

# Research Progress of Traditional Chinese Medicine in the Treatment of Chronic Heart Failure

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**Abstract:** *Chronic heart failure is a relatively complex chronic disease that occurs on the basis of previous heart disease, characterized by a decrease in the heart's ability to pump blood and an insufficient output that cannot meet the body's metabolic needs. In traditional Chinese medicine, chronic heart failure is believed to have a basic pathogenesis of deficiency with excess, primarily involving deficiency and yang deficiency of heart qi, which can affect the heart and even other organs and further worsen heart failure symptoms. Traditional Chinese medicine has achieved good results in the clinical treatment of chronic heart failure through the use of a holistic approach, becoming an indispensable force in the current treatment of chronic heart failure. This article expounds on the etiology, pathogenesis, and treatment principles and methods of chronic heart failure in traditional Chinese medicine based on classic texts, and briefly summarizes the methods of traditional Chinese medicine for treating chronic heart failure in recent years.*

**Keywords:** Chronic heart failure, Syndrome differentiation and treatment, Review.

## 1. Introduction

Chronic heart failure (CHF), a term in Western medicine, is a syndrome caused by various reasons, mainly characterized by dyspnea, fatigue, and fluid retention. It is the final stage of most cardiovascular diseases, with low cure rate and survival rate<sup>1</sup>. With the aging of the society, the number of patients with CHF is increasing, and the population is also showing a trend of younger development. In the clinical treatment of chronic heart failure, the combination of traditional Chinese and Western medicine often has better efficacy and higher safety, with less side effects than simple Western medicine treatment. Traditional Chinese medicine also has a unique understanding and treatment system for chronic heart failure. Therefore, this article summarizes the treatment of chronic heart failure with traditional Chinese medicine in recent years.

## 2. Chinese Medicines Understanding of Chronic Heart Failure

The term heart failure first appeared in the Tang Dynasty in Sun Simiao's *Preparing for an emergency thousand gold prescriptions*, but Chinese medicine has a long history of understanding of heart failure, and the name of the disease related to heart failure first appeared in the *Yellow Emperors Classic of Internal Medicine*, the *Su Wen*: heart paralysis, the pulse is not accessible, annoyed with the heart under the drums, stormy gas and wheezing, the quarry dry good yelping, syncope gas. The upper part of the heart is afraid. The *Spiritual Pivot - On Expansion*: When the heart is distended, the heart is troubled and short of breath, and one is restless; when the lungs are distended, the lungs are full and gasping. The TCM disease names associated with the modern understanding of cardiac failure include chest paralysis, cardiac paralysis, asthma, palpitations, and palpitation, and dizziness<sup>2</sup>. The TCM view of chronic cardiac failure is that it is a disease of the heart, the heart, and the lungs. According to TCM, the pathogenesis of chronic cardiac failure is a mixture of deficiency and solidity, with the deficiency of qi, blood, yin and yang as the main deficiencies throughout the disease, and the solidity of stagnant blood, phlegm, and water-drinking as

the underlying pathological products. The *Yellow Emperors Classic of Internal Medicine - Su Wen*: Wherever evil comes from, its qi must be deficient. The deficiency of qi, blood, yin and yang of the organism leads to the fact that the human constitution is not peaceful, and on the basis of the imbalance of yin and yang, the infection of evil qi will also be different, thus producing different pathological products, and at the same time, the pathological products will also affect the function of the internal organs as well as the operation of qi and blood in turn, which will exacerbate the symptoms of heart failure.

## 3. Diagnosis and Treatment

Since the development of Chinese medicines understanding of chronic heart failure, the evidence of chronic heart failure basically includes: cardiopulmonary qi deficiency, cardiorenal and renal yang deficiency, qi deficiency and blood stasis, qi and yin deficiency, and phlegm and turbidity embedded within the evidence of chronic heart failure<sup>3</sup>. In chronic heart failure, qi deficiency occurs throughout the entire course of the disease, and in addition, there will also be mixed with one or more pathological products, and the main method of treatment is to tonify the deficiency and drain the reality.

