

# *TCM Clinical Treatment Progress of Ulcerative Colitis*

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**Abstract:** Chronic non-specific ulcerative colitis, also known as ulcerative colitis, is characterized by abdominal pain, diarrhea accompanied by sudden and heavy bowel movements, and mucopurulent or watery stools. Belongs to the categories of "diarrhea", "bloody stool", and "intestinal bleeding" in traditional Chinese medicine. The course of the disease is long and the condition often recurs. This article collects relevant literature and elaborates on the traditional Chinese medicine etiology and pathogenesis, syndrome differentiation and treatment, representative prescriptions, treatment methods, and treatment effects of this disease. Our conclusion is that traditional Chinese medicine is safe and effective in treating ulcerative colitis.

## 1. Introduction

Ulcerative colitis is a chronic non-specific inflammatory disease of the colon and rectum with unclear etiology, limited to the mucosa and submucosa of the large intestine. The lesions are mostly located in the sigmoid colon and rectum, and can also extend to the descending colon or even the entire colon. The course of the disease is long and often recurrent [1-2]. In recent years, the incidence rate of the disease has been rising and has become a global disease. In western countries, the prevalence rate is more than 0.3%. In recent years, the number of patients in China is also increasing, as shown in Figure 1. Currently, it is believed that it is caused by a combination of environmental factors, genetic factors, immune factors, and microbial factors [3-4]. This disease can be seen at any age, but is most common between the ages of 20 and 30. This disease generally starts slowly and the severity of the condition varies [5]. The symptoms are mainly diarrhea, with the discharge of feces containing blood, pus, and mucus, often accompanied by paroxysmal colic spasmodic pain, and sudden onset followed by severe bowel movements, which can be relieved after defecation. Mild patients have mild symptoms, with less than 5 episodes of diarrhea per day, while severe patients have more than 5 episodes of diarrhea per day, characterized by watery or bloody stools, severe abdominal pain, and in severe cases, systemic poisoning symptoms may occur. If the disease persists for a long time, it can lead to weight loss, anemia, nutritional disorders, weakness, etc. Some patients have extraintestinal manifestations, such as nodular erythema, iritis, chronic active hepatitis, and pericholangitis. In some cases, intestinal perforation, massive bleeding, toxic colon dilation, and other life-threatening conditions can occur. Colitis lesions involving the entire colon, with a history of onset in childhood and more than 10 years, can also lead to cancer transformation [6-7], as shown in Figure

2. The patient's disease persists and is difficult to heal, causing great pain. However, there is currently no effective long-term prevention or treatment method. Therefore, early diagnosis and intervention of ulcerative colitis can prevent its progression to colon cancer and have a positive effect on the prevention and control of colon cancer. Traditional Chinese medicine has good therapeutic effects in treating ulcerative colitis based on syndrome differentiation.

