

# Research Progress in the Treatment of Ulcerative Colitis by Traditional Chinese Medicine

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**Abstract:** Ulcerative colitis is a chronic non-specific intestinal inflammatory disease characterized by continuous and diffuse inflammatory changes in colorectal mucosa, whose etiology is not very clear. Its lesions are mainly limited to the large intestinal mucosa and the lower layer of the mucosa. Western medicine still has no specific drugs to cure the disease. Although aminosalicylic acid, glucocorticoids or immunosuppressants have a certain effect on the disease, they have been taken for a long time and have great adverse reactions. By summarizing the relevant literature on the treatment of ulcerative colitis by Traditional Chinese medicine (TCM) in recent years, it is found that the internal treatment and external treatment of TCM have their unique advantages in the treatment of ulcerative colitis. Among them, as one of the external treatment methods of Chinese medicine, acupoint catgut embedding therapy has a lasting effect, small adverse reactions, low treatment cost, and is not easy to relapse.

**Keywords:** Traditional Chinese medicine; Acupoint catgut embedding; Ulcerative colitis; Research progress

## 1. Introduction

Ulcerative colitis (UC) is a superficial, chronic and non-specific inflammatory disease of rectal and colonic mucosa. The lesions are sigmoid colon and rectum, and can also develop to the left and right half colons. In severe cases, it can cause total colon lesions. Ulcerative colitis and Crohn disease are often referred to as non-specific inflammatory bowel disease. Its clinical manifestations are mainly persistent and recurrent blood mucus, abdominal pain and diarrhea. The onset of the disease is relatively slow, the condition is different, and it is easy to recur. The course of the disease can last for years or even decades. The highest morbidity rates in Europe, Asia and North America are 24.3 per 100,000, 6.3 per 100,000 and 19.2 per 100,000 respectively [1]. The incidence rate in Asian countries is increasing year by year, with an incidence rate of 7.6 per 100,000 to 14.3 per 100,000, and the prevalence rate is 2.3 per 100,000 to 63 and 6 per 100,000 [1]. The incidence of the disease in China is 11.6 per 100,000 [2]. Due to changes in people's eating habits and other reasons, the incidence of the disease increases year by year with the change of the surrounding environment. The etiology of this disease has been a difficult problem in the medical community for many years. It is generally believed that ulcerative colitis is related to the environment, immune function, infection and other factors, and under multi-genetic regulation, the probability of the patient's offspring suffering from the disease is also very high [3].

## 2. Understanding of ulcerative colitis in traditional Chinese medicine

Ulcerative colitis does not have a corresponding disease name in traditional Chinese medicine, but its clinical symptoms are mainly described as continuous and repeated bloody mucus stool, abdominal pain, diarrhea. In modern times, they can be classified according to their different symptoms, syndromes and course of disease. According to its main symptoms, it can be classified into the categories of "dysentery, diarrhea, blood in the stool, abdominal pain", etc. and according to its syndromes, it can be classified into the categories of "dry-hot dysentery, intestinal wind, accumulation of poison, phlegm diarrhea" [4]. According to the duration of the disease, the disease can be classified as "acute dysentery, resting dysentery, chronic dysentery" and other categories.

It is generally believed that UC is mostly related to six evil qi, emotional disorders, improper diet, congenital physical endowments, etc. And the disease is characterized by deficiency and deficiency and deficiency. The etiology of this disease can be roughly divided into two parts: external and internal injury.

