Decoction Prescription Differentiation and Treatment of Palpitation in Treatise on Exogenous Febrile Disease

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Abstract: Heart palpitation is a common clinical disease, including various types of arrhythmias caused by organic or functional diseases in modern medicine. By analysing and sorting out the original texts and prescriptions concerned about heart palpitation in Treatise on Exogenous Febrile Disease through decoction prescription differentiation, seven types of decoction prescriptions for heart palpitation are summarized: Guizhi Gancao Decoction syndromes with deficiency of heart Yang, Fuling Gancao Decoction, Linggui Zhugan Decoction and Zhenwu Decoction syndromes with upward adverse flow of fluid-retention, Xiaojianzhong Decoction and Zhigancao Decoction syndromes with deficiency of Yin-blood, Chaihu Decoction syndromes with disharmony of Shaoyang, Sinisan syndromes with blockade of Yang Qi, Huanglian Ejiao Decoction syndromes with deficiency of Yin and hyperactivity of fire, Banxia Xiexin Decoction syndromes with comorbidities of heart and stomach, which totally include 14 prescriptions.

Keywords: Heart palpitation; Decoction prescription Differentiation; Treatise on Exogenous Febrile Disease; Treatment based on prescription differentiation

1. Introduction

The term "palpitation" was first described in Zhang Zhongjing's Treatise on Exogenous Febrile Disease and refers to a condition in which the heart feels palpitating and restless, even if it is involuntary. As a common clinical symptom, "palpitation" can be found in the complaints of patients with internal, external, gynecological, pediatric, and psychological diseases [1], and the underlying pathogenesis is also very complex. Some physicians have organized the relevant articles in the Treatise on Exogenous Febrile Disease and classified "palpitation" as an independent disease, and discussed its pathogenesis, treatment, and prescriptions in detail with syndrome differentiation of six meridians and classified it into the six meridians disease. By analyzing the articles and relevant prescriptions in the Treatise on Exogenous Febrile Disease, it is believed that the book only describes the symptom of "palpitation" (either as the main symptoms or as a part of the symptoms) and does not discuss the disease in detail. Therefore, it is feared that the name of heart palpitation based on syndrome differentiation and treatment of six meridians exists, but the reality is lost if it is simply classified under the six meridians, and then identified by the internal organs, meridians, eight principles, etc. According to the order of the original text. Therefore, the six meridians should be omitted, the prescription syndromes should be cubed, and the heart palpitation should be discussed directly through the decoction prescription differentiation, in order to inherit the academic thought and clinical experience of Zhang Zhongjing on the identification and treatment of heart palpitation to the greatest extent.

2. Overview of the decoction prescription differentiation

It is said that Zhang Zhongjing, the medical sage, created syndrome differentiation of six meridians system in his book "Treatise on Exogenous Febrile Disease and Miscellaneous Diseases". However, the meaning of the six meridians has been controversial throughout history, resulting in dozens of theories related to the six meridians, which are right, and which are wrong, and the debate continues. In recent years, some doctors have put forward new opinions on this issue. Pan Yushuo et al. [2] proposed the establishment of a generalized theory system for the syndrome differentiation of six meridians, such as breaking through the theoretical limitations of the syndrome differentiation of six meridians from the
perspective of the decoction prescription differentiation, which is only applicable to guiding the differentiation and treatment of exogenous diseases and expanding the application scope of classic prescriptions. Zhang Yupeng [3] believes that Zhang Zhongjing's creation of the syndrome differentiation of six meridians system is aimed at introducing the content of pathogenesis and treatment between the original prescriptions (the classic prescriptions before Zhang Zhongjing's era) and its indications, organically connecting different decoction syndromes, and ultimately forming a complete theoretical system of classic prescriptions. Decoction syndromes refer to the indication of classic prescriptions. Decoction prescription differentiation refers to the identification of specific prescription types and corresponding prescriptions based on the patient's symptom characteristics, so as to achieve the goal of treating the disease by prescription-syndrome correspondence. Prescriptions and syndromes are the core of the Treatise on Exogenous Febrile Disease, and the decoction prescription differentiation is the core of the syndrome differentiation of six meridians. Only by distinguishing specific prescription and syndrome can the therapy be established with syndrome and the prescription be determined by the therapy, which is not lose the meaning of Zhongjing's "treatment based on prescription differentiation ".