### 3.1 Heart and Lung Qi Deficiency

According to traditional Chinese medicine, the heart is the master of blood, the lungs are the master of qi and the division of respiration, and the normal function of qi and blood is the foundation of human life.

The normal functioning of qi and blood is fundamental to human life; qi moves blood, blood carries qi, and qi and blood have a mutual influence on each other; qi can generate blood, and blood can also generate qi. Therefore, heart and lung deficiencies should not be considered independently, just as the *Xinan medical doctor Cheng Jie* proposed that the heart and lungs should be put under the same treatment, and that the treatment should be based on qi and blood<sup>4</sup>. *Chen Fenlin*<sup>5</sup>

selected 80 patients with chronic heart failure in accordance with the qi deficiency type of traditional Chinese medicine, and 40 patients were in each of the treatment group and the control group. The treatment group used ginseng and mealybugs, the composition of which was ginseng, mealybugs, poria, Zhimu, Sangbaipi, almonds, liquorice, and Sichuan pei, and the control group used conventional Western medicine, and they were treated for 6 months, and the results showed that the efficacy of the treatment group was evaluated at 87.5% and that of the control group at 57.5%, and the difference was statistically significant with a  $P < 0.05\%$ , and the difference was statistically significant, and we can get out from the comparison of the other indexes that ginseng and mealybugs have good effect in the treatment of chronic heart failure of qi-deficiency. It is worth promoting. Li Dafeng<sup>6</sup> and others used tonifying lung soup and nourishing heart soup plus reduction as the observation group to treat patients with chronic heart failure of heart-lung and qi deficiency type, and the results showed that the total effective rate of the observation group was 96.67% higher than that of the control group (80%), and the difference was statistically significant with  $P < 0.05$ . The formula consisted of astragalus, ripened heart, and ginseng and mealybug powder. The whole formula treats the heart and lungs at the same time, takes into account both Qi and blood, warms the meridians and opens the veins, and combines pungent, dispersive, acidic and astringent elements. The results showed that the combination of tonifying the lungs and nourishing the heart could effectively improve cardiac function in patients with chronic heart failure with cardiopulmonary and qi deficiency, and it was also very safe. Lin Na<sup>7</sup> conducted clinical observation on 60 patients with chronic heart failure with cardiopulmonary and qi deficiency, using Chinese medicine rehabilitation method (eight-duanjin, six-word decision) and tonifying the lungs and nourishing the heart soup plus western basic treatment, pure western treatment and tonifying the lungs and nourishing the heart soup combined with western treatment for comparison of 20 patients in each of the three groups, the results showed that the improvement of cardiac function in the Chinese medicine rehabilitation group was most obvious when compared with the other two groups, and the difference was statistically significant, and the difference was also statistically significant, while the Chinese medicine rehabilitation group had the most significant improvement of cardiac function during the treatment and observation process. During the course of treatment and observation, no cardiovascular symptoms or hospitalisation occurred in the TCM rehabilitation group, while the other two groups experienced different degrees of cardiovascular symptoms and hospitalisation. Cui Hua<sup>8</sup> used META analysis and randomised controlled trials to demonstrate that a certain dose of taijiquan exercise can help to improve cardiorespiratory fitness, exercise tolerance, cardiac function, and prognosis in patients with heart failure.