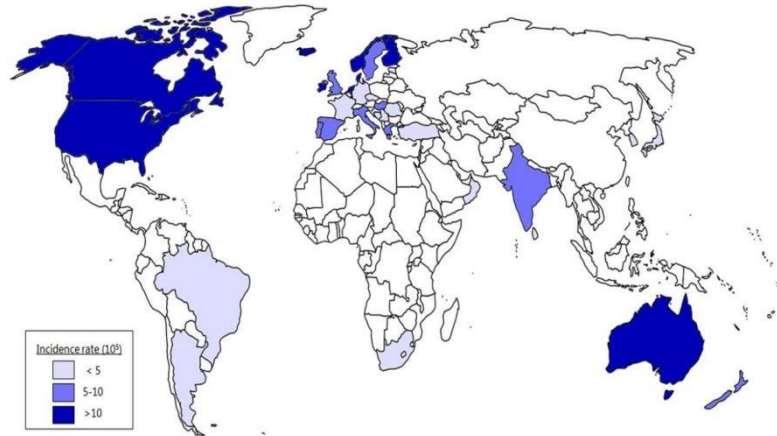


Figure 1: Epidemiological investigation of ulcerative colitis

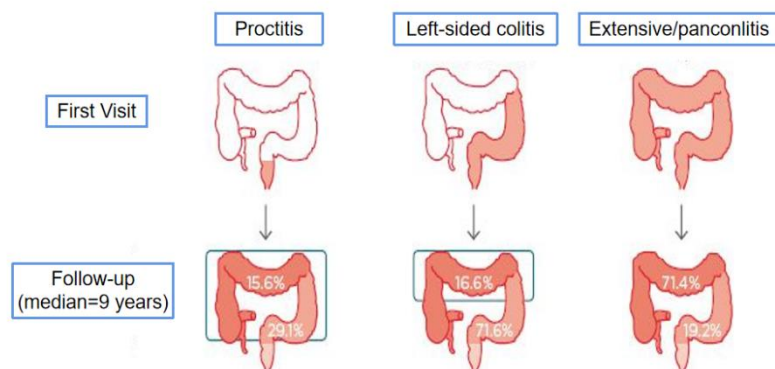


Figure 2: Montreal disease severity classification of ulcerative colitis

## 2. Traditional Chinese Medicine's Understanding of the Etiology and Pathogenesis of Ulcerative Colitis

There is no name for "ulcerative colitis" in ancient Chinese medicine literature, but according to the clinical manifestations of ulcerative colitis, it can be classified into the categories of "diarrhea", "bloody stool", and "intestinal bleeding" [8]. Its location belongs to the large intestine. Traditional Chinese medicine believes that the large intestine has the physiological function of conveying and transforming dregs and regulating fluids. The meridians of the large intestine and lungs are interconnected, forming a relationship between the exterior and interior. The "Su Wen · Ling Lan Mi Dian": "The large intestine is the organ of transmission, and how can it change?" The physiological function of the large intestine is to transmit waste, which refers to the food residue that falls after being cleared and turbid through the small intestine, and then absorbs excess water to form feces, which are discharged from the body through the anus. The changes in the conduction of the large intestine are an extension of the stomach's ability to reduce turbidity, and are related to the lung's ability to suppress turbidity. In addition, the conduction of the large intestine is also related to the

kidney's ability to regulate qi. In the book "The Essence of the Medical Classic - Officials of the Zang and Fu Organs" by Tang Zonghai of the Qing Dynasty, it is said that "the reason why the large intestine can transmit is because it is the organ of the lungs, and the lung qi is transmitted, so it can transmit. The second is the main body of the large intestine, which refers to the large intestine receiving food residues and excess water from the small intestine, and reabsorbing some of it to participate in the metabolism of water in the body. Jin Li Gao's "Spleen and Stomach Theory" states: "The large intestine governs the body fluid and the small intestine governs the fluid. The large intestine and small intestine receive the glory and qi of the stomach, which can promote the body fluid to the upper jiao, irrigate the skin and hair, and enrich the striae. If the diet is not proper, the stomach qi is insufficient, and the large intestine and small intestine have nothing to receive, so the body fluid is exhausted." If the intestine absorbs too much water, it is difficult to dry and settle the stool; On the contrary, diarrhea, loose stools, etc. may occur. The large intestine dominates the body, referring to the reabsorption of water from food residues by the large intestine, which participates in regulating water metabolism in the body, hence the name. The pathogenesis of ulcerative colitis is mainly due to the accumulation of pathogenic and epidemic toxins in the intestines, blocking qi and blood, hindering transmission, and causing damage to the intestinal lipid membrane and blood vessels, which degenerate into pus and blood. The function of intestinal transmission is to transport dross and further absorb body fluids. Diseases such as dampness, heat, and epidemic toxins accumulate in the large intestine, leading to blockages in the qi function of the intestines and obstacles in the reabsorption of body fluids. The intestines cannot transmit dross normally, resulting in abdominal pain and abnormal bowel movements. Evil stagnation in the intestines, dampness and heat stagnation, qi and blood stagnation and decay, damage to the lipid membrane and blood vessels between the intestines, and transformation into purulent blood and diarrhea. The so-called "ointment that covers the organs and moves the veins of the intestines and stomach, so whether cold or hot, there is purulent blood". The loss of intestinal and visceral conduction is due to the obstruction of qi, which is unfavorable. If there is obstruction in the intestine, it will be painful. If there is abdominal pain and you want to defecate, it will be urgent. The frequency of defecation will increase, and if you feel uncomfortable, it will be severe later. These are all due to the dysfunction of the large intestine and conduction function.

