

Discussion on TCM Syndrome Differentiation and Treatment of Pulmonary Interstitial Fibrosis based on Liu Huawei's Five Elements Gasification Theory

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Abstract: Pulmonary interstitial fibrosis is a common and difficult disease of respiratory system, which belongs to the category of interstitial lung disease. At present, the global incidence rate is about 0.09–1.30/10000, and it is increasing year by year. There is no effective treatment in modern medicine. Lung transplantation is often performed after the complete loss of lung function. The operation cost is high and the medical burden is heavy. Traditional Chinese medicine has rich experience and unique advantages in treating this disease. On the basis of inheriting the predecessors, Professor Liu Huawei created the theory of five elements Zang Fu Qi machine gasification (referred to as “five elements gasification theory”), which has achieved good clinical effect. Guided by this theory, this paper systematically expounds the TCM syndrome differentiation and treatment rules of pulmonary interstitial fibrosis. Through the analysis of the etiology, pathogenesis and syndrome evolution law of the disease, the basic pathogenesis of the disease is the deficiency of lung qi (Yin), the loss of Qi, phlegm dampness and blood stasis, and the imbalance of Qi mechanism, which belongs to the syndrome of excess due to deficiency, deficiency due to excess, and the mixture of deficiency and excess. On this basis, the six syndrome types of qi deficiency and phlegm stagnation, upper excess and lower deficiency, Qi deficiency and blood obstruction, lung stomach qi inversion, lung kidney yin deficiency, spleen kidney yang deficiency were summarized, and the basic treatment method of “strengthening vital energy to replenish lung and spleen, promoting gasification to expel phlegm and blood stasis” was established, and the representative prescriptions were given respectively. For the early asymptomatic patients, the idea of disease differentiation and treatment was put forward, which was mainly composed of Maiwei Buzhong Yiqi Decoction and Qianjin Weigan decoction. In order to provide new ideas and methods for TCM clinical diagnosis and treatment of pulmonary interstitial fibrosis, this paper preliminarily constructed the syndrome differentiation and treatment system of pulmonary interstitial fibrosis under the guidance of the five element theory of gasification.

Keywords: Pulmonary interstitial fibrosis, Traditional Chinese medicine, Theory of qi transformation in the five elements, Syndrome differentiation and treatment.

1. Introduction

Pulmonary interstitial fibrosis (PIF) is a chronic and progressive fibrosis interstitial lung disease, which is characterized by irreversible decline of lung function. The main clinical manifestations are chest tightness, shortness of breath and dyspnea [1]. Its pathogenesis is not clear, which may be related to factors such as extracellular matrix deposition, inflammatory reaction, coagulation fibrinolysis system imbalance, macrophage polarization imbalance, angiogenesis, oxidative stress and so on [2]. The typical pathological manifestations are diffuse alveolitis and interstitial fibrosis [3]. At present, pirfenidone [4] and nintedanib are mainly used in the treatment of pulmonary interstitial fibrosis [5], but they are expensive, and there are adverse reactions such as gastrointestinal reactions, liver and kidney function damage, and the patient compliance is poor [6], so it is urgent to explore new treatment options.

There is no corresponding disease name of “pulmonary interstitial fibrosis” in the ancient books of traditional Chinese medicine. According to its clinical symptoms, it is mostly attributed to the categories of “cough”, “pulmonary flaccidity”, “pulmonary obstruction”, “asthma syndrome”, etc [7]. Modern internal medicine of traditional Chinese medicine classified it as lung flaccidity, and its core pathogenesis was summarized as follows: heat in the upper energizer, lung

dryness and fluid injury; Or lung qi deficiency and cold, Qi does not turn into fluid, resulting in fluid loss, lung loss of nourishment, and lung leaf wilting. The clinical syndrome differentiation can only be divided into deficiency heat syndrome and deficiency cold syndrome [8], which is not enough to cover the complex syndrome of the disease. On the basis of predecessors and years of clinical experience, Professor Liu Huawei put forward the theory of five elements Zang Fu Qi machine gasification (referred to as “five elements gasification theory”), which further refined the syndrome differentiation and treatment of pulmonary flaccidity, and provided a more systematic theoretical support for the TCM treatment of pulmonary interstitial fibrosis.