### 3.2 Yang Deficiency of the Heart and Kidney

Jin Gui Yao Lue: When water is a disease, its pulse is heavy and small, and it belongs to the Shaoyin. The heart and kidneys belong to the Shaoyin meridian, the hearts five elements are fire, and the kidneys five elements are water. Loss of heart qi leads to heart yang deficiency, and the inability of heart fire to warm kidney water also leads to

kidney yang deficiency. Liu Haiming<sup>9</sup> treated the patient with Gui Zhi Gan Cao Tang (桂枝甘草汤) and Zhen Wu Tang (真武汤) on the basis of Western medicine, which is a combination of pungent, sweet, and yang transforming, warming the heart yang, and Zhen Wu Tang (真武汤) which strengthens the kidney yang and warms the yang and promotes diuresis, which is effective in clinical application. The General Jinjian of Medical Sciences says, If one has shortness of breath with slight drinking, it is necessary to remove it from the urine and stool; Ling Gui Zhu Gan Tang is the mainstay of this treatment, and Kidney Qi Pills are also the mainstay of this treatment. It was emphasised that in the treatment of heart failure, while tonifying heart yang and inducing diuresis, the role of warming kidney yang was emphasised, as the kidney was the root of water and fire, and the generation of heart yang also depended on the kidney. Lei Zhongyi, a master of national medicine,<sup>10</sup> attaches importance to a holistic view of chronic heart failure and the connection between various internal organs, and believes that although chronic heart failure is centred in the heart, it is closely related to the kidney, so the therapeutic prescriptions attach importance to replenishing the kidneys yuan-yin and yuan-yang and focusing on the harmonisation of yin and yang, and the use of medicines follows the principle that those who are good at tonifying yang must seek yang in yin, so that yin can be supported by yin to bring forth an infinite amount of energy, and those who are good at tonifying yin must seek yin in yang to raise yin with yang and to obtain an abundant supply of yin. Those who are good at tonifying yin must seek yang in yang, so that yin can be boosted by yang and become an inexhaustible source of energy. In addition, Lei made good use of ginseng and astragalus to replenish the vital energy of the heart and lungs, and emphasised the elimination of other tangible and real evils while tonifying the deficiency. Based on the holistic concepts of Chinese medicine, Lei emphasised on harmonising yin and yang, treating the heart and kidneys at the same time, tonifying the deficiency and draining the actuality in the clinical treatment of chronic heart failure, and the clinical effect was remarkable. Fengs Secret Records. Theory of Water-Heat Points": The kidney is the most yin. The kidney is the most yin, and the most yin is full of water. Lung, Tai Yin also ..... Therefore, its origin is in the kidneys, and its end is in the lungs, all of which accumulate water, All of them accumulate water as well. It is pointed out that yang deficiency is water, and the origin of accumulated water is in the kidney, and the end is in the lungs. The deficiency of heart qi and heart yang runs through chronic heart failure, so when treating patients with heart and kidney yang deficiency chronic heart failure, we should warm heart and kidney yang, and at the same time promote the lungs to promote water retention. In pairs of 60 patients with chronic heart failure with cardiac and renal yang deficiency were divided into two groups of 30 patients each, the control group was given cardiogenic and diuretic medicines, and the treatment group was given medicines to tonify the kidneys and strengthen the heart on the basis of the formula: red ginseng, made from the seeds of epimedium, epimedium, rhodiola rosea, danshen, rhizoma ligustici chuanxiong, yanhuisuo, hebecarpembemeranemerosa hebecarpa, and ice tablets<sup>11</sup>. Red ginseng replenishes the vital energy, the Prepared Epimedium tonifies the heart and kidney, Epimedium warms and tonifies the kidney and yang, Rhodiola rosea, Rhizoma Gastrodiae, Rhizoma Gastrodiae, Rhizoma Ligustici,