The cause of external feeling refers to the six evil, such as "Su Wen•Ying Xiang Da Lun" : "spring hurt in the wind, summer life leakage", indicating that "diarrhea" is related to external wind evil. Causes of internal injuries include eating disorders, mood disorders, and visceral weakness. For example, "Su Wen•Zang Qi Fa Shi Lun" that "diarrhea" is related to spleen deficiency. Traditional Chinese medicine believes that this disease belongs to the original deficiency. The disease is mainly caused by deficiency of Qi and blood and congenital deficiency. The weakness of the spleen is the basis of the disease. When the body is attacked by external evil, irregular diet, emotional disorders, etc. Cause spleen deficiency, dampness-heat internal stop, inhibit qi, poor blood flow. It coincides with internal heat, and damages the intestine and sees intestinal obstruction and red and white pus. This disease is located in the large intestine and is related to spleen deficiency, liver, kidney and lung dysfunction. The main pathogenesis was intestinal dampness and heat, loss of large intestine transmission, poor qi, blood stasis, blood collateral damage, blood septication and internal ulcer. The remission period belongs to the standard of deficiency syndrome, which is mostly spleen deficiency and kidney damage <sup>[5]</sup>. Most of the pathological factors were damp-heat, deficiency, qi stagnation and blood stasis <sup>[6]</sup>.

### 3. Dialectical treatment

At present, modern Chinese medicine refers to the 2023 version of the "Expert Consensus on the Diagnosis and Treatment of ulcerative Colitis in Integrated Chinese and Western Medicine", released by the Chinese Association of Integrated Chinese and Western Medicine <sup>[7]</sup>, which not only further standardized the name of UC Chinese medicine disease, but also corresponds to the UC stage divided by Western medicine and the name of Chinese medicine disease. The chronic persistent UC is called "long dysentery", and the UC that alternates between active period and remission period belongs to "resting dysentery". Thin loose stools, increased frequency, and no mucous, pus and blood stools in the remission period belong to "diarrhea". On the basis of expert consensus in 2017, "The syndrome of damp-heat accumulation in the intestine" was added, and UC was divided into 8 syndrome types, namely, damp-heat accumulation in the intestine, heat toxicity incandescence, turbid-poison accumulation, spleen deficiency wet accumulation, cold and heat mixed, liver stagnation and spleen deficiency, stasis blocking the intestine, spleen and kidney Yang deficiency. Song Xiaohong <sup>[8]</sup> divided chronic UC into four types of treatment. Patients with dampness-heat type take clearing heat and drying dampness, strengthening spleen and benefiting stomach as the therapeutic principle, patients with liver-qi stagnation type take soothing liver and stomach and removing blood stasis as the therapeutic principle, patients with spleen Yang deficiency type take Shengyang and benefiting Qi as the therapeutic principle, warming spleen and stopping diarrhea as the therapeutic principle, patients with spleen and kidney Yang deficiency type take warming spleen and kidney and collecting astringent coagulation as the therapeutic principle. According to TCM syndrome differentiation, Zhao Kehua <sup>[9]</sup> divided ulcerative colitis into spleen deficiency type, damp-heat clearing type and qi stagnation type. Spleen and kidney Yang deficiency, the treatment is warm tonifying spleen and kidney, with human nourishing soup, Yin blood deficiency to treat deficiency tonifying spleen blood, nourishing Yin Qingchang, to stop the drug tonifying spleen soup, and liver and spleen disharmony to use pain diarrhea to obtain the effect of diarrhea, liver tonifying spleen, regulating qi to relieve pain diarrhea. According to Wang Aihua's many years of clinical experience <sup>[10]</sup>, he believes that the etiology and pathogenesis of UC are the symptoms of this deficiency. He divided the differentiation of UC into four types: weakness of the spleen and stomach, dampness-heat, toxic blood stasis and deficiency of spleen and kidney qi. In the treatment, we should not only treat the symptoms, but also cure the root, cure the root and remove the evil, internal and external treatment should go hand in hand. Strengthening spleen and consolidating the root, clearing heat and detoxifying, dryness and preventing diarrhea are all symptoms of treatment. However, in clinical treatment, due to the different understanding of the etiology and pathogenesis of UC, the classification is still not uniform, and most doctors have achieved good results according to clinical experience.