2. Theoretical Sources

The concept of “Qi” in traditional Chinese medicine originates from “Qi monism” [9]. The ancients believed that Qi was the origin of all things in the universe. The annotation to ShuoWenJieZi said, “Qi is the origin of cloud gas, which is extended to the name of all Qi” [10]. Chuang Tzu's travel to the North said: “the life of a person is the gathering of Qi. Gathering is life, and scattering is death. So it is said that one Qi ear connects the world” [11], pointed out that the connotation of Tao is Qi. The sages of traditional Chinese medicine introduced this philosophy into the field of medicine to explain the law of human life activities. “Lingshu · Jueqi”

said: “Shangjiao development, promote the taste of grain, fumigate the skin, fill the body, and moisturize the hair. If it is irrigated by fog and dew, it is called Qi” [12]. Suwen · six micro purport theory “said:” if it goes in and out, it will disappear, and if it goes up and down, it will become isolated and dangerous. “This further explained the concept of Qi in the human body and Qi machine gasification. The article also said, “if you don’t go in and out, you can’t grow old; if you don’t go up and down, you can’t grow into a collection. If you go in and out by going up and down, you can’t have anything” [13]. It is clearly pointed out that the air engine is composed of four kinds of movement forms, i.e. ascending, descending, exiting and entering of air. “Su Wen · Yin Yang Ying Xiang Da Lun” says: “taste returns to form and form returns to Qi; Qi returns to essence and essence returns to form; essence feeds on Qi and form eats taste; transformation generates essence and Qi generates form... Essence turns into Qi” [14], this paragraph is the essence of the gasification process.

On the basis of systematically combing the theory of Qi machine gasification in the Yellow Emperor’s Internal Classic, Professor Liu Huawei creatively put forward the “five elements Zang Fu Qi machine gasification theory” (referred to as “five elements gasification theory”), which extends the concept of gasification from the overall level to the Zang Fu level, and constructs a dynamic gasification system with the five zang organs as the core, providing a new theoretical framework for the clinical diagnosis and treatment of gasification disorders related diseases.

3. Five Elements Gasification Theory

The theory of five elements’ gasification is a theoretical system for studying the gasification movement of natural and human Qi machines and their relationship. The theory takes the gasification of five elements’ nature and five elements’ Zang Fu organs as the research object, and aims to reveal the correlation between the gasification of natural and human Qi machines [15].

According to the theory of five elements gasification, man is a member of nature. The gasification of human body is essentially the same as that of nature, and the movement of Qi machine is homologous with the gasification process. Therefore, we can systematically study the correlation between the five elements’ Zang Fu organs and their tissues and organs (five bodies, five senses, five orifices, etc.) and the five elements’ nature and its associated things (five aspects, five seasons, five grains, five colors, five flavors) according to the theory of Qi mechanism of the rise and fall of yin and Yang between heaven and earth, the gasification theory of the gas phase sense of yin and Yang, and the law of restraint of the five elements [16].

The theory puts forward that “ascending and descending in and out” and “discrete polymerization” are the two basic forms of five element gasifier. The dynamic trend of ascending and descending in and out is to express the Qi machine, and the aggregation and dispersion is to express the polymerization and application of gasification. The two complement each other and jointly maintain the function of Zang Fu organs and the normal metabolism of Qi, blood and body fluid. Based on this, the five elements gasification

theory further puts forward the era proposition of “gasification disease”, which is defined as a kind of disease and syndrome caused by the disorder of Qi mechanism and the loss of division of gasification. According to this theory, the pathological process of gasification disease can be divided into four basic types, namely “too much yang” and “too little Yang” and “too much yin” and “too little Yin”. These four are the basic pathological situation of abnormal gasification, and the corresponding regulation and treatment rules are established accordingly [17].

To sum up, the five elements theory of gasification transforms the theory of gasification from a philosophical concept into a clinically operable analytical tool from the holistic perspective of the correspondence between heaven and man. It uses the ascending and descending gathering powder to control the gasification of the Qi machine, and uses the Yin to yang to identify the pathological situation, which provides a systematic theoretical framework for understanding diseases, establishing treatment principles, and organizing prescriptions and drugs from the perspective of visceral gasification.

4. Understanding of the Theory of Five Elements’ Gasification on Pulmonary Interstitial Fibrosis

Modern medicine believes that according to the progress rate of pulmonary interstitial fibrosis, it can be divided into ordinary interstitial pneumonia and acute interstitial pneumonia. Acute is rare and has high mortality; Most of them are ordinary type [18]. The main clinical features are insidious progressive dyspnea with short inspiratory sounds, dry cough or cough with a small amount of white mucilaginous sputum, which is unfavorable for expectoration. In secondary infection, the amount of sputum increased or turned yellow, occasionally with blood in the sputum. Some patients may have chest pain, spontaneous sweating, anorexia, weight loss, emaciation, fatigue, shortness of breath and other symptoms. Clubbing fingers (toes), cyanosis, honeycomb lung, lung atrophy and other manifestations can be seen in the late stage.

