

Clinical Experience of Chang'an Niushi Anorectal Academic School in Treating Wound Healing after Anal Fistula Surgery

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Abstract: *With the continuous development of traditional Chinese medicine, the formation and inheritance of academic schools are of great significance for the progress and promotion of traditional Chinese medicine. Chang'an Niushi Anorectal Academic School has a long history and is skilled in using a combination of traditional Chinese and Western medicine to treat common and complex diseases of the anus. Anal fistula is a common disease of the rectum and anus. The postoperative wound of anal fistula surgery belongs to a contaminated open wound, which requires a long time for healing and may even be difficult to heal. Chang'an Niushi Anorectal Academic School has its unique and advantageous advantages in promoting wound healing after anal fistula surgery.*

Keywords: Anal fistula, Chang'an Niushi Anorectal Academic School, Wound, Clinical experience.

1. Introduction

The Chang'an Niushi Anorectal Academic School has been around for more than 40 years. Under the leadership of Comrade Niu Jingren and through the unremitting efforts of several generations, the academic ideas and clinical experience of the Chang'an Niushi Anorectal Academic School have continuously developed and widely spread in Shaanxi, Shenzhen, and Shanxi regions. The Chang'an Niushi Anorectal Academic School combines multidisciplinary methods to study the pathogenesis and traditional Chinese medicine treatment of anorectal diseases, achieving phased results and gradually promoting them. This article elaborates on the academic characteristics and advantages of the Chang'an Niushi Anorectal Academic School, as well as its clinical experience in promoting wound healing after anal fistula surgery, in order to provide more ideas for the clinical treatment of wound healing after anal fistula surgery.

2. Academic Characteristics and Advantages of Chang'an Niushi Anorectal Academic School

The academic ideas of the Chang'an Niushi Anorectal Academic School are mainly reflected in: 1. Making the diagnosis and treatment of benign diseases of the anus and intestines in traditional Chinese medicine as the focus of the discipline, mainly using methods such as external dissection and internal ligation, injection therapy, etc. to treat mixed diseases; The treatment of various complex anal fistulas and perianal abscesses using methods such as thread hanging therapy, multi incision thread dragging, and cotton padding has achieved good clinical efficacy and has been widely promoted and applied. 2. Based on traditional Chinese medicine theories such as simmering pus and growing flesh, and regulating the Sanjiao, the use of Wugu Kirin Ointment to promote wound healing after complex anal fistula surgery, modified Sanren decoction for functional constipation, and Wumei pill for ulcerative colitis have significant clinical efficacy. 3. Through the combination of multiple disciplines,

the pathogenesis and traditional Chinese medicine treatment of anal and rectal diseases have been studied, and phased results have been achieved and gradually promoted. In long-term clinical practice, this academic school has formed a unique academic perspective and theoretical system. These academic ideas cover aspects such as etiology and pathogenesis, syndrome differentiation and treatment, treatment principles and methods, and are important basis for guiding clinical practice of doctors.

2.1 Theory of "Deep and Shallow Anus"

Niu Jingren [1] proposed the theory of "shallow and deep anus" in 1995. The respective characteristics of "deep and shallow anus" are of great clinical significance. The "deep anus" is located deep in the buttock groove, which is difficult to be exposed during examination and surgical operation. The "deep anus" is surrounded by folds of skin that form deep tubes. Most patients have varicose hemorrhoids that are not easily detected, often forming the so-called "hidden external hemorrhoids". "Deep anus" patients surgical incision should not be too deep in the peeling of external hemorrhoids. Otherwise, after the anesthesia disappears, the anus retracts, resulting in a deep incision. Once the postoperative wound bleeds, the effect of local compression hemostasis is poor and it is difficult to stop the bleeding operation. The "shallow anus" position is shallow. Internal hemorrhoids are easy to prolapse when sitting, standing, walking. This leads to heavier symptoms of internal hemorrhoids because they rub from time to time. A "deep anal" prolapse is prone to become embedded. The muscles around the anus are weak in "shallow anus". Therefore, more attention should be paid to the anatomical level when performing anal fistula surgery. Patients with "shallow anus" should not cut deeply during surgery and should be alert to the damage of sphincter muscle. Skin incision suture head should be left long when the "deep anus" patients in the pectus band release surgery for anal fissure. Otherwise, anal retraction and suture removal 3 days after surgery is difficult when the anesthesia wears off after surgery. To summarize, the use of the theory of "deep and shallow anus" has an important role in protecting the sphincter during

surgery.