### 4. Chinese and Western medicine treatment of UC

At present, the expert consensus recommendation in 2023 has clarified the clinical positioning of integrated Chinese and Western medicine in ulcerative colitis, and promoted the combined treatment of UC clinical conditions. Different treatment methods can be used according to the severity of the patient <sup>[7]</sup>. For example, patients with severe illness in the active period should adopt Western medicine as the main treatment, and traditional Chinese medicine treatment as the auxiliary therapy. Traditional Chinese medicine believes that most severe patients are emaciated, mostly because of chronic illness, the spleen and stomach are weak, the weakness of qi and blood can not run the whole body and nourish the

body. Therefore, in the treatment should be to benefit qi and spleen as the treatment principle. Mild and moderate patients can pay attention to clearing heat and detoxification, cooling blood and removing blood stasis according to the patient's treatment intention and individual differences, and can use common Chinese medicine therapy and integrated Chinese and western medicine therapy to slow down the development process of UC. In the remission period, it is recommended to use traditional Chinese medicine to maintain treatment on the basis of Western medicine to reduce recurrence, so as to achieve long-term efficacy. According to the prevention and occurrence of infection in UC patients in remission who receive immunosuppressant and biologic agents, TCM can adopt the method of supplementing qi to strengthen the surface and correcting qi to achieve the effect of pre-treatment.

## 5. Traditional chinese medicine Treatment

### 5.1. Oral treatment of Chinese medicine

Traditional Chinese medicine has many classic prescriptions for the treatment of dysentery, such as Banxia Xiexin Soup, Shaoyao Gancao Soup, Gegen Soup, Huangqin Soup, Baitouweng Soup, Wumei pills and etc. Wumei pills are composed of Wumei, Xixin, dried ginger, Huanglian, angelica, aconite, Shu pepper, osmanthus branch, ginseng and yellow cypress. It has the effect of clearing the upper and lower temperature, relieving ascariis and analgesia. Studies have shown that this prescription has significantly in the symptoms of diarrhea, abdominal pain, mucus pus and blood stool<sup>[11]</sup>, which can significantly reduce the colon MPO, IL-6, TNF- $\alpha$  and COX-2<sup>[12]</sup>, which can improve the clinical symptoms of patients, enhance the curative effect, and effectively regulate the intestinal flora, improve the intestinal microecology, significantly reduce the level of serum inflammatory factor level, adverse reactions and recurrence rate. It is safe and reliable. From the prescriptions of "Shang Han Lun", we can find different treatment ideas from nourishing the spleen, nourishing qi, activating blood circulation and removing blood stasis, that is, to use more sweet, warm and hot products, and then add sour and astringent products when recurrent attacks.

On this basis, Many famous doctors combined years of clinical experience, such as Tung Chee-hwa, Zhu Liangchun, Xu Jingfan, they used to treat ulcerative colitis mainly focusing on clearing heat and dampness, regulating qi and activating blood, and taking into account the idea of soothing the liver and invigorating the spleen, supplementing the astringent, consolidating Yin and passing stagnation. Other doctor-made prescriptions have also shown promising results. For example, Bai Hexia et al.<sup>[13]</sup> used self-made Fuzhengping ulcer decoction to treat patients with ulcerative colitis, which can effectively reduce the levels of IL-6 and TNF- $\alpha$ , increase the levels of IL-10 and IL-4, effectively improve the imbalance of intestinal flora, and inhibit the effect of inflammatory factors. Modern pharmacology believes that the potential mechanism of TCM monomer, compound and extracted substance in treating UC may be closely related to the regulation of molecular signaling pathways such as PI3K/Akt, NF-B, JAK/STAT, MAPK and Notch<sup>[14]</sup>. The occurrence and development of UC may be related to the abnormal activation of the NLRP3 inflammasome<sup>[15]</sup> and the concentration level of short-chain fatty acids<sup>[16]</sup>. It can be seen that both traditional medicine classic prescription and modern famous doctor experience prescription are quite effective on ulcerative colitis, worthy of further clinical research.