3. Overview of heart palpitation

The term "palpitation" comes from Article 49 of Zhang Zhongjing's Treatise on Exogenous Febrile Disease, which states: "... Those with palpitation should not sweat... and then self-sweat will heal". That was used to describe the symptoms of palpitation and unease in the heart after incorrect laxative treatment. Through a detailed examination of the entire text of the Treatise on Exogenous Febrile Disease, there are over 10 articles related to the symptom of "palpitation", which are described using words such as "palpitation", "palpitation below the heart", "palpitation in the heart" and so on. The articles are scattered, and although there are many causes and pathogenesis of palpitation, there is a lack of systematic overview [4]. With the construction and improvement of the theoretical system of traditional Chinese medicine, the meaning of the term "palpitation" is becoming increasingly rich. Modern traditional Chinese internal medicine categorizes it as an independent disease under the category of heart diseases, defining it as a prescription where patients consciously experience palpitation and restlessness, and even cannot control themselves. [5]131 In the context of the integration of traditional Chinese and Western medicine, the addition of modern medical methods such as electrocardiogram and cardiac ultrasound has made the diagnosis and treatment of heart palpitation in traditional Chinese medicine no longer limited to the subjective feelings and pulse patterns of patients, and the connotation of heart palpitation has correspondingly expanded. Modern medical related diseases such as arrhythmia, caused by coronary heart disease or cardiac neurosis, ventricular premature contractions and atrial fibrillation all can be treated according to the differentiation of symptoms and signs of palpitation. In summary, heart palpitation refers to a type of disease in which patients consciously experience palpitation, panic, and even inability to control themselves. It is equivalent to arrhythmia caused by organic and non-organic diseases in Western medicine [6].

4. Decoction prescription differentiation and treatment of Palpitation

The "palpitation" discussed in the original text of Treatise on Exogenous Febrile Disease are symptomatic descriptions that can be found in the sections of Taiyang, Shaoyang, Shaoyin, Jueyin, and Cholera. They are often not attributed to the normal six meridian diseases. They are caused by mistreatment or can be seen in probable prescriptions, which cannot reflect the essential characteristics of each meridian disease. Therefore, according to the order of relevant articles, heart palpitation is classified into the six meridian diseases section, and then the pathogenesis, treatment, and prescription of palpitation are discussed in detail based on the viscera, meridians, and eight principles, which are not appropriate actions. So, this article no longer categorizes palpitation into the six meridians, but directly lists them under specific decoction syndromes to interpret the original text and analyze their etiology and pathogenesis.

4.1. Guizhi Gancao Decoction syndromes

4.1.1. Guizhi Gancao Decoction syndrome

Guizhi Gancao Decoction is found in Article 64 of the original text, which states: "Sweating too much... palpitation in the heart, and those who want to press, Guizhi Gancao Decoction is the main
4.1.2. Guizhi Gancao Longgu Muli Decoction syndrome

Guizhi Gancao Longgu Muli decoction can be found in Article 118 of the original text, "If the fire is reversed and the needle is burning, Guizhi Gancao Longgu Muli decoction is the main one". Diseases in Taiyang should be resolved through sweat. However, if the fire goes against it repeatedly, it will eventually cause damage to the heart and yang, and the mind will float. The core pathogenesis of this prescription is weak heart yang and lack of concentration in the mind. The condition is slower than that of Guizhi Gancao Decoction, but the degree is more severe. Clinical manifestations mainly include restlessness and palpitation. Therefore, a small amount of Guizhi and double Gancao are used to slowly supplement it, and then two or two pairs of Longgu and Muli are used to calm the mind. Li Ying [11] believes that this prescription is a combination of heart yang deficiency and yang loss, so he used Guizhi, Gancao, Longgu, and Muli to warm and clear the heart yang, and focused on relieving astringency. Research shows that Guizhi Gancao Longgu Muli decoction is effective and safe in the treatment of arrhythmia, which can quickly stabilize the condition and improve the clinical symptoms of patients[12]. Dou Jinjin et al. [13] found that Guizhi Gancao Longgu Muli decoction is effective in the treatment of permanent atrial fibrillation with heart yang dysfunction. It can adjust the ventricular rate of patients on the basis of no obvious adverse reactions and improve the quality of life of patients.

4.1.3. Guizhi Qu Shaoyao Jia Shuqi Muli Longgu Jiuni Decoction syndrome

The prescriptions are found in Article 112 of the original text, "... When the yang is gone, one will be shocked and crazy... Guizhi Qu Shaoyao Jia Shuqi Muli Longgu Jiuni Decoctions the main one". Diseases in Taiyang should be resolved through sweat, if mistakenly uses the fire method to force its sweat, resulting in the loss of heart yang and the tendency of the mind to want to escape due to lack of concentration. In addition, due to yang deficiency and turbid phlegm, the mind is disturbed by confusion, resulting in symptoms such as panic, restlessness when lying up, palpitation, etc. The degree of floating mind in this prescription has worsened compared to before, and there is a tendency to detach. It also causes phlegm to disturb the heart. Therefore, a large dose of Longgu and Muli is used to suppress latent convergence, and Shuqi is used to cleanse phlegm instead of feminine Shaoyao. Due to its clinical manifestations mainly being psychiatric symptoms, it is often used in patients with cardiac neurosis and palpitation. Li Sanyu [14] found that Guizhi Qu Shaoyao Jia Shuqi Muli Longgu Jiuni Decoction can effectively alleviate anxiety and depression in patients with cardiac neurosis and improve their clinical symptoms.

