Vol.4, Issue 4: 48-54, DOI: 10.25236/AJMHS.2023.040408

group (oral prozac). The results showed that the treatment group could significantly relieve the symptoms of precordial pain and improve the symptoms of anxiety and depression. Acupuncture treatment has the advantages of definite curative effect, small side effects and low cost. It is widely used in the treatment of CHD with anxiety and depression.

5.4. Traditional Chinese medicine characteristic exercise therapy

Traditional Chinese medicine characteristic exercise therapy mainly includes Baduanjin, Tai Chi and other characteristic exercises, which plays a great role in the adjuvant treatment of CHD combined with emotional diseases. Wu Yonghui et al. [44] found that Tai Chi and (or) Baduanjin exercise on the basis of secondary prevention drugs for CHD can improve anxiety and depression. Liu et al. [45] found that 24 forms of Tai Chi improved anxiety and depression symptoms after percutaneous coronary intervention (PCI), played a protective role in patients, and up-regulated the level of mi R-17-92. The characteristic exercise therapy of traditional Chinese medicine aims to regulate the mind and adjust the operation of qi and blood, so that the cardiac function and mood of patients can be significantly improved at the same time.

6. Summary

In recent years, with the rapid development of social economy, people's life and work pressure increases, the incidence of CHD combined with anxiety and depression is also increasing year by year. The treatment of CHD has also changed from the original biomedical model to the biological-psychological-social medical model. People also pay more attention to physical and psychological health. Anxiety and depression are risk factors for CHD. At present, the pathological mechanism of CHD complicated with anxiety and depression is not completely clear. Modern medicine is mainly treated with anti-anxiety and depression drugs, but anti-anxiety and depression drugs have side effects and poor compliance. A Bayesian network meta-analysis (NMA) analysis [46] showed that the drug treatment effect of CHD with anxiety or depression could not meet people's needs, and the side effects were obvious. Supplementary and alternative therapies play an increasingly active role, including Chinese herbal medicine, acupuncture and moxibustion, and traditional Chinese medicine characteristic exercise therapy. The syndrome differentiation and treatment of traditional Chinese medicine can improve the symptoms and reduce the toxic and side effects of western medicine. However, the research of traditional Chinese medicine is mainly based on small sample research, and the observation and follow-up time is not long enough, and there is still a large evidence-based space. Therefore, for the treatment of CHD with anxiety and depression, the combination of traditional Chinese and Western medicine should be advocated to achieve the purpose of enhancing the efficacy and reducing adverse reactions.

References

[1] Ma Liyuan, Wang Zengwu, Fan Jing, etc. Interpretation of the key points of China Cardiovascular Health and Disease Report 2021 [J].China General Practice, 2022, 25 (27) : 3331-3346.
[2] Hu Dayi. Integrated Management of Cardiovascular Diseases and Psychopsychological Disorders —Exploration of the Psycho-cardiology" Model [J]. Chinese Clinician, 2006 (05): 2-3.
[3] Stewart JC, Hawkins MA, Khambaty T, et al. Depression and Anxiety Screens as Predictors of 8-Year Incidence of Myocardial Infarction and Stroke in Primary Care Patients. Psychosom Med. 2016 Jun; 78(5):593-601.
[4] Gu G, Zhou Y, Zhang Y. et al. Increased prevalence of anxiety and depression symptoms in patients with coronary artery disease before and after percutaneous coronary intervention treatment. BMC Psychiatry. 2016 Jul 22; 16: 259.
[5] Zhu Jifang, Li Yuanqiong, Chen Chaorong, et al. Investigation of anxiety and depression status and influencing factors in patients with coronary heart disease. Laser Journal, 2014, 35 (9): 127-129.
[6] Li Xiaojing, Zhang Lan, Li Bin. Study on the diagnosis and treatment of depression and anxiety disorders in outpatients of Chengdu General Hospital [J]. Huaxi Medicine, 2011,26 (02) : 192-194.
[7] Taleb S. Inflammation in atherosclerosis. Arch Cardiovasc Dis. 2016 Dec; 109 (12): 708-715.
[8] Tayefi M, Shafiee M, Kazemi-Bajestani SMR. Depression and anxiety both associate with serum level of hs-CRP: A gender-stratified analysis in a population-based study. Psychoneuroendocrinology. 2017 Jul; 81: 63-69.
[9] Zhang Xiaolei, Zhao Yongfeng, Ren Yanchun, et al. The relationship between anxiety and

ISSN 2616-5791 Vol.4, Issue 4: 48-54, DOI: 10.25236/AJMHS.2023.040408

depression and inflammatory response and vascular endothelial function in patients with coronary heart disease [J].Chinese Journal of Evidence-based Cardiovascular Medicine, 2018, 10 (02): 199-202.