### **3. Progress in the treatment of ulcerative colitis with traditional Chinese medicine**

#### **3.1. Syndrome differentiation and treatment**

The important principle of understanding and handling diseases in traditional Chinese medicine is differentiation of symptoms and treatment, which is the basis for each clinical Chinese medicine practitioner to formulate diagnosis and treatment plans. On the basis of traditional Chinese medicine theory, various medical practitioners, based on the different symptoms and signs of patients with ulcerative colitis, combined with their own experience in treating UC, classify and treat UC based on syndrome differentiation, with significant therapeutic effects. Professor Xie Jingri [9] treats UC patients with dampness and heat type by using the "Three Huangs", which include three herbs: Huangqin, Huanglian, and Huangbai. The "Three Huangs" can clear heat due to cold and dry dampness due to bitterness. If the dampness and heat are severe, Kushen and Qinpi can be added as appropriate to enhance the ability to clear heat and dry dampness; If symptoms such as nausea, vomiting, and numbness are also present in the spleen due to dampness, then add Huoxiang, Peilan, Cangzhu, and Amomum villosum to fragrant and damp. Wang Qingqi [10] believes that the pathogenesis of UC is mostly based on the deficiency of qi and blood in the spleen and stomach, and the accumulation of dampness and heat toxin. Propose the treatment principle of "half treating dysentery and half treating ulcers". And treat UC by stages, starting from clearing heat, promoting

dampness, and detoxifying to treat dysentery, detoxifying, eliminating carbuncle, and expelling pus to treat ulcers during the onset period; During the remission period, it is necessary to treat dysentery by tonifying the spleen, promoting yang, and solidifying the body, as well as by strengthening the spleen, supporting sores, and promoting muscle growth to treat ulcers. Professor Han Jie [11] discusses the dampness of Taiyin disease, the recovery of Jueyin, and the combination of Shaoyin, water, and fire. Propose the treatment principles of "dispelling dampness and stopping diarrhea in the treatment of Taiyin", "nourishing the liver with blood in the treatment of Jueyin", and "regulating water and fire in the treatment of Shaoyin". Professor Jiang Deyou [12] divided UC into four syndrome types: dampness heat toxin stasis type using Shaoyao Tang and Baitouweng Tang; Danggui Shaoyao San and Xianglian Wan are used for liver depression and spleen deficiency type; Spleen deficiency and dampness excess type should be treated with Shenling Baizhu Powder; The clinical efficacy of using Fuzi Lizhong Wan and Sishen Wan for spleen and kidney yang deficiency is significant.

Traditional Chinese medicine based on syndrome differentiation and treatment analyzes diseases as a whole, emphasizing not only the growth and decline of pathogenic factors, but also the strength of positive qi; Emphasize the characteristics of each patient, paying attention to both common patterns and individual differences in specific cases.

### 3.2. Experience treatment

In long-term clinical practice, doctors have continuously optimized and summarized the experience formula for treating UC, which is the essence of eliminating the turnip and preserving the essence after a long time of accumulation and modification, and has achieved remarkable clinical effects. Yang Qin et al. [13] used a self-designed decoction for clearing heat, drying dampness, and resolving blood stasis to treat UC, which has the effects of purging heat and toxins, dispersing stasis, and so on. This study combines oral and enema treatment with this formula, which can significantly reduce the serum inflammatory factor TNF in ulcerative colitis- $\alpha$ . The secretion of IL-17 and IL-23 has a significant effect and high safety. Zhou Yuchen et al. [14] developed a combination of traditional Chinese medicine Shengyang Jianpi Tang and Zhitong San for the treatment of colorectal dampness heat type UC. Shengyang Jianpi Tang has the effects of tonifying qi, strengthening spleen, and promoting yang to stop diarrhea. However, the combination of Zhitong San can reduce the body's response to pain and exert analgesic and anti-inflammatory effects, with a total effective rate of 80%. Professor Yan Guangjun [15] believes that mild to moderate recurrence of UC is mainly characterized by dampness and heat, and those who repeatedly linger and do not heal can affect the spleen and kidneys. For those with excessive dampness and heat, self-formulated Qingre Tongjiang Tang has the effect of clearing heat, removing dampness, and stopping dysentery. We have also developed a self-formulated heat clearing enema solution, which allows the medication to reach the affected area directly and can eliminate dampness and heat pathogenic factors, with significant therapeutic effects. For patients with spleen and kidney deficiency, it is recommended to use ointment formulas for treatment. Sha Jianfei [16] developed a self-made colitis decoction to treat UC patients with liver hyperactivity and spleen deficiency, and proposed an addition and subtraction method. For those with severe phlegm dampness, Cangzhu, Pinellia ternata, and Huoxiang were added to dissipate phlegm and dampness; For those with kidney yang deficiency, add aconite, nutmeg, and psoralen to warm the kidneys and stop diarrhea.