Rhizoma Chuanxiong, Rhizoma Dioscoreae, Rhizoma Dioscoreae, Rhizoma Dioscoreae, Rhizoma Dioscoreae, Rhizoma Dioscoreae, Rhizoma Dioscoreae. The whole formula replenishes qi and blood at the same time, warms yang and induces diuresis, and treats both symptoms and root causes. The results showed that the total effective rate of the treatment group was significantly higher than that of the control group,  $P < 0.05\%$ , and the difference between the treatment group and the control group was statistically significant, which proved that according to the method of nourishing the heart and tonifying the kidneys, the treatment of patients with cardiac and renal yang deficiency in chronic heart failure has very good therapeutic efficacy. Li Xiangyu<sup>12</sup> also suggested that patients with heart and kidney yang deficiency heart failure may also have the symptoms of yang deficiency, accompanied by deficiency annoyance, which is due to the fact that renal yang deficiency can not vaporise renal water to the heart fire, and the heart fire can not be controlled, but at the same time, renal water can not be warmed up by the heart fire, which aggravates the symptoms of yang deficiency accompanied by deficiency annoyance, and the prescription is Jiaotai Pill, which consists of Huanglian: Cinnamomum=10:1, which is a cold-heat formula for the treatment of chronic heart failure with heart and kidney deficiency. When the disease of chronic heart failure patients with heart and kidney yang deficiency develops to the point where it seriously affects the functions of the internal organs, it will eventually lead to death of yang. Under the guidance of the principle that Chinese medicine treats the disease before it starts and seeks to cure the disease at its root, it attaches importance to replenishing the blood so that the Yang can have something to rely on and the blood vessels can be opened to make the qi and blood run smoothly to nourish the whole body, and warming the Yang and dispelling phlegm and removing dampness to treat the symptoms, Xu Yihua<sup>13</sup> used the Dang Gui Si-Reverse Soup to restore the Yang and save the reverse, nourish the blood and open up the vessels and dispel the phlegm and remove the dampness, and the formula consisted of Dang Gui, the preparation of epiphyllum, Cinnamon twig, Gan Jiang, cornelian cherry, White peony, Danshen, Xin Xin, Poria, scallion white, Drabanemerosa hebecarpa and Gua Louvia. Glycyrrhiza glabra and Tongzhi. The results showed that the clinical effect was significantly higher than that of the conventional Western medicine treatment group, which could significantly improve the symptoms and reduce the occurrence of adverse reactions. In addition, the Chinese medicine injection ginseng and auxiliary injection is also very effective in the clinical treatment of patients with chronic pulmonary heart disease and cardiac and renal yang deficiency type of heart failure, which can effectively improve cardiopulmonary function, strengthen immunity, and the patients adherence is higher<sup>14</sup>. In addition, studies have shown that non-pharmacological therapies are more effective in patients with chronic pulmonary heart disease and cardiac and renal yang deficiency than in patients with conventional Western medicine treatment. Moreover, some studies have shown that non-pharmacological therapies also play an important role in the adjuvant treatment of chronic heart failure, in which a study was conducted on the basis of conventional Western medical treatment, simple rehabilitation exercise for one group and acupuncture combined with exercise rehabilitation therapy for one group in treating patients with cardiac and

renal yang-deficiency type of chronic heart failure, and the results showed that all the heart failure indexes in the group of acupuncture combined with exercise rehabilitation therapy compared with the group of simple exercise rehabilitation were reduced significantly, and the difference was statistically significant at  $P < 0.05\%$ .  $0.05\%$ , the difference is statistically significant, proving that acupuncture combined with exercise rehabilitation can effectively alleviate the symptoms of heart failure, help to reduce the markers of heart failure, and improve the quality of life of patients<sup>15</sup>.