### 5.2. Enema treatment of Chinese medicine

As one of the external treatment methods of traditional Chinese medicine, enema therapy is an important local treatment, which can directly act on the local area, avoid the first pass effect of the liver, improve the availability of the drug, and may have an advantage in inducing remission of mild UC. Literature study<sup>[17]</sup> found that, TCM enema therapy to clear heat and detoxify dampness, cool blood and hemostasis, and astringent, strengthening spleen and qi as the main therapeutic principles. The main drugs used are heat-clearing drugs, hemostatic drugs, vacuum-tonifying drugs, white and white, Coptis, Phellodendri, Radix ulmus and pulsatilla pulsatilla. The results showed that the FCP level, serum hs-CRP level and ESR level were significantly decreased after treatment of patients with ulcerative colitis combined with conventional western medicine ( $P < 0.05$ ). This indicates that self-made prescription can significantly improve the clinical symptoms of patients, reduce the level of intestinal and systemic inflammation, and does not increase the safety risk of medication<sup>[18]</sup>. Chang Hong et al.<sup>[19]</sup> found that the efficacy of Wumei pill plus minus enema combined with Chinese medicine in the treatment of ulcerative colitis was better than that of western medicine group. Wang Ye et al.<sup>[20]</sup> used Paeonia Sijun Jianpi recipe combined with Chinese medicine enema to treat hormone-dependent UC, after treatment, it can increase serum IL-10 level, reduce serum IL-17 and TNF- $\alpha$  levels, reduce inflammatory response,

promote mesenteric repair, and alleviate patients' hormone dependence. In summary, it can be seen that TCM enema has a certain effect on the treatment of UC, which can play a role by regulating the body's immune function and reducing the level of inflammatory factors.

### 5.3. Acupoint Therapy

Acupoint therapy is a commonly used auxiliary treatment method in traditional Chinese medicine. Guided by the meridian theory of traditional Chinese medicine, acupoint therapy gives strong stimulation to certain acupoints through many different operations to alleviate and cure certain symptoms. Common acupoint therapy includes acupuncture therapy, moxibustion therapy, acupoint embedding, etc. The clinical use frequency of this traditional Chinese medicine external treatment is getting higher and higher, and the curative effect is more and more recognized. The efficacy and mechanism of acupoint therapy for ulcerative colitis have also been further studied.

#### 5.3.1. Acupuncture therapy

Since ancient times, acupuncture therapy has been highly respected by all doctors, and it is suitable for a new direction. Huang Jianqiang et al. [21] found that acupuncture can reduce the pro-inflammatory factor and increase the anti-inflammatory factor to inhibit the immune response. The production and expression of neuroendocrine hormones and cytokines are affected, and the neuro-endocrine-immune network is regulated in both directions. Zusanli acupoint, Shangjufu acupoint and Tianshu acupoint are the three most frequently used in the treatment of ulcerative colitis. Hou Tianshu et al. [22] found that electroacupuncture can significantly improve the diversity of intestinal flora and the content of beneficial flora in rats. The content of *Lactobacillus* and *spylori* in the intestinal flora has a positive effect on intestinal mucosal immunity and barrier repair in ulcerative colitis rats. Some studies have found that acupuncture therapy is more effective than Western medicine, and can identify acupoints for adverse reactions and reduce the incidence of clinical adverse reactions [8]. There are also studies taking the Notch/nuclear factor- $\kappa$ B (NF- $\kappa$ B) pathway as the entry point to explore the mechanism of electroacupuncture intervention in ulcerative colitis model mice. It is found that electroacupuncture can inhibit the activation of NF- $\kappa$ B signaling pathway and reduce the expression of matrix metalloproteinase-9 antibodies [23], which depends on inhibiting the expression level of Notch-1 and Hes-1 in colon tissue. The Notch signaling pathway can participate in the differentiation, proliferation and apoptosis of colon epithelial cells and promote the expression of closely connected proteins. It can play a role in maintaining the intestinal mucosal barrier.

