

Research Progress in the Treatment of Chronic Pancreatitis with Dachaihu Decoction

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Keywords: Dachaihu Decoction, Chronic Pancreatitis, Abdominal Pain

Abstract: Through the study of a large number of literatures related to chronic pancreatitis, it is found that there are a large number of clinical observation and experimental data, which show that Dachaihu decoction has a significant effect on chronic pancreatitis. Dachaihu Decoction is a famous prescription in Zhongjing's treatise on Febrile diseases, which is widely used to treat many diseases in clinic. This article will focus on the clinical application and modern research results of Dachaihu Decoction, and review the research progress of Dachaihu decoction in the treatment of chronic pancreatitis in recent years.

Chronic pancreatitis is one of the most common diseases of the digestive system in clinical practice. Its clinical manifestations include recurrent epigastric distension, jaundice, fat diarrhea, loss of appetite, weight loss and elevated blood glucose. At present, the treatment of pancreatitis in western medicine mainly includes removal of the primary disease, symptomatic treatment and other means[1], but the treatment effect is not ideal. A large number of clinical practice and experimental studies have shown that traditional Chinese medicine has a good therapeutic effect on chronic pancreatitis, and Dachaihu decoction is widely used as a common prescription for the treatment of chronic pancreatitis. Based on this, the author reviewed the treatment and research status of Dachaihu decoction for chronic pancreatitis.

1. Etiology and Syndrome Differentiation of Chronic Pancreatitis

Chronic Pancreatitis (CP) is characterized by progressive pancreatic damage caused by inflammation, including the infiltration of inflammatory cells, pancreatic fibrosis and calcification, and destruction of glandular structure, thereby affecting the normal digestion and absorption of nutrients[2]. At present, the pathogenesis of CP is still unclear, but some studies have shown that the occurrence of CP is related to alcoholism and overeating. Due to the deep anatomical location of the pancreas and its insidious onset, early diagnosis of CP is still difficult. Long-term and repeated delay of CP will increase the risk of pancreatic cancer [2]. At present, pancreatic enzyme preparations, analgesics and immunosuppressive drugs are mostly used in hospitals to relieve patients' pain, relieve diseases and improve the value of patients' lives [1]. However, the therapeutic effect is often not ideal, and a large number of clinical practice has proved that the curative effect of

traditional Chinese medicine in the treatment of chronic pancreatitis is reliable.

1.1 Etiology of Chronic Pancreatitis

TCM has long said that the spleen is the pancreas. The pancreas exists as the internal organ of the spleen. In *The Theory of the Sun and Yang Ming in the Internal Classic*, it is believed that "the spleen and stomach communicate with each other through membranes, so that their body fluids can be used". The membrane referred to is now the anatomical pancreatic duct. The *Forty two Difficulties of the Difficult Menstruation*: "The spleen weighs two jin, thirty-two, three inches wide, five inches long, and a half jin of loose cream." This "powder ointment" refers to the pancreas, so the pancreatic diseases should belong to the scope of "spleen diseases" in traditional Chinese medicine. For example, Li Dongyuan said in *"Spleen and Stomach Theory on Spleen and Stomach Prosperity and Weakness"* that "all diseases are caused by spleen and stomach failure." The spleen is the main digestive organ of human beings. The spleen and stomach are both external and internal, the spleen and stomach are weak, and the central energizer and qi are not smooth, which leads to stagnation of liver qi, dysfunction of liver catharsis, and stagnation of qi and blood. Therefore, spleen deficiency leads to stagnation of liver qi, and stagnation of liver qi for a long time will lead to blood stasis, which leads to CP. In *Volume IV of Medical Essay*, it is said that "the gasification of the twelve meridians of the zang fu organs must be encouraged by the gasification of the liver and gallbladder, so that they can be adjusted smoothly without disease". The liver is responsible for relieving, which plays a key role in regulating the balance of the high and low levels of qi in and out of the human body. However, if the liver is not relieved, and the qi is stagnant, it will lead to CP. Ye Tianshi, a doctor, said: "Jueyin follows Yang Ming, stomach soil is damaged for a long time, and liver and wood are more horizontal", which means that the liver is not comfortable, and the spleen blocks the stomach, and the wood takes the spleen and soil, and the spleen and stomach rise and fall abnormally. This is why CP patients have abdominal pain and abdominal distension, even diarrhea, or stomach soil, and the qi inversion does not fall, nausea and aversion accept decrease, and the pain of both sides. Due to the complexity of the pathogenesis of CP, modern physicians have different understandings of CP. Li Hougen[3] believed that CP was caused by the weakness of the spleen and stomach and the retention of dampness and heat in the middle energizer. It was very effective to treat CP with the method of supplementing qi and promoting yang, clearing heat and removing dampness. The disease is located in the spleen, and the treatment of CP with the method of promoting yang and benefiting stomach is satisfactory. Professor Wei Pinkang believed that CP disease was closely related to the evil of turbid phlegm [4]. When the human body was immersed in the evil of turbid phlegm, it was easy to get wet and become phlegm due to the blockage of water dampness transport. The internal resistance of the turbid phlegm was in the middle focus. The transport function was bad because of the poor pivot, which hurt the pancreatic collateral, so CP symptoms such as abdominal distension, anorexia, and diarrhea appeared. Rong Jinjin et al.[5] believed that CP was mostly caused by qi depression, mainly due to stagnation of liver qi and imbalance of qi movement, which caused pancreatic dysfunction.