### 3.3 Evidence of Qi Deficiency and Blood Stasis

The True Biography of Medical Science: Qi is not the same as blood, and blood is not the same as qi, so it is said that qi is the main warmer, and blood is the main moistening points out that the operation of blood relies on the promotion of qi, and qi deficiency leads to blood stasis, and the Theory of Blood Testimonials: Blood stagnation for a long time can be transformed into phlegm and water further points out that the blockage of blood flow will produce phlegm and water. Blood stagnation for a long time can also turn into phlegm and water, further pointing out that the obstruction of blood flow can produce phlegm and water. Therefore, in the diagnosis and treatment of patients with chronic heart failure with qi deficiency and blood stasis, attention should be paid to tonifying qi and promoting blood circulation, and expelling phlegm and inducing diuresis based on tonifying qi and promoting blood circulation after a prolonged period of time. Qi Lijun<sup>16</sup> treated 50 patients with chronic heart failure of the qi deficiency and blood stasis type with Bazhen Tang as the basic formula plus Astragalus, motherwort, danshen, and zeran, and the results showed that the reduction of left ventricular ejection fraction and BNP was more pronounced in the traditional Chinese medicine group than in the control group, and the difference of  $P < 0.05\%$  was statistically significant, which proved that the addition and subtraction of Bazhen Tang had a positive effect on the improvement of the patients quality of life. The formula of Jianxin granules developed by the Second Peoples Hospital of Fujian University of Traditional Chinese Medicine consists of astragalus, red ginseng, Pu Huang, cinnamon sticks, poria, Drabanemerosa hebecarpa, and zedoary, which benefits qi, promotes blood circulation, and passes the veins, and warms the yang and induces diuresis. In the five elements theory of traditional Chinese medicine, the heart belongs to fire, and the spleen and stomach belong to earth; heart yang deficiency leads to heart fire not generating spleen earth, and spleen earth is unable to generate qi and blood, and qi is not able to generate blood and blood is not able to fill the veins, which aggravates the patients symptoms<sup>17</sup>. Therefore, the heart and spleen have a close relationship, and the importance of the middle jiao spleen and stomach should be emphasised in the process of treating chronic heart failure. Based on the principle of treating the heart and spleen together, strengthening the spleen and nourishing the heart, Xin Laiyun<sup>18</sup> proposed the formula of strengthening the spleen and benefiting the heart based on the method of strengthening the spleen and activating blood circulation to promote diuresis for the treatment of chronic heart failure. Zedoary, Poria, Draba hebecarpa, Sang Bai Pi, Dabai Pi, Xiang Jia Pi drain the lungs and induce diuresis, and Dan Shen invigorate blood circulation and remove blood stasis. As a formula for

tonifying the heart and the spleen at the same time, Gui Spleen Tang can tonify both blood and qi. Shen Yuting<sup>19</sup> used Gui Spleen Tang with danshen and safflower to activate blood circulation and remove blood stasis, and to promote blood circulation in the course of treating 35 patients with chronic heart failure with qi deficiency and blood stasis, and the results of treatment of 35 patients with chronic heart failure with qi deficiency and blood stasis showed that Gui Spleen Tang was able to improve the state of inflammation in the myocardium and myocardial function, with a higher degree of safety.

### 3.4 Deficiency of Qi and Yin

The Yellow Emperors Classic of Internal Medicine. Ling Shu, If there is a deficiency of yin, there will be no qi, and if there is no qi, there will be death points out the seriousness of qi and yin deficiency in the human body, and that qi and yin are depleted by prolonged illnesses, damaging qi and yin and damaging the vital energy of the human body. Deficiency of qi and yin is easily accompanied by blood stasis. Jiao Yunmin<sup>20</sup> used Shengqinhuayuyu Drink to treat patients with chronic heart failure with qi and yin deficiency and blood stasis. The formula consists of shengshenguan, maitong, dihuang, huangjing, wuweizi, yuzhu, peach kernel, safflower, mother-of-pearl, angelica sinensis, chuanxiong, radix paeoniae alba, dahabu dermatophyte, chaihu, tortoise board, and cheqianzi, which benefited the qi and nourished the yin, invigorated blood circulation to eliminate blood stasis, and also dredged up the liver and regulated the qi and induced diuresis to reduce oedema, and pointed out that the patients physical constitution should also be taken into account when treating him. It was also pointed out that the medication should be adjusted according to the patients physique. The clinical efficacy of Shengmai yinhuanyu Drink in treating patients with chronic cardiac failure due to deficiency of both qi and yin and blood stasis is remarkable, and it can be taken for a long period of time, with high safety, and can significantly improve the symptoms of patients. Huang Menghong<sup>21</sup> In a clinical study of improving fatigue in chronic heart failure patients with qi and yin deficiency by using the method of benefiting qi and nourishing yin, 80 patients with qi and yin deficiency and fatigue symptoms were divided into two groups: 40 patients in the control group were treated with conventional Western medicine, and 40 patients in the treatment group were treated with the formula of benefiting qi and nourishing yin: Astragalus, Lycium barbarum, Epimedium, and Amaranthus on the basis of the control group. The whole formula replenished the deficiency of lung, spleen and qi, tonified liver and blood, nourished kidney yin, and supplemented both the innate and the innate. After four weeks of treatment, the differences in the quality of life scores, fatigue status, and the points of traditional Chinese medical evidence before and after treatment of the treatment group compared with those of the control group were obvious and had statistical significance, proving that the formula of benefiting qi and nourishing yin had a good clinical value in improving the quality of life and the fatigue status of the patients. In the Treatise on Typhoid Fever, the whole formula of Zao Gan Cao Tang benefits qi, nourishes yin, and restores yang and veins, which is a commonly used formula for the treatment of qi and yin deficiency, and in the clinical study of Zhao Junwei<sup>22</sup> who used the addition and subtraction of Zao