The empirical formula is derived from summarizing the experiences of various generations of doctors or the general public. Generally speaking, the therapeutic effect is quite good, but some of the experiences need to be verified for authenticity.

### 3.3. Chinese patent medicine treatment

Traditional Chinese patent medicines and simple preparations is an innovative reform in the history of the development of traditional Chinese medicine, which solves the problems of inconvenient carrying and long decocting time of traditional Chinese medicine decoction for people. Traditional Chinese patent medicines and simple preparations can choose Xilei Powder, Kangfuxin Solution, Bupiyichang Pill, Bingpeng Powder, Yunnan Baiyao, Liushen Pill, Compound Huangbai Solution, Fuzi Lizhong Pill, Changchangning, Guchang Zhixie Pill, etc. The efficacy of these traditional Chinese patent medicines and simple preparations in treating ulcerative colitis has also been verified by more clinical studies. Zhu Yangqing [17] conducted a meta-analysis on 1719 patients with ulcerative colitis who were included in the study. The research results showed that patients who took Wuwei Kushen enteric coated capsules had significant improvements in clinical symptoms, mucosal efficacy under colonoscopy, and the condition of mucous pus and bloody stools, all of which were better than the control group. This indicates that Wuwei Kushen enteric coated capsules have good therapeutic effects in treating UC. Cai Xiaosong [18] used traditional Chinese patent medicines and simple preparations to treat UC according to syndrome differentiation, and the control group took orally sulfasalazine tablets. For UC patients with dampness heat injection type, take Longdan Xiegan tablets orally; For UC patients with excessive heat toxicity, take orally Qingre Jiedu capsules; For UC patients with spleen stomach deficiency cold type, oral administration of Shen Ling Bai Zhu Wan; For UC patients with intestinal obstruction type, take Xuefu Zhuyu Wan orally; For UC patients with liver depression and spleen deficiency, take Xiaoyao Pill orally. The research results showed that the total effective rate of clinical symptoms and signs, and the efficacy of colonoscopy in mucosal examination was higher in the treatment group, indicating that the above traditional Chinese patent medicines and simple preparations treatment based on syndrome differentiation can effectively treat UC.

The advantages of traditional Chinese patent medicines and simple preparations are easy to carry, and the decocting process of decoction is omitted, which can be used in an emergency, and also reduce the odor and sweet and bitter of Chinese medicine. Moreover, on the basis of traditional Chinese medicine decoction and ointment, drawing on the advantages of Western medicine syrup, it can be made into Chinese medicine tablets, capsules, or oral liquids. Traditional Chinese patent medicines and simple preparations is generally stable in nature, easy to take, carry, store and keep, so it is relatively widely used.