In conclusion, a large number of TCM clinical practices have found that the pathogenesis of CP is always the deficiency and consolidation of the original, which is the weakness of the spleen and stomach, the imbalance of the liver and spleen, and the dampness and heat of the liver and gallbladder. Labeled as Qi stagnation, blood stasis, wet resistance, etc. The joint action of the specimen, the deficiency and the reality mixed, consumed the liver and spleen healthy qi, resulting in the function of other viscera damage, lingering disease, prolonged healing.

1.2 TCM Syndrome Differentiation of Chronic Pancreatitis

Because the causes of CP are very complex, many doctors have not yet unified their understanding of the etiology and pathogenesis of CP, so there is no consensus on the TCM syndrome differentiation of CP. The author believes that the disease location of CP is no other than liver, gallbladder, spleen and stomach. According to the etiology, pathogenesis, disease location, clinical manifestations and previous clinical experience, CP is temporarily classified into the following three syndrome types: ① The spleen is weak and unlucky, and dampness obstructs the spleen and stomach of the middle energizer. If the innate essence is insufficient to nourish the spleen and stomach, the spleen and stomach function is weak, the transportation is derelict, and the food is fat and sweet. After the food enters the stomach, the digestion and absorption of the food is not complete, the spleen cannot completely transform the food into water and grain essence, and the spleen is stagnant in the middle energizer. The patients with this syndrome often suffer from abdominal distension, fatigue, lack of diet, diarrhea, etc. ② The stagnation of liver qi and the stagnation of spleen and stomach is the center for regulating the rise and fall of qi. If the function of spleen and stomach is disordered, the energy mechanism of the middle energizer is not smooth, while the liver belongs to the wood like rod, which is mainly used for relieving, and is evil for depression. The liver is used for relieving, and the qi mechanism is blocked. The qi movement is blood flow, the stagnation of qi is blood stasis, and the blood stasis is abdominal pain. ③ The damp heat of liver and gallbladder, the endogenous water dampness of the constitution of sand and spleen deficiency caused by long-term suffering, and the fat sweet and thick taste caused by perennial overeating can cause the damp to accumulate in the liver and gallbladder. The course of the disease has lasted for a long time, and the damp evil depression has long changed into heat. The body fluid is boiled, and becomes sand for a long time, blocking the bile duct. Therefore, CP patients with this syndrome often have jaundice symptoms. And Dachaihu decoction has the effect of reconciling Shaoyang, internal diarrhea and heat knot, so Dachaihu decoction is often used in clinic as a basic prescription for treating CP.