Gan Cao Tang to assist in the treatment of qi and yin deficiency-type chronic heart failure, it was found that the cardiac function and laboratory indexes of the group using the addition and subtraction of Zao Gan Cao Tang decreased significantly compared with those of the control group of Western medicine, and the total effective rate of the group using the addition and subtraction of Zao Gan Cao Tang was as high as 96.30%. The clinical study proved that the treatment of chronic heart failure patients with deficiency of qi and yin by baking liquorice soup can effectively improve patients' symptoms, reduce myocardial damage and improve cardiac function. Pan Qiaojing<sup>23</sup> selected 60 patients with chronic heart failure with deficiency of qi and yin in the cardiovascular department of the Affiliated Hospital of Jiangxi University of Traditional Chinese Medicine and divided them into two groups: the control group was treated with conventional Western medicine, and the treatment group was given Jiawei yangxintang granules (Astragalus, Codonopsis pilosulae, licorice, Angelica sinensis, Rhizoma Ligustici Chuanxiong, safflower, Poria cocos, Poria cocos, Fu Shen, Yuanzhi, Cedrela odorata, Jujubae-jujube, Schisandra chinensis, Maitou, Semixia, Cinnamon twigs) based on the Western medical therapy, and the results suggested that both groups were effective for the patients, but they were not effective for the patients, and they did not have the same results as the patients. The results suggest that both groups are effective for patients, but the therapeutic effect of the treatment group is better than that of the control group, which can improve the cardiac function of patients, and there is no significant difference between the liver and kidney function and blood safety indexes of patients in the two groups, which proves that the therapeutic effect of Jiawei Nourishing Heart Soup combined with western medicines in treating qi and yin deficiency-type chronic heart failure patients is remarkable and safe.

### 3.5 The Syndrome of Internal Accumulation of Phlegm and Turbidity

The Collected Explanations of Medical Formulas: The lungs are the source of water above the lungs, and the lungs, by virtue of the lung qis propagation and purging, enable the function of regulating the water channels to be properly performed. This is proof that the lungs function of propagation, purging and descending is out of order, resulting in the suspension of water in the upper jiao, which leads to lying down and asthma. Li Shizhen said: The spleen is the source of phlegm, and the lungs are the vessels for storing phlegm. The Zhong Zhong San Xi Lu: The yang of the heart and lungs can warm the spleen and stomach to digest phlegm and drink points out that the yang of the heart and lungs should be enriched in the treatment of cold phlegm and watery drinks, so as to enable it to go down to the middle Jiao, warm the middle Jiao, remove dampness, and eliminate the source of phlegm production. Han Baorui<sup>24</sup> used Zhenwu Tang combined with Drabanemerosa Dazao Lung Tang to treat elderly patients with chronic heart failure admitted from Dalian Womens and Childrens Medical Centre. Zhenwu Tang tonifies the yang of the spleen and kidney, warms the yang and induces diuresis, while Drabanemerosa Dazao Lung Tang dispels phlegm, calms asthma, induces diuresis, reduces oedema, and moisten the heart, lungs, spleen, and stomach. The results showed that the efficacy of Zhenwu Tang