From the analysis of TCM clinical syndrome characteristics, the disease is a chronic disease process, characterized by progressive dyspnea, chest tightness and shortness of breath. According to the theory of traditional Chinese medicine, the lung is the first of the five zang organs, ranking in the middle of the chest, the chest is the house of clearing Yang, and the lung is the organ of clearing. Under physiological conditions, the lung “aggregates” the natural Qi, the essence and vitality of water and valley, and the blood of the whole body into the lung, and “disperses” and distributes it to the whole body, which is the specific embodiment of the gasification function of the lung, that is, the constant of “gathering and dispersing” gasification.

If the gasification function of the lung is lost, there are two pathological states: one cannot “aggregate” Qi, blood and body fluid in the lung, which is lung deficiency; The two “gather” rather than “disperse”. Qi, blood and body fluid stagnate in the lung, which is lung excess. Lung deficiency and lung excess cause and effect each other, forming a vicious

circle. If the Qi, blood and body fluid accumulated in the lung cannot be gasified normally, they will be transformed into pathological products such as water, dampness, phlegm and blood stasis, which will accumulate in the lung, stagnation of lung qi, limited exhalation, resulting in lung consolidation, chest tightness, shortness of breath and dyspnea; If you inhale for a long time, it will be difficult to inhale.

Lung excess further affects the function of lung aggregation and dispersion, and aggravates lung deficiency. Lung qi deficiency can not absorb the essence and Qi of the five zang organs stored in the kidney, leading to kidney qi deficiency and loss of Qi absorption. Therefore, it can be seen that the breathing surface is shallow, and movement leads to asthma. Finally, it will lead to Qi deficiency of lung, spleen and kidney, and loss of Qi function. Therefore, in the middle and late stages of the disease, the symptoms of Yang deficiency are common, such as sweating, fear of cold, tepid hands and feet, stupidity, decreased libido, emaciation and fatigue, blue lips, clear and long urination frequency, and weak pulse.

The recovery of lung qi deficiency causes phlegm dampness and blood stasis to gather and aggravate lung excess. Deficiency and excess are cause and effect each other, resulting in complex syndromes such as excess in deficiency, deficiency in excess, deficiency in excess and deficiency in excess. To sum up, from the perspective of syndrome analysis, the main symptoms of this disease are dyspnea, chest tightness and shortness of breath. The syndrome belongs to deficiency with excess. The core etiology and pathogenesis are Lung Qi Yin deficiency, Qi loss, phlegm dampness and blood stasis, and Qi mechanism imbalance. Fever, chest pain, hemoptysis, pleural effusion and other symptoms and signs can be seen in the course of the disease. The treatment should be modified according to the symptoms, and the symptoms and signs will be treated in case of emergency. Clinical practice should take the main syndrome as the key link, distinguish the primary and secondary, and distinguish the specimen.

5. Therapeutic Principles and Methods of Pulmonary Interstitial Fibrosis under the Guidance of Five Elements Theory

Based on the above analysis, pulmonary interstitial fibrosis is a syndrome of excess due to deficiency, deficiency due to excess, and deficiency and excess mixed, which belongs to the category of miscellaneous diseases in internal medicine of traditional Chinese medicine. The core etiology and pathogenesis are deficiency of lung qi (Yin), loss of Qi, phlegm dampness and blood stasis, and imbalance of Qi mechanism. Based on this, the treatment principles are established: first, strengthening vital energy to promote gasification, including tonifying lung qi, tonifying spleen qi and warming kidney qi; The second is to dispel evil Qi and promote ventilation, including phlegm, dampness, diuresis and blood stasis. The clinical manifestations of this disease often involve the lung, spleen, stomach and kidney, suggesting that qi deficiency is related to multiple viscera. Therefore, the treatment should be comprehensive and distinguish between primary and secondary. The treatment methods can be summarized as tonifying lung qi, tonifying middle Qi, tonifying spleen qi, warming spleen yang,

accepting kidney qi, soothing liver qi, reducing stomach qi, nourishing lung yin, activating qi and blood, dispersing lung qi, resolving phlegm and dampness, treating cough, and calming asthma. The above small treatment methods can be summarized as six methods, namely, tonifying qi and resolving phlegm, accepting Qi and purging lung, tonifying qi and activating blood circulation, relieving pain, nourishing yin and reducing fire, warming spleen and kidney, which are the criteria for the composition of compound prescriptions, and combined with clinical prescriptions.