### 3.4. Acupuncture treatment

Traditional Chinese medicine pays attention to syndrome differentiation and treatment and the overall concept when treating diseases, while acupuncture and moxibustion treatment has the functions of clearing heat and removing dampness, promoting blood circulation and removing stasis, regulating qi and blood, dredging meridians, astringency and diarrhea. The advantage of acupuncture and moxibustion is that it is simple and inexpensive, and can treat many diseases. The advantages of acupuncture and moxibustion treatment include less irritation, high safety, good adaptability, strong convenience and good compliance. However, if the hole extraction operation is improper, there may be danger. In general, the disadvantages of acupuncture and moxibustion include broken needles, fainting needles, etc., which requires high technical level of doctors during operation. Wang Hu [19] divided 60 patients with ulcerative colitis into two groups. The treatment group was treated with electroacupuncture at the large intestine shu and mu points, while the control group was treated with loperamide hydrochloride capsules. By comparing the clinical manifestations, physical signs, oxidative stress levels, changes in inflammatory factors, and colonoscopy results before and after treatment between the two groups, it was found that the treatment group had a higher treatment



effectiveness rate. The conclusion is that electroacupuncture at the Da Jie Shu Mu acupoint has a good effect on UC and can significantly improve the levels of oxidative stress and immune function in UC patients. Lu Zhiqiao et al. [20] randomly divided 94 patients with UC into two groups. The treatment group received acupuncture treatment, while the control group received treatment with metronidazole and sulfasalazine. Acupuncture points include Guan Yuan, Qi Hai, Da Jie Shu, and Chang Qiang. By comparing the clinical symptoms, various abnormal signs, stool test results, and colonoscopy results before and after treatment between the two groups, it was found that the treatment group had a higher treatment effectiveness rate and could reduce adverse reactions in patients.

### 3.5. Combination therapy

Many studies have shown that the effect of combined therapy such as combination of traditional Chinese medicine decoction and western medicine, combination of traditional Chinese medicine decoction and acupuncture and moxibustion, and combination of traditional Chinese patent medicines and simple preparations and western medicine is better than that of single medicine. Hu Xiaofeng [21] conducted a comparative study between Yiqi Yukui Tang combined with ornidazole sodium chloride injection and only ornidazole sodium chloride injection. It was found that the observation group had lower scores for diarrhea, abdominal pain, pus, blood and stool compared to the reference group, and the levels of related intestinal microbiota were higher than the reference group. This indicates that the combined treatment plan is more effective in improving patients' symptoms and gut microbiota levels, and is superior to Western medicine alone. Wang Yuting et al. [22] randomly divided 60 UC patients with turbid toxin accumulation type into two groups. The control group received oral administration of mesalazine enteric coated tablets, while the experimental group received a combination of self-designed turbid and detoxifying formulas on the basis of the control group. The results showed that the total effective rate of the experimental group was 96.7%, significantly higher than the control group's 76.7%, and the symptom scores of the observation group patients were significantly lower than the corresponding symptom scores of the control group patients, indicating that the combination of Chinese and Western medicine has a better effect on treating UC.

## 4. Conclusion

In summary, the clinical symptoms of UC are complex, with a long course and frequent recurrence, and even the possibility of cancer. Traditional Chinese medicine accurately identifies the pathogenesis of "syndrome" by grasping it, and medication targeting the etiology and pathogenesis can achieve good clinical results. At the same time, there are still some shortcomings in the treatment of ulcerative colitis in traditional Chinese medicine: (1) most clinical research results of traditional Chinese medicine have strong subjectivity and lack objective clinical efficacy evaluation standards; (2) At present, many clinical studies include fewer cases and lack large sample size studies; (3) There is still a lack of research on the mechanism of combined treatment with traditional Chinese and Western medicine. (4) There is a lack of metabonomics research on acupuncture and moxibustion and acupuncture medicine combined treatment of UC. In the future, we can vigorously explore the mechanism of acupuncture and moxibustion treatment of UC through metabonomics methods, and promote the research progress of TCM anti UC. (5) The pathogenesis of UC is relatively complex, and in the future, multiple omics and technologies can be combined, such as network pharmacology and molecular docking, to comprehensively analyze the metabolic pathways and targets of traditional Chinese medicine components. It can also be explored from multiple aspects such as gut microbiota, proteomics, transcriptomics, etc., to explore the pathogenesis of UC more comprehensively and deeply, in order to provide reference for clinical precise medication.

Author hopes that future research can address the shortcomings, make up for them, and further

enhance the clinical efficacy of traditional Chinese medicine in treating UC.

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