combined with *Drabanemerosa hebecarpa jujube* diarrhoea lung soup in treating elderly patients with heart failure was higher than that of the Western medicine treatment group, and the changes in NT-proBNP and LVEF levels were also more obvious. Medical Guan: The root of phlegm is water, which originates from the kidney; the movement of phlegm is dampness, which originates from the spleen. In patients with chronic heart failure, cardiac qi and cardiac yang are deficient throughout the disease, and the prolonged course of the disease has injured the vital energy and weakened the warming power, so it is easy to generate phlegm and dampness, and the treatment should still focus on treating the symptoms and pay attention to the balance of qi, blood, yin and yang.

#### 4. Conclusion

The number of patients with chronic heart failure is increasing year by year, and the 5-year mortality rate of patients with chronic heart failure is even comparable to that of malignant tumours. In the diagnosis and treatment of chronic heart failure, traditional Chinese medicine (TCM) has an important role to play, and more and more studies have proved that the use of TCM in the treatment of chronic heart failure has significant efficacy, higher safety, and fewer side effects. In addition to medication, acupuncture has a positive effect on chronic heart failure, and traditional Chinese health exercises such as tai chi and baduanjin, which are appropriate for the dosage of the patient, can improve the patients symptoms and quality of life.

#### References

- [1] BAI Jiahuan, ZHANG Yan. Progress of research on chronic heart failure and thirst in Chinese medicine[J]. Journal of Practical Chinese Medicine, 2020, (06):88-90.
- [2] ZHOU Yabin, WU Huimei, SUN Jing, LIU Zhiping. Progress in the treatment of chronic heart failure in Chinese medicine[J]. Journal of Liaoning University of Traditional Chinese Medicine, 2016, (01):8-10.
- [3] WANG Ping, LIN Bixiu, TAN Lu, PENG Qilong, HUANG Xiuxie. Research progress of Chinese medicine evidence-based treatment of chronic heart failure [J]. Shanxi Traditional Chinese Medicine, 2020, (10):60-62.
- [4] LIU Yong-Shang, GUO Jin-Chen, FENG Ye, WU Fan. Analysis of the Academic Thought of Xinan Medical Doctor Cheng Jies Heart and Lungs are Under One Control [J]. Journal of Shanxi College of Traditional Chinese Medicine, 2018, (01):1-3.
- [5] CHEN Fenglin, WAN Cicangjun, ZENG Jianbin, WANG Kunlingzi. Clinical observation on improving prognosis of chronic heart failure by heart-lung homoeopathy[J]. Journal of Traditional Chinese Medicine, 2021, (01):57-60.
- [6] LI Da-Feng, LU Xiao-Qin, WU Fang-Fang, ZHAO Jin-Long, ZHU Fang-Fang. Clinical study on the treatment of chronic heart failure with cardiopulmonary qi deficiency by combining lung tonic soup and heart nourishing soup with walking training[J]. New Chinese Medicine, 2022, (20):28-31.
- [7] Lin Na. Clinical study of Chinese medicine rehabilitation combined with tonifying the lungs and nourishing the heart soup in treating cardiopulmonary qi deficiency in chronic heart failure [D]. Supervisor: Gao Jiehui. Hunan University of Traditional Chinese Medicine, 2017.
- [8] Cui H. Research on health intervention of taijiquan on patients with chronic heart failure [D]. Supervisor: Lv Shaojun. Beijing Sport University, 2020.