4.2. Fuling Gancao Decoction, Ling Gui Ju Gan Decoction and Zhen Wu Decoction syndromes

4.2.1. Fuling Gancao Decoction syndrome

Article 356 of the Treatise on Exogenous Febrile Disease states: "If a person suffers from syncope..."
in typhoid fever and palpitation under the heart, it is advisable to treat water first, when taking Fuling Gancao Decoction”. This is due to the deficiency of stomach yang, the inability to transform the drink, the drink evil on the heart and see palpitation, stomach yang is depressed and does not reach the four ends, so see the limbs syncope. The “under of the heart” refers to the epigastric region, Zhang Zhongjing emphasizes "under the heart" only because most palpitation are caused by the evil of drink coiled in the stomach and epigastric region (under the heart), which is in conflict with the heart yang. Therefore, although the original text says "palpitation under the heart", in most cases it still refers to palpitation of the heart, not just palpitation of the stomach and epigastric region. It is not simply a palpitation of the stomach. As the deficiency of Yang is mainly attributed to the stomach, 3 taels of Shengjiang are used to warm the stomach and disperse the cold to dissolve the drink. Palpitation due to a deficiency of Yang in the stomach and water stopping in the middle jiao can be treated with Fuling Gancao Decoction.

4.2.2. Ling Gui Zhu Gan Decoction syndrome

Article 67 of the Treatise on Exogenous Febrile Disease states: "......the heart is filled with energy, and the chest is filled with energy ......Fuling Guizhi Baizhu Gancao Decoction is the mainstay ". Taiyang typhoid fever, vomiting down mistreatment, damage to the spleen and stomach, deficiency of Yang in the middle, water drink does not dissolve, rebellious and upward rushing, the syndrome is seen in palpitation, cachexia, chest tightness, head dizziness. Therefore, Fuling (4 taels) is used to facilitate the flow of water, Guizhi (3 taels) to subdue the impulsive qi, and Baizhu and Gancao to restore the Yang Qi. Jiang Yuwei et al. found that Ling Gui Zhu Gan Decoction could effectively regulate lipid metabolism, so it is often used clinically to treat arrhythmias caused by coronary atherosclerotic heart disease. Shi Shuai et al. concluded that Ling Gui Zhu Gan Decoction is the preferred treatment for arrhythmias caused by phlegm in coronary heart disease. The key to the treatment of palpitation with Ling Gui Jui Gan Decoction is to identify the pathogenesis of the disease as a deficiency of Yang Qi and the upwelling of water qi.

4.2.3. Zhen Wu Decoction syndrome

This prescription is given in Article 82 of the Treatise on Exogenous Febrile Disease: "......palpitation under the heart, head dizziness, body twitching ...... Zhen Wu Decoction is the mainstay”. Taiyang sweating, either due to excessive sweating injuring Yang, or due to a deficiency of Yang in the body after sweating, eventually leading to a deficiency of kidney Yang and a weakness in the mastery of water, with the water evil upstream in the heart and resulting in palpitation. Therefore, Zhen Wu Decoction is given to support the kidney yang and to facilitate the flow of water. In these prescriptions, Fuzi warms the kidney to control water, Baizhu strengthens the spleen to control water, and Shaojiang, Fulin, and Shaoyao promote percolation of water. The key to the identification of Zhen Wu Decoction for palpitation lies in the deficiency of kidney yang and the overflow of water. Zhen Wu Decoction can be used to treat slow cardiac arrhythmias in modern medicine. Shui Jiangyi Zhou Wu Decoction with addition and subtraction was found to be effective in the treatment of bradyarrhythmia, inhibiting the expression of hypersensitive C-reactive protein and improving the patient's cardiac function.