[10] Yang Yibo, Song Chunli, Shi Yongfeng, et al. Research progress on the negative mechanism of mental and psychological diseases on cardiovascular [J]. China Laboratory Diagnostics, 2016, 20 (08): 1408-1410.

[11] Goldston K, Baillie AJ. Depression and coronary heart disease: a review of the epidemiological evidence, pharmacological mechanisms and management approaches. Clin Psychol Rev. 2008 Feb; 28 (2): 288-306.

[12] Shi Jinyu, Wang Chao, Huang Lexi, et al. Research progress in the treatment of coronary heart disease with anxiety and depression [J].World Chinese Medicine, 2022,17 (14) : 2087-2091.

[13] Huang Yu. Advances in research on the association between depression and coronary heart disease [J]. Electronic Journal of Integrated Traditional Chinese and Western Medicine Cardiovascular Disease, 2018, 6 (10): 22-23.

[14] Zhuang X, Xu H, Fang Z, Xu C, et al. Platelet serotonin and serotonin transporter as peripheral surrogates in depression and anxiety patients. Eur J Pharmacol. 2018 Sep 5; 834:213-220.

[15] Fan Xinbiao, Fu Huanjie, Qi Zhongwen, et al. 'Blood-Vein-Heart-Spirit' integrated view of syndrome differentiation and treatment of coronary heart disease with anxiety and depression [J].Chinese Journal of Traditional Chinese Medicine, 2022, 37 (10) : 5798-5801.

[16] Su Xiang, Zhao Mingfen. Analysis of distribution characteristics and influencing factors of TCM syndromes in patients with coronary heart disease complicated with anxiety and depression [J].Liaoning Journal of Traditional Chinese Medicine, 2021,48 (05) : 14-18.

[17] Chen Xiaohu, Zhu Xianhui, Chen Jiandong, et al. Expert Consensus on the Diagnosis and Treatment of Double Heart Diseases with Integrated Traditional Chinese and Western Medicine [J]. China General Practice, 2017,20 (14) : 1659-1662.

[18] Chao Tiantian, Zhang Dawu, Sun Jinghui, et al. Modern literature research on the distribution characteristics of TCM syndromes and syndrome elements in coronary heart disease with anxiety or depression [J].World Science and Technology-Modernization of Traditional Chinese Medicine, 2020,22 (05) : 1405-1411.

[19] Liu Yong. Clinical evaluation of influencing factors, syndrome characteristics and intervention of promoting blood circulation and removing blood stasis in coronary heart disease with depression [D]. Beijing: Beijing University of Chinese Medicine, 2021.

[20] Sheng Ling. Study on the difference between TCM syndromes of coronary heart disease with depression and anxiety and 5-HT, IL6 and H-CRP [D]. Urumqi: Xinjiang Medical University, 2021.

[21] Wang Zehua. Study on the distribution of TCM syndromes and related influencing factors of coronary heart disease complicated with generalized anxiety disorder [D]. Tianjin: Tianjin University of Traditional Chinese Medicine, 2021.

[22] Gong Shan, Wang Longfei, Yu Guolong. Benefit and risk assessment of antidepressants in patients with cardiovascular disease [J].Pharmaceutical Review, 2018, 37 (10): 1194-1198.

[23] Gao Yang, Zhou Hongdan, Yang Yutong, et al. Research progress on coronary heart disease with anxiety and depression [J]. China Primary Health Care, 2019, 33 (12): 74-77.

[24] Almog R, Carasso S, Lavi I, et al. The risk for a first acute coronary syndrome in patients treated with different types of antidepressants: A population based nested case-control study. Int J Cardiol. 2018 Sep 15; 267:28-34.

[25] Andrade C, Kumar CB, Surya S. Cardiovascular mechanisms of SSRI drugs and their benefits and risks in ischemic heart disease and heart failure. 28 (3): 145-55.

[26] Hamer M, Batty GD, Seldenrijk A, et al. Antidepressant medication use and future risk of cardiovascular disease: the Scottish Health Survey. Eur Heart J. 2011 Feb; 32 (4): 437-42.

[27] Thom RP, Alexander JL, Baron D, et al. Selective Serotonin Reuptake Inhibitors: How Long Is Long Enough? J Psychiatr Pract. 2021 Sep 16; 27 (5): 361-371.

[28] Post-Myocardial Infarction Depression Clinical Practice Guideline Panel. AAFP guideline for the detection and management of post-myocardial infarction depression. Ann Fam Med. 2009 Jan-Feb; 7(1):71-9.

[29] Liu Chunping, Cui Zhenshuang. The clinical diagnosis and treatment strategy of coronary atherosclerotic heart disease with anxiety and depression [J]. Chinese Journal of Clinicians, 2022, 50 (04): 385-387.