- [9] Liu HM. Clinical research on Zhenwu Tang combined with Guizhi Gan Cao Tang in the treatment of chronic heart failure[J]. Sichuan Traditional Chinese Medicine, 2016, (12):62-65.
- [10] Chen Shucun. Experience of Lei Zhongyi national medical master in treating heart failure[J]. Journal of Shaanxi University of Traditional Chinese Medicine, 2020, (01):23-25+47.
- [11] Lai Yu, Liang Hongxia, Du Wenyuan, Liu Dandan, Wang Bei, Li Xuesong. Clinical observation on the treatment of cardiac and renal yang deficiency-type cardiac failure by benefiting the heart and tonifying the kidney[J]. Chinese Journal of Clinical Physicians, 2022, (11):1381-1383.
- [12] LI Xiangyu, WEI Xianlian, ZHU Chenchen. Treatment of chronic heart failure from generalised heart-kidney disorders[J]. Chinese Medicine Acute Diseases, 2019, (10):1803-1805.
- [13] XU Yi-Hua, WANG Hai-Xia, BAO Hualing. Observations on the therapeutic effect of adding flavour danggui sihui tang combined with western medicine in the treatment of heart failure[J]. Sichuan Traditional Chinese Medicine, 2022, (05):95-98.
- [14] WANG Rui, LIN Daobin, ZHUO Jinsheng, LIN Tandong. Clinical observation on the treatment of chronic pulmonary heart disease combined with cardiac failure (cardiac and renal yang deficiency) with ginseng and auxiliary injection[J]. China TCM Emergencies, 2022, (02):262-265.
- [15] WU Jiting, LI Yun, CHENG Wei, JIANG Weiwei. Effect of acupuncture and exercise rehabilitation on cardiac function and quality of life in chronic heart failure[J]. Hebei Traditional Chinese Medicine, 2021, (11):1879-1883.
- [16] QI Lijun, WU Caifang. Treatment of 50 cases of chronic heart failure by adding flavour to Ba Zhen Tang[J]. Chinese medicine science and technology, 2022, (05):855-857.
- [17] CHEN Hui, CHEN Yongzhong, QIU Shangdong, HUANG Yiqing, LI Xi, ZHANG Wangsheng, CHEN Cheng. Treatment of 30 cases of chronic heart failure with Qi deficiency and blood stasis by Jianxin Granules[J]. Fujian Traditional Chinese Medicine, 2022, (10):7-9.
- [18] XIN Laiyun, CUI Xiangning. Exploration of spleen-strengthening, blood-activating and water-inducing methods in chronic heart failure[J]. Liaoning Chinese Medicine Journal, 2022, (08):58-61.
- [19] Shen Yuting. Effect of adding and subtracting quisheng spleen soup in the treatment of chronic heart failure of qi deficiency and blood stasis type[J]. Inner Mongolia Traditional Chinese Medicine, 2022, (08):42-43.
- [20] ZHAO Chang, JIAO Xiaomin. Experience of Jiao Xiaomin in treating chronic heart failure with Shengmu

- yuyu Tang[J]. Chinese medicine clinical magazine, 2018, (07):1214-1216.
- [21] HUANG Menghong, ZHAO Fawen. Clinical study on fatigue in chronic heart failure patients with qi and yin deficiency by Yiqi and yin nourishing formula[J]. World Composite Medicine, 2022, (02):17-21.
- [22] ZHAO Junwei. Effect of adding and subtracting baked liquorice soup in the treatment of chronic heart failure with deficiency of qi and yin[J]. Henan Medical Research, 2021, (26):4934-4936.
- [23] Pan Qiaojing. Clinical study on the treatment of CHF with Qi/Yin deficiency and blood stasis by adding flavour to Nourishing Heart Soup[D]. Supervisor: Zeng Jian Bin. Jiangxi University of Traditional Chinese Medicine, 2021.
- [24] Han Baorui. Clinical observation of Zhenwu Tang combined with Drabanemerosa hebecarpa jujube diarrhoea lung soup in the treatment of chronic heart failure in the elderly[J]. China Traditional Chinese Medicine Modern Distance Education, 2022, (02):92-94.