#### 5.3.2. Moxibustion therapy

There are many kinds of moxibustion, and it has different effects with different drugs, such as warming the meridians and dispelling cold, fixing the sun, dispelling stasis and dissolving knots, and preventing disease and health care. Wang Xiaomei et al. [24] used the isolation of drug moxibustion Tianshu acupoint and Qihai acupoint to intervene in the treatment of ulcerative colitis rats, and found the protein and messenger ribonucleic acid of Tumor Necrosis Factor- $\alpha$  (TNF- $\alpha$ ) in mice after moxibustion. Ribonucleic Acid, mRNA) expression is downregulated, so moxibustion inhibits the occurrence of intestinal inflammatory reactions of ulcerative colitis by regulating the expression of TNF- $\alpha$ . TNF- $\alpha$  is an active factor that guides the body's inflammatory response and immune response. By observing the effect of moxibustion on the tight junction protein and serum inflammatory mediators in mice with wild and E3 ubiquitin ligase TRIM31 gene knockout (TRIM31<sup>-/-</sup>) ulcerative colitis model mice, Wu Luyi [25] found that TRIM31 can reduce the intestinal inflammatory response of ulcerative colitis by protecting the ulcerative colitis intestinal mucosal barrier, and may also be the key target for moxibustion to participate in regulating the protection of ulcerative colitis intestinal mucosal barrier. In addition, moxibustion still regulates TRIM31<sup>-/-</sup> mice's intestinal mucosal barrier closed synthetase protein, sealed protein, stent protein (ZO-1) and serum inflammatory media Interleukin (IL)-1 $\beta$ , IL-13, IL-25, IL-33, indicating that moxibustion may also participate in the protection of ulcerative colitis intestinal mucosal barrier by playing its multi-target regulatory role. It has been found that intestinal mucosal damage is alleviated by promoting the production of anti-inflammatory factors and inhibiting the formation of inflammatory factors, which is effective in treating Guanyuan acupoint and Zusanli acupoint moxibustion.

#### 5.3.3. Acupoint catgut embedding therapy

Acupoint catgut embedding is a new type of acupoint stimulation therapy developed on the basis of the theory of "long illness, evil into the deep, piercing the disease, deep and long stay". It refers to a compound treatment method for placing absorbable surgical sutures into the human acupuncture points, which can induce the body to produce allergic reactions [26]. It has the comprehensive effect of

acupuncture, bloodletting and "line", and produces continuous stimulation to the acu points, that is, "deep absorption and long-term retention to cure persistent diseases", which can dredge meridians, regulate the qi machine, promote blood circulation and stop bleeding. Modern studies have also confirmed that acupoint catgut embedding has the effect of enhancing immune function, improving intestinal blood flow, enhancing intestinal peristalsis, promoting the regeneration of pathological tissue, and repairing mucosal ulcers [27,28]. At the same time, it can also stimulate the body to produce antibodies and produce a variety of lymphatic factors, thus increasing the body's stress ability, thus treating diseases [29]. The RCT literature on acupoint catgut embedding treatment for UC has been increasing year by year, indicating that acupoint catgut embedding has been gradually paid attention to in the clinical treatment of UC. Compared with acupuncture, the feeling of breath in acupuncture is fast and strong, but the duration of acupuncture is longer than acupuncture. There is no need to apply acupuncture every day like acupuncture therapy, so it is better to treat chronic diseases with this method. Some studies believe that the combination of Notch 1 with ligands can activate the Notch signal path [30]. At the same time, Notch 1 can produce active fragments. After binding to the new human albumin, it prompts Hes 1, Math 1 to start transcription expression, and then regulates the proliferation and differentiation of intestinal epithelial cells. At the same time, the signaling pathway can inhibit the expression of Math 1 through Hes 1. Acupoint catgut embedding combined with moxibustion can increase the expression of Math 1, increase the number of cup cells, and lower the expression level of Notch 1, Hes 1, so as to prevent the notch signaling pathway from being too active, causing cup-shaped cells to lose, induce intestinal immune disorders and intestinal mucosal defects [31]. It has also been found that when the acupoint catgut embedding combined with moxibustion intervention treatment, the positive expression of the colon tissue non-receptor tyrosine kinase (Janus-Activated Kinase, JAK) and STAT3 in the combined group was significantly lower than that of the acupoint embedding group and the moxibustion group ( $P < 0.01$ ) [32]. This suggests that the combined use of acupuncture and moxibustion can lower the expression of the key factors of IL-6/JAK/STAT3 signaling pathway JAK and STAT3, and inhibit the overactivation of IL-6/JAK/STAT3 signaling pathway, thus promoting the repair of colon mucosal tissue damage and improving clinical efficacy.