[30] Li Hongguo, Ge Jinhua. Observation on the effect of Deanxit in the treatment of senile coronary heart disease with anxiety and depression [J].Integrated Chinese and Western Medicine Cardiovascular Electronic Journal, 2015, 3 (33) : 55-56.

[31] Yan Chengying, Wang Xiaoyong, Wen Yuanshan, et al. The characteristics of anxiety and

ISSN 2616-5791 Vol.4, Issue 4: 48-54, DOI: 10.25236/AJMHS.2023.040408

depression in patients with coronary heart disease and the value of drug intervention [J].Chinese Journal of Evidence-based Cardiovascular Medicine, 2018,10 (11) : 1351-1353.
[32] Wang C, Hou J, Yan S, et al. Chinese herbal medicine therapy for coronary heart disease complicated with anxiety: a systematic review of randomized controlled trials. J Tradit Chin Med. 2020 Feb; 40 (1): 1-16.
[33] Yang Liqiang, Ji Fanxia, Chen Lin, et al. Clinical observation of Jiawei Chaihu Shugan Powder in the treatment of coronary heart disease complicated with depression [J].Journal of Guangxi University of Traditional Chinese Medicine, 2020,23 (01) : 1-4.
[34] Zhang Yuanwen, Yuan Tianhui, Pan Jianlue, et al. Meta-analysis of Chaihu Jia Longgu Muli Decoction in the treatment of coronary heart disease with anxiety and depression [J].New Chinese medicine and clinical pharmacology, 2022,33 (10) : 1435-1444.
[35] Li Chengfang. Clinical Observation on 40 Cases of Angina Pectoris of Coronary Heart Disease Complicated with Anxiety and Depression Treated and Western Medicine [J].Chinese Folk Medicine, 2018,27 (12) : 118-120.
[36] Gao Denan. Clinical observation of Xuefu Zhuyu Decoction in the treatment of coronary heart disease with mild depression [J].Integrated Chinese and Western Medicine Cardiovascular Disease Electronic Journal, 2019, 7 (26): 146 + 158.
[37] Zhan Ping, Wu Lijun, Wang Xinghui, et al. Clinical efficacy of Xinkeshu in the treatment of anxiety and depression after PCI for coronary heart disease [J].Integrated Chinese and Western Medicine Journal of Cardio-cerebrovascular Disease, 2017,15 (23) : 2960-2962.
[38] Hou Yingwei. Effect of Xinkeshu Tablets on anxiety and quality of life in patients with coronary heart disease after percutaneous coronary intervention [J]. China Contemporary Medicine, 2020, 27 (22): 66-68 + 72.
[39] Li Che, Jiang Jun. Effect of Yixinshu capsule on quality of life, anxiety and depression in patients after PCI [J].Journal of Nanjing University of Chinese Medicine, 2017,33 (03) : 242-244.
[40] Huang Xiaocheng, Jiang Ruilai, Li Li, etc. Clinical Study of Guanxinning Tablets in the Treatment of Coronary Heart Disease Complicated with Depression [J].New Chinese Medicine, 2020,52 (18) : 72-75.
[41] Zhang Yaoxiao, Hui Ruting, Tang Yu, etc. Effect of acupuncture intervention on insomnia with depression [J]. Chinese Journal of Traditional Chinese Medicine, 2020, 35 (08): 4271-4274.
[42] Ma Ruijie, Chen Weiji, Xu Xia, et al. A randomized controlled study on the treatment of insomnia with anxiety by harmonizing stomach acupuncture [J]. Chinese Journal of Traditional Chinese Medicine, 2019, 34 (02): 834-837.
[43] Liu Lili. Effect of acupuncture on electrocardiogram of coronary heart disease with depression [J].Journal of Clinical Acupuncture, 2009, 25 (11): 23-24.
[44] Wu Yonghui, Chen Ouying, Luo Yaoyue, et al. Application of Tai Chi and Baduanjin in improving anxiety and depression in patients with coronary heart disease [J].Nursing research, 2016,30 (32) : 4050-4052.
[45] Liu J, Yu P, Lv W. Wang X. The 24-Form Tai Chi Improves Anxiety and Depression and Upregulates miR-17-92 in Coronary Heart Disease Patients after Percutaneous Coronary Intervention. Front Physiol. 2020 Mar 11; 11: 149.
[46] Han X, Liu X, Zhong F. Comparison of efficacy and safety of complementary and alternative therapies for coronary heart disease complicated with anxiety or depression disorder: A protocol for Bayesian network meta-analysis. Medicine (Baltimore). 2021 Mar 26; 100 (12): e25084.