4.3. Xiao Jian Zhong Decoction and Zhigancao Decoction syndromes

4.3.1. Xiao Jianzhong Decoction syndrome

Article 102 of the Treatise on Exogenous Febrile Disease states: "If the heart is palpitating and troubled after two or three days of typhoid fever, Xiao Jianzhong Decoction is the mainstay". The patient's qi and blood are deficient, and when he feels external evil, his righteousness resists the evil outside, while his heart and mind are not nourished inside, resulting in palpitation. Therefore, Xiao Jian Zhong Decoction is used to build up the middle of the deficient person, so that the restoration of positive qi can reach the surface and dispel the evil. Therefore, on the basis of Guizhi Decoction to calm the middle and nourish the fluid and enrich the essence, 3 taels of Shaoyao and 1 liter of Yitang were added to nourish the blood and benefit the qi. Zheng Yuhua et al. believed that an abundance of heart qi and blood is the basis for the heart to carry out normal physiological activities, while palpitation in Xiao Jian Zhong Decoction are mostly caused by deficiencies of the heart and spleen and deficiencies of both qi and blood. Therefore, Xiao Jian Zhong Decoction is often used to treat qi and Blood deficiency in palpitation.

4.3.2. Zhigancao Decoction syndrome

Article 177 of the Treatise on Exogenous Febrile Disease states: "In typhoid fever, the pulse is
knotted and palpitates, so Zhigancao Decoction is the mainstay". Although this article speaks of typhoid fever, there is no sign of superficial syndrome, but rather the symptoms of "palpitation of the heart" and "knotted pulse". This prescription is therefore suitable for palpitation due to deficiency of both yin and yang, with yin and blood deficiency being the main cause. Zhigancao Decoction is now mostly used in the treatment of arrhythmias in coronary heart disease. Hu Xiaomin et al.[20] found that Zhigancao Decoction with addition and subtraction was of significant clinical value in the treatment of arrhythmias in coronary heart disease, effectively relieving symptoms, stabilizing heart rate and improving cardiac function.

4.4. Chai Hu Decoction syndromes

4.4.1. Xiao Chaihu Decoction syndrome

Article 96 of the Treatise on Exogenous Febrile Disease: "...... Bitter fullness in the chest and hypochondrium, silent inability to eat and drink, and distress in the heart that is happy to vomit ...... or palpitation under the heart...... Xiao Chai Hu Decoction is the mainstay". The treatment is Xiao Chai Hu Decoction with addition and subtraction, which is based on Chai Hu to regulate qi, Hangqin to clear heat, Banxia to dry dampness, Renshen to benefit qi, Gancao to tonify the spleen and harmonize the herbs. Therefore, this prescription is suitable for treating palpitation caused by disharmony of Shao Yang. Tangfei et al.[21] concluded that the onset of palpitation is mostly related to deficiency of positive qi and disharmony of Shao Yang, and therefore advocated that conciliation should be the main treatment for palpitation.

4.4.2. Da Chaihu Decoction syndrome

This prescription is from Article 103 of the Treatise on Exogenous Febrile Disease, "...... for those with sub cardiac urgency, depression and slight irritability ...... with Da Chai Hu Decoction, which will be cured". The pivot of Shao Yang is not conducive to the internal organs of Yang Ming, and the heart is disturbed by evil heat and causes palpitation. The treatment is for Da Chaihu Decoction to help the gall bladder and stomach, clear the heart and calm the palpitation. Therefore, palpitation caused by the combined disease of Shaoyang and Yangming can be treated with these prescriptions. In modern clinical practice, this prescription is indicated for cardiac arrhythmias caused by inflammatory diseases of the stomach and biliary tract. Professor Li believes that "all the five viscera and six internal organs can cause palpitation, not only the heart". [22] He specializes in the treatment of atrial fibrillation caused by gastro-esophageal reflux and cholecystitis with the addition and subtraction of Da Chaihu Decoction.

4.4.3. Chaihu Jia Longgu Muli Decoction syndrome

Article 107 of the Treatise on Exogenous Febrile Disease states: "If the chest is full and disturbed ...... delirium ...... Chaihu Jia Longgu Muli Decoction is the mainstay". Shaoyang is mistakenly lowered, the heart qi is damaged, and evil heat enters the interior, disturbing the heart and mind. This syndrome adds to the unresolved symptoms of distress, palpitation, panic, delirium and other disturbances of the heart and mind on top of the unresolved symptoms of Shaoyang. The treatment is to remove the sweet and slow licorice from Xiao Chai Hu Decoction to relieve Shao Yang, add Guizhi to clear Yang and subdue rebelliousness, Fuling to induce diuresis and calm the mind, Dahuang to relieve heat and harmonize the stomach, and Longgu, Muli and Qiandan to calm the mind. Studies have shown that Chaihu Jia Longgu Muli Decoction is effective in the treatment of palpitation. Zhang Yi et al. [23] believed that loss of drainage of the liver and stagnation of qi are also important pathogenic factors in palpitation, and that Chaihu Jia Longgu Muli Decoction with reduction is particularly suitable for patients with palpitation caused by liver stagnation and qi stagnation, and is aimed at resolving the pivotal mechanism of Shaoyang to treat its root cause and calming and tranquilizing the mind to treat its symptoms. Therefore, palpitation caused by the loss of the pivot of Shaoyang, and stagnation of the liver and gall bladder can be treated with this prescriptions.