6. Syndrome Differentiation and Treatment

6.1 Qi Deficiency and Phlegm Stagnation Syndrome

The main clinical symptoms are cough, silent cough, white phlegm cough, poor expectoration, shortness of breath, sweating, fatigue, abdominal distension, poor appetite, thin stool, light tongue, white greasy fur, and weak pulse. The treatment should be tonifying the lung and spleen, benefiting qi and resolving phlegm, and the LiuJunzi Decoction should be modified.

6.2 Upper Excess and Lower Deficiency Syndrome

The clinical manifestations are cough, continuous cough, expectoration, accumulation of phlegm and saliva, chest and diaphragm fullness, wheezing and shortness of breath, excessive breathing and less breathing, or low back pain and weak feet, limb fatigue, or limb edema, white or greasy tongue coating, slippery and weak pulse string. It is advisable to relieve the lung, relieve cough, and relieve asthma. Suzi Jiangqi decoction was added or subtracted.

6.3 Qi Deficiency and Blood Stasis Syndrome

The clinical symptoms are cough, chest tightness, chest pain, and even expectoration with blood, dark red blood, wrong nails in the chest, shortness of breath, asthma, fatigue, poor appetite, pale tongue, thin white fur, and tortuous sublingual collaterals. It is suggested to replenish qi and spleen, remove blood stasis and unblock collaterals. Add and subtract Buzhong Yiqi Decoction and Qianjin reed stem decoction.

6.4 Lung Stomach Qi Inversion Syndrome

The clinical symptoms are cough, yellow or white phlegm, vomiting, shortness of breath, asthma, dry mouth, bitter mouth, stomach distension, gastric distension, stupidity, poor stool or constipation, red or pale tongue, thin white or yellow fur. The inch pulse is huge and powerful. It should be treated with pungent and bitter herbs, clear the lung and stomach, and add or subtract Banxia Xiexin Decoction Combined with Huanglian Wendan Decoction or Maimendong decoction.

6.5 Lung Kidney Yin Deficiency Syndrome

The clinical symptoms are cough, spitting yellow or white phlegm, sticky phlegm and difficult to cough, or even hoarseness, dry throat and mouth, five heart fever, hot flashes, night sweats, dry stool, short and yellow urine, thin red and dry tongue, thin yellow fur, and thin pulse. It is suggested to nourish yin and reduce fire, and tonify lung and kidney. Add

and subtract wheat flavored Rehmannia Decoction.

6.6 Spleen Kidney Yang Deficiency Syndrome

The clinical symptoms are cough, cough and spit, clear white phlegm and saliva, endless cough and spit, warm and ready to spit, aggravating cold, shortness of breath, asthma, chilly limbs, numbness of epigastric fullness, low back pain, or even lower limb edema, clear and long urine, light fat tongue with tooth marks, white and greasy fur. The treatment should be warming and tonifying the spleen and kidney, resolving phlegm and expelling drinking, and supplemented by Jisheng Shenqi Pill and linggan Wuwei Jiangxin decoction.

7. Disease Differentiation and Treatment

In the early stage of pulmonary interstitial fibrosis, the decline of lung function is not obvious, and there are often no obvious symptoms in clinic, and there is no obvious change in tongue and pulse, which is the state of “no evidence to distinguish”. At this time, syndrome differentiation and treatment is difficult to start, and disease differentiation and treatment can play its unique role.

Yuemeizhong, a famous doctor in modern times, pointed out in his medical Anthology of yuemeizhong that “medicine is used when there is a disease, so there is a special prescription for a disease... If you can't identify the disease, how can you recognize the syndrome, how can you use the prescription, and how can you treat it”. This theory profoundly reveals the important position of disease differentiation and treatment in the diagnosis and treatment system of traditional Chinese medicine. The theory of five elements gasification created by Professor Liu Huawei has further deepened the Micro syndrome differentiation system of traditional Chinese medicine, brought the pathological changes of modern medicine into the perspective of syndrome differentiation, and made the disease differentiation and treatment more accurate and operable.