#### (1) Common acupoint catgut embedding

Common acupoint catgut embedding treatment of UC is generally based on TCM pathogenesis dialectics to add and subtract acupoints. Zusanli(ST36) and Tianshu(ST25) are commonly used acupoints for the treatment of UC. Zusanli(ST36) is the combination of the foot of yang ming stomach meridian, its also the He acupoints of the foot of yang ming stomach meridian, which has the effect of regulating the body's immunity and enhancing disease resistance. It can not only regulate the intestines, strengthen the spleen and stomach, and cultivate the solid body, but also regulate qi and stagnation, promote dampness, and promote blood circulation. Tianshu(ST25) is the place where qi running, it belongs to the foot of yang ming stomach meridian. It has the effect of regulating the intestine, strengthening the spleen and stomach, regulating qi stagnation, and regulating the intestine and stopping diarrhea. It is an important point for the abdomen [33]. At the same time, the foot of Yangming stomach meridian, the foot of tai yang bladder meridian and Ren meridian are the most frequently selected meridians in the treatment of UC. In the foot of tai yang bladder meridian, large intestine Shu(BL25), spleen Shu(BL20), kidney Shu(BL23) and other back Shu points are most used. And in clinical treatment, the most common is Shu-Mu matching acupoints. As discussed in "Su Wen·Yin Xiang Da Lun": "Therefore, those who make good use of needles draw Yin from Yang, and draw Yang from Yin." It can be seen that both Shu and Mu acupoints can regulate the Yin and Yang of the viscera of the human body. The so-called Yin from Yang: the five viscera disease, often reflected in the Yang acupoints and the back Shu acupoint, through it, you can treat Yin disease. On the other hand, through the front Mu acupoint, the six viscera disease can be treated. The qi of the five viscera is injected into the waist and back, which is an important meridian acupoint for regulating intestinal function. Ren meridian in the middle of the abdomen, can promote the upper Jiao, dredge the middle Jiao, regulate the qi of the stomach, so as to promote blood circulation, create new life. For example, Yang Qian et al. [34] adopted Shu-Mu acupoint catgut embedding method found, it could speed up blood circulation, promote intestinal peristalsis and repair of intestinal mucosa, reduce congestion and edema, and thus promote ulcer healing. At the same time, Some of the non-specific stimulation impulses produced by acupoint catgut embedding can be modulated by passing the afferent nerve to the posterior horn of the spinal cord. The other part is uploaded to the cerebral cortex through the posterior horn of the spinal cord, which strengthens the central interference, inhibition and replacement of the afferent excitation of the pathological stimulus, and then adjusts the function of the organ through neuro-humoral regulation, promotes the body metabolism, improves the immune ability, and gradually recovers the disease. Li Wei et al. [35] found that after acupoint catgut embedding for patients with mild to moderate ulcerative colitis, symptoms such as diarrhea, pus and

bloody stool were improved compared with before, which controlled the further development of mucosal lesions.