2. The Therapeutic Effect of Dabuhu Decoction on Chronic Pancreatitis

2.1 Clinical Application of Dabupleurum Decoction

This prescription uses Xiaochaihu decoction to remove ginseng and licorice, and then adds peony, poria, rhubarb and other ingredients. If Shaoyang disease has not been solved, you can use Xiaochaihu decoction to adjust the pivot. However, because it is also the Li Shi of Taiwan Yangming, you can no longer supplement it. Instead, you should remove ginseng and roasted licorice to avoid blocking the evil. In addition, with Poria cocos and rhubarb, you can use them to promote qi and dispel ruffians, and pass down heat and stool, which is a combination of external use and treatment of Shaoyang disease, and internal catharsis of Yangming and stagnation of pathogenic factors. The combination of the two means that both Yangming and Shaoyang diseases can be solved. Huang Huang[6] summarized the four major syndromes of Dachaihu decoction according to the classic expression of the formula and syndrome of Dachaihu decoction, namely, ① "full pain of pressing under the heart" ② vomiting ③ depression and slight annoyance ④ alternating cold and heat. He advocated paying attention to abdominal diagnosis in traditional Chinese medicine, and believed that "full pain of pressing under the heart" was the main symptom of CP patients, and Dachaihu decoction was the necessary prescription of "full pain of pressing under the heart", with low clinical recurrence rate and obvious relief of symptoms.

Chaihu decoction is not only unique in the treatment of CP, but also widely used in other internal diseases. Dr. Hu Xishu, a famous TCM veteran, skillfully applied large chaihu decoction in the

clinical practice of medical medicine [7] to diagnose and treat appendicitis, asthma, diabetes, epilepsy, external sensation and internal injury and other diseases. Jiang Liangdu[8] is good at using Dachai Hu Tang to prevent various diseases such as external sensation and internal injury, and suggests that when using Dachai Hu Tang in different diseases, the original recipe of Dachaihu decoction should be fine-tuned according to the situation, which has a significant effect. In addition, some clinical doctors use the combination of Chinese and Western treatment of pancreatitis also obtained a good effect.

Cheng Jing[9] tested the expression of IL-1 β and IL-6 in patients with mild acute pancreatitis (liver stagnation and Qi stagnation type) by using Dachaihu decoction combined with conventional Western medicine, and found that the levels of IL-1 β and IL-6 in serum were significantly down-regulated after treatment, and the inflammatory reaction was alleviated. It indicates that Dabuhu decoction combined with conventional western medicine treatment can effectively remove inflammatory factors produced in the circulation, so as to play a good therapeutic role. Zhou Lun and Yang Dongxing et al. [10-11] used Dabuhu decoction combined with ulinastatin to treat acute pancreatitis, and found that compared with the control group, abdominal distension and pancreatic edema were significantly relieved in the patient group, and the time of each urination was reduced, which effectively alleviated the patient's symptoms. Ling Jing [12] found that the internal administration of Dachaihu decoction combined with enema in the treatment of acute pancreatitis could relieve the symptoms of patients faster, which was conducive to the recovery of immune function.

Name old doctor of traditional Chinese medicine, therefore, on the basis of the accurate syndrome differentiation to add and subtract to cure CP curative effect is distinct, and today's clinical doctors on the basis of the original parties attending the play at the same time, the big radix bupleuri decoction with western medicine therapy to further expand the scope of the clinical application of radix bupleuri soup, not only have a good curative effect in treatment of acute pancreatitis, a variety of medical difficulty miscellaneous disease also award-winning surprise effect.

2.2 Research Progress of Dachaihu Decoction in the Treatment of Chronic Pancreatitis

Dachaihu decoction has been used in clinical treatment of CP for a long time, but the mechanism of its treatment of CP is still unclear. CP is the main pathological feature of pancreatic fibrosis, experimental studies have shown that using major bupleurum decoction can reduce the degree of fibrosis of CP, reduces the pancreas damage and achieved a better cure effect, such as zhu im excellent [13] by twenty percent mice induced by intraperitoneal injection of L - arginine the rebuilding of CP model, to observe the CP in the development of IL - 6 / STAT3 The results of HE staining and Masson staining showed that the degree of pancreatic tissue damage in the treatment group was significantly lower than that in the CP group. PCR results showed that the mRNA expression levels of IL-6, MMP-1 and TIMP-1 in the pancreatic tissue in the treatment group were significantly lower than that in the CP group. The results of Western-Blot showed that the expression level of P-STAT3 was controlled in the treatment group, indicating that Dabuhu decoction could effectively prevent pancreatic fibrosis in chronic pancreatitis. The molecular and pharmacological mechanism of Dabuhu decoction was also related to regulating the level of IL-6/STAT3 information channel.