Professor liuhuawei believes that the basic pathogenesis of pulmonary flaccidity (pulmonary interstitial fibrosis) is the deficiency of lung qi (Yin), loss of Qi, phlegm dampness and blood stasis, and imbalance of Qi mechanism. According to this, the basic treatment method was established as “strengthening vital energy to replenish lung and spleen, promoting gasification to expel phlegm and blood stasis”. For patients with no obvious symptoms in the early stage, Maiwei Buzhong Yiqi Decoction and Qianjin Weigan Decoction were commonly used.

In Qianjin reed stem soup, reed roots can clear away heat, detoxify and promote qi; Raw coix seed invigorates spleen and exudes dampness; Wax gourd kernel can clear phlegm, while peach kernel can promote blood circulation and remove blood stasis. The combination of the four drugs can clear away heat, detoxify, remove dampness, remove phlegm and eliminate blood stasis. It is noteworthy that there is a corresponding relationship between the occurrence and development of this disease and the exudation, proliferation and necrosis stages of chronic inflammation in modern medicine: the exudation stage conforms to the pathogenic characteristics of “water dampness” in traditional Chinese medicine; The proliferative

phase was consistent with the pathogenic characteristics of “invisible phlegm” in traditional Chinese medicine; The necrotic stage is consistent with the pathogenic characteristics of “blood stasis” in traditional Chinese medicine. The compatibility of Qianjin Weigan decoction is corresponding to the three stages of Pathology, reflecting the comprehensive treatment idea of eliminating heat, poison, dampness, phlegm and blood stasis.

Maiwei Buzhong Yiqi Decoction is Shengmai Powder (ginseng, Ophiopogon japonicus, Schisandra chinensis) combined with Buzhong Yiqi Decoction. Shengmai Powder can nourish Qi and Yin, Buzhong Yiqi Decoction can nourish the middle and rise depression, benefit the lung and strengthen the health. The two sides are consistent, playing the functions of Tonifying the lung and spleen, resolving phlegm and removing blood stasis, and both reinforcing and reducing, which are highly consistent with the basic pathogenesis of the disease.

In conclusion, disease differentiation and treatment has important complementary value in the early stage of “no evidence can be distinguished”. Through the microscopic perspective of syndrome differentiation of the five elements theory, the integration of modern pathological knowledge and traditional pathogenesis theory can make the disease differentiation and treatment more accurate, make up for the deficiency of simple syndrome differentiation and treatment, and provide new ideas and methods for the early intervention of pulmonary interstitial fibrosis.

8. Conclusion

Guided by the theory of five elements gasification founded by Professor Liu Huawei, this paper systematically discusses the TCM syndrome differentiation and treatment of pulmonary interstitial fibrosis. Under the theoretical framework of the five elements theory of gasification, pulmonary interstitial fibrosis is included in the categories of “cough”, “lung flaccidity”, “lung obstruction”, and so on. It is clear that the evolution of its pathogenesis is characterized by excess due to deficiency, deficiency due to excess, and intermingled deficiency and excess. The core pathogenesis is lung qi (Yin) deficiency, Qi loss, phlegm dampness and blood stasis, and Qi mechanism imbalance. Based on this, we established the basic treatment principle of “strengthening vital energy to replenish the lung and spleen, promoting gasification to expel phlegm and blood stasis”, and summarized six common syndrome types and their representative prescriptions, including Qi deficiency and phlegm stagnation syndrome, upper excess and lower deficiency syndrome, Qi deficiency and blood stasis syndrome, lung stomach qi inversion syndrome, lung kidney yin deficiency syndrome, spleen kidney yang deficiency syndrome, and initially constructed the syndrome differentiation and treatment system of pulmonary interstitial fibrosis under the guidance of the five element theory of Qi. In view of the early asymptomatic and undocumented patients, this paper puts forward the idea of disease differentiation and treatment, with Maiwei Buzhong Yiqi Decoction and Qianjin Weigan decoction as the main formula, which reflects the deepening and expansion of the five elements gasification theory on microscopic syndrome differentiation.

Pulmonary interstitial fibrosis is still one of the refractory pulmonary diseases in respiratory department. This paper systematically expounds the law of TCM syndrome differentiation and treatment combined with the theory of five elements gasification, aiming to provide new ideas and methods for the clinical diagnosis and treatment of the disease. As this study belongs to theoretical discussion, there are still some unfinished points in it. We look forward to further verification and improvement in clinical practice, in order to improve the quality of life and clinical efficacy of clinical patients.

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