### (2) Special acupoint catgut embedding

acupoint catgut enhance embedding<sup>[36]</sup> refers to the use of catgut with slow absorption to increase catgut volume and prolong absorption time; Or Bury three times at a time at the same point by the double catgut, until it reach the muscle layer. Compared with the general catgut embedding, the amount of stimulation is larger, and its mechanism may be similar to the quantification of the foot in treatment or the threshold and course of treatment in physiological reflex. It could also be involved in the growth of neurons in the intestinal wall<sup>[37]</sup>. Xu Yang et al.<sup>[38]</sup> Found that acupoint catgut enhance embedding for patients with non-specific ulcerative colitis is quite effective based on the Shu-mu matching acupoint theory. Acupoint reinforcement embedding does have curative effect, but there is a lack of large sample size and multi-center clinical studies, which may sometimes lead to infection due to excessive stimulation.

In addition, there is also a method of combining stellate ganglion block on the basis of acupoint catgut embedding. Some scholars<sup>[39]</sup> selected the ganglion tissue left and right of the neck for nerve block, and then combined it with the back acupoint reinforcement embedding. It was found that the effect is higher than that of the Western medicine group. Its mechanism of action may be closely related to inhibition of sympathetic nerve excitation, bidirectional regulation of autonomic nerve balance, and regulation of immunity, etc. Sometimes improper operation can lead to laryngeal counter-nerve block and other uncomfortable symptoms, but they can be accepted. These two kinds of acupoint catgut embedding therapy have certain requirements for patient individualized differences, and need to further standardize the operating environment, the doctor's operating level and the doctor-patient communication before operation.

### (3) Acupoint catgut embedding combined with other therapies

Catgut selected for acupoint catgut embedding is a heterologous protein. After embedding in the body, it can continuously stimulate the reaction between lymphoid tissue and macrophages, and generate biochemical stimulation to acupoints, resulting in aseptic inflammation in local tissues, thus continuously stimulating the immune function of the body and strengthening the therapeutic effect. In recent years, acupoint catgut embedding has been one of the effective TCM external treatments for ulcerative colitis, which is often combined with other therapies and can often be highly effective in the treatment of ulcerative colitis. Clinical studies<sup>[40,41]</sup> found that acupoint catgut embedding combined with Western medicine treated UC, which proved that it could reduce the level of inflammatory factors such as TNF- $\alpha$  and increase human immune function. On the basis of western medicine, Yu Yuxiu et al.<sup>[42]</sup> applied it to patients to stimulate acupoints. It was found that the recurrence rate of patients was greatly reduced, and the patient satisfaction was higher. Sequential analysis of experiments has proved<sup>[43]</sup> that the effective rate of acupoint catgut embedding combined with Chinese medicine in the treatment of ulcerative colitis is higher than that of the control group.

## 6. Summary

Through the intervention of traditional Chinese medicine, there are not only various treatment methods with their own advantages, but also significant therapeutic effects and few adverse reactions. At present, TCM treatment is mainly based on oral Chinese medicine and external TCM treatment methods such as acupuncture, acupoint catgut embedding, and enema. It can further slow down the course of UC patients, shorten the treatment cycle, and reduce the recurrence rate. In addition, the effect of acupoint thread embedding is long-term. It can unblock meridians, regulate qi, and regulate immune function in multiple systems and stages, with ideal therapeutic effects. However, there is a lack of large sample and multicenter clinical studies. The mechanism of acupoint intervention therapy such as acupuncture and embedding acupuncture is rarely discussed. In addition to the conventional Shu-Mu acupoints, there are few studies on other acupoint matching choices, and lacking of research on special acupoints.

In summary, the diagnosis and treatment idea of combining conventional staging of Western medicine and dialectical diagnosis and treatment of traditional Chinese medicine, as well as the application of integrated traditional Chinese and Western medicine therapy in the treatment of ulcerative colitis, will become a research hotspot in the future.

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