Xu Xiaofan et al.[14] used Dabuhu decoction for diagnosis based on the chronic pancreatitis model of dibutyltin dichloride (DBTC), which was dripped into the tail vein of mice, and the chronic pancreatitis model which was consumed with 10% alcohol solution. After measuring the parameters of fibrosis such as TGF- β in pancreas and MMP/TIMP in extracellular matrix, it was concluded that

Dabuhu decoction could control the activation of TGF- β /Smad signaling channel, and control the stability of MMP-1/TIMP-1, inhibit the imbalance between the synthesis and degradation of extracellular matrix in CP pancreatic tissue, and then alleviate pancreatic fibrosis. Duan et al.[15] used 20% L-arginine to establish the CP model and used Elisa to measure the serum level of IL-6. It was found that with the progression of fibrosis, the release of a large number of inflammatory factors increased, but the levels of IL-6 and other inflammatory factors decreased significantly after treatment with Dabuhu decoction. Therefore, it was believed that Dabuhu decoction may reduce the pancreatic fiber by inhibiting the release of inflammatory factors. Some studies have pointed out that the pharmaceutical ingredients in Dabuhu decoction can also improve the level of calcium and magnesium and the activity of adenosine triphosphate in human body, and control the production of pancreatic enzymes, thereby reducing the pancreatobiliary pressure [16].

At present, with more and more in-depth research on Bupleurum bupleurum, including the monomer components of bupleurum bupleurum decoction, the research has also entered a new stage. A large number of domestic and foreign research shows that in the rhubarb contains anti-inflammatory effect of emodin treatment of pancreatitis exactly [17-19], emodin in CP rat model can stimulate the release of bile, improve the level of bilirubin, which can relieve large dept. Of the pancreatic duct obstruction, to reduce pancreatic digestion, alleviate inflammation, thus can reduce fibrosis process [15]. In addition, baicalin is the main component of Dachaihu Decoction. Jin Qi et al. found that baicalin can reduce the levels of serum IL-6 and other inflammatory factors during the occurrence of acute pancreatitis, which can significantly reduce the damage of hepatocytes and pancreatic tissue [20].

In conclusion, Dabuhu decoction may inhibit the process of pancreatic fibrosis by reducing the release of inflammatory factors, so as to achieve the purpose of treating CP. However, the specific molecular mechanism of the treatment of CP by bupleurum chinensis, or through which cells in the pancreas play a role, is still unclear, which also provides a new idea for the modern pharmacological research of the treatment of CP by bupleurum chinensis decoction.

3. Outlook

At present, the pathophysiological mechanism of Chinese traditional medicine on CP has been more and more widely discussed in modern medicine, and a new thinking has been put forward to gradually expand the overall prevention and treatment of CP. In recent years, many breakthroughs have been made in the prevention and control of traditional Chinese medicine, which has received widespread attention in China. At present, the treatment of CP by traditional Chinese medicine can not only start from oral and external treatment of traditional Chinese medicine, but also achieve good clinical efficacy according to the body of the doctor. Moreover, TCM treatment of CP has the advantages of multi-path, multi-target and less adverse reactions. As a basic Chinese medicine in the treatment of CP, Dachaihu decoction is proper, mild, effective, small side effects, and high compliance of patients. Therefore, the application of Dachaihu decoction in the treatment of chronic pancreatitis will become an ideal prescription for TCM clinical treatment of chronic pancreatitis. However, there are also corresponding shortcomings, such as the lack of diagnostic indicators, the lack of clinical samples, the evaluation of efficacy is too subjective, lack of rigor. Therefore, it is necessary to vigorously carry out clinical research on CP treatment to obtain a more objective and fair evaluation standard of efficacy, so as to provide a solid guarantee for traditional Chinese medicine in the treatment of CP.

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