4.5. Sinisan syndromes

Article 318 of the Treatise on Exogenous Febrile Disease states: "...... Four Reverse ...... or palpitation. Sinisan is the main one. "The internal stagnation of Yang Qi obstructs the channels for qi and Blood to rise and fall, resulting in palpitation due to imbalance in the supply of Blood to the heart. In this prescriptions, Chai Hu relieves depression, Zhishi breaks up qi, Shaoyao harmonizes Ying, and Gancao harmonizes the middle, which is actually an agent to clear the liver and regulate qi. Yao
Kuiwu thought these prescriptions can be used to treat cardiac arrhythmias caused by internal depression of Yang Qi and disharmony of the liver and spleen. Therefore, it can be used for palpitation caused by internal stagnation of Yang Qi, especially when the extremities are not warm.

4.6. 

4.6. **Huanglian Ejiao Decoction syndromes**

4.6.1. Article 303 of the Treatise on Exogenous Febrile Disease states: "..... The heart is troubled and cannot lie down, Huanglian Ejiao Decoction syndromes is the mainstay". Yin and blood are deficient in the lining, and deficiency fire is hyperactive in the upper part of the body, disturbing the heart and mind and leading to heart trouble and palpitation. In these prescriptions, Huanglian and Huangqin exorcise the fire and remove the irritation, while Shaoyao, Ejiao and Jizihuang nourish Yin and tonify Blood. Liu Duzhou believes that if the heart and kidney yin are deficient and the heart fire is overwhelming, the treatment should be to remove the heart fire and nourish the kidney yin. The prescriptions is based on Huanglian Ejiao Decoction\(^{25}\). Therefore, palpitation due to deficiency of Yin and fire can be treated by referring to these prescriptions.

4.7. **Banxia Xiexin Decoction syndromes**

4.7.1. Banxia Xiexin Decoction is derived from Article 149 of the Treatise on Exogenous Febrile Disease, "..... but full but not painful, this is a gangrene, which Chai Hu does not neutralize, so Banxia Xiexin Decoction is appropriate". The original prescriptions treat the symptoms of the middle-jiao cold-heat prescription, but the heart and stomach are closely related, and palpitation can be caused by a loss of harmony of the stomach qi and disturbance of the heart and mind when it is not lowered. Jiang Lihong\(^{26}\) agreed that it is advisable to add and subtract Banxia Xiexin Decoction to treat the heart and stomach together. Therefore, palpitation caused by the upward movement of stomach qi disturbing the heart can be treated with reference to the syndrome of Banxia Xiexin Decoction.

5. Conclusion

The differentiation of formulas and syndromes is the key to learning classic formulas, and its core lies in the differentiation of formulas and syndromes. Prescription syndrome refers to the indication of prescription syndrome. It refers to the safe and effective application of symptoms or signs of a certain party. The Treatise on Exogenous Febrile Disease is, on the other hand, a high-level overview of actual clinical cases by Zhang Zhongjing, going directly from the prescription’s syndrome to the prescriptions. As a common clinical condition, palpitation disease, with reference to the original text of the Treatise on Exogenous Febrile Disease, can be classified into the above seven categories of symptoms according to the prescriptions, with the pathogenesis mainly involving deficiency of heart Yang, upward adverse flow of fluid-retention, deficiency of Yin-blood, disharmony of Shaoyang, blockade of Yang Qi, deficiency of Yin and hyperactivity of fire, comorbidities of heart and stomach, which totally include 14 prescriptions. In modern medicine, the above prescriptions can be used to treat arrhythmias caused by non-organic or organic pathologies. As this article only compares and summarizes the relevant prescriptions in the Treatise on Exogenous Febrile Disease, it is inevitable that the above prescriptions will not directly meet the needs of the actual diagnosis in clinical practice, so the above prescriptions should be added, subtracted, combined, or referred to the current prescriptions, rather than sticking to the original prescriptions. At the same time, due to the complexity of the pathogenesis of palpitation and the large number of diseases involved in Western medicine, it is necessary to further explore and experiment on the basis of the relevant prescriptions in the Treatise on Exogenous Febrile Disease, in order to find more effective prescriptions to meet the actual clinical needs.

References