2.2 Emphasize Postoperative Dressing Change and Select Topical Ointment Opportunistically

Dressing changes are a top priority in the postoperative treatment of anorectal diseases. It helps to monitor wound healing, prevent infection and pseudo healing as well as promote wound healing. Topical creams should be selected to promote wound healing based on a combination of local and holistic patient identification and comprehensive consideration. The department uses ointment with the efficacy of clearing away heat and toxic material as well as reduce swelling and relieve pain in the early postoperative period, such as Badu ointment and coptis water gauze, etc. This can promote wound healing by helping the wound to eliminate inflammation and prevent infection. In the middle stage, Shengji Yuhong Ointment can be chosen to promoting muscle growth and astringing sores as well as reduce swelling and relieve pain. This can help wound recovery and reduce scar formation. In the late stage of surgical recovery, the use of Wugu Kirin Ointment can help to further promote the recovery of wounds and reduce scar formation when the wounds have basically healed. The use of Wugu Kirin Ointment can help the skin return to normal function faster and relieve the pain and discomfort of the wound after the wound has reached clinical healing.

2.3 Treatment of Constipation from the Perspective of "Damp Heat of Sanjiao"

Constipation is also a common and difficult disease in anorectal medicine. Chinese medicine believes that the occurrence of constipation is related to the large intestine, lungs, spleen and stomach and other internal organs. Damp Heat evil energy firstly traps the spleen and hinders the role of Sanjiao in regulating the water channels. This leads to the normal distribution and transmission of water in the body and affects the conduction function of the large intestine and leads to the occurrence of constipation. Therefore, Niu Jingren advocates the treatment of constipation by "promoting Qi circulation and clear heat and dissolving dampness". He often used Sanren Decoction plus or minus herbs to treat constipation and the effect is outstanding.

3. Clinical Experience of Chang'an Niushi Anorectal Academic School in Promoting Wound Healing after Anal Fistula Surgery

Anal fistula is a relatively common clinical anorectal disease, which is mainly characterized by pain, swelling, and repeated rupture and pus flow as the main clinical symptoms [2]. It is characterized by recurrence, high morbidity and difficulty in self-healing. As the condition worsens, complications such as anal sphincter malfunction and infection may occur if the patient fails to receive timely and effective treatment. It can lead to serious cancerous changes and then seriously threaten the survival quality of patients [3, 4]. Mostly, surgery is applied to treat anal fistula to relieve the clinical symptoms of patients in modern stage. However, the postoperative trauma is mainly treated with open treatment so that it is easy to cause infection which is not conducive to the recovery of the trauma [5, 6]. Chang'an Niushi Anorectal Academic School has its

unique clinical experience in promoting postoperative wound healing after anal fistula. And it has the advantages of significant therapeutic effect and high safety.

3.1 Chang'an Niushi Anorectal Academic School's understanding of anal Anal fistula

Anal fistula is an abnormal channel connecting the anorectal canal between the rectum and the perianal skin which mostly spreads to the perianal area along the anal sphincter space after infection of the anal glands. The disease is usually characterized by anal hardness, recurrent rupture, pus flow and pain. The peak age of clinical incidence is between 20 and 40 years old and it is more common in men [7]. Anal fistula has been called "hemorrhoidal leakage", "leaky sores", "leakage through the intestines" and so on in the history of Chinese medicine. China is one of the earliest countries to recognize "anal fistula". The Classic of the Mountains and Seas·Central Hightlands has written: "The eater does not have carbuncle, but can have a fistula."

Dampness and heat of the evil has not been completely removed after anal fistula surgery. Dampness is so heavy and sticky so that the residual poison is not easy to remove and affect the healing of the wound. Due to the gold blade damage to the local perianal skin, flesh, tendons and veins and damage to the meridians and collaterals, resulting in the obstruction of qi and blood flow. This makes the local Qi blockage and blood stasis and pain occurs when there is no obstruction. Surgery depletion of Qi and blood lead to the lack of positive Qi which can not fight against the external evil so that the dampness, heat and stasis of toxin can not be removed for a long time. Because of insufficient Qi and blood, the wound is not moistened and not able to take off the decay of the muscle, resulting in difficult to heal the wound. In summary, dampness, heat, deficiency and stasis are all gathered in the wound after anal fistula surgery and this can lead to the loss of internal organs and can not resist the evil out if allowed to develop. The Qi and blood is the source of biochemistry. Deficiency of Qi and blood leads to a lack of biochemical source and the wound is difficult to heal [8].

After anal fistula surgery, there are many complications and wound healing is slow, as well as recurrence rate and other problems of anal fistula although it can be cured by surgery [9, 10]. Pain is the most common complication after anal fistula surgery and the postoperative pain is also the most distressing problem for doctors and patients. The perianal skin is rich in nerves and the perianal nerve belongs to the spinal nerve innervation which is particularly sensitive to pain. Surgery to remove the fistula and necrotic tissue will cause local tissue damage and tissue release a large number of inflammatory mediators, causing pain in the nerve endings. In addition, postoperative defecation or dressing changes can stimulate the anus, causing contraction of the anal sphincter and causing anal pain. Postoperative wound edema is also more common. Because the surgery has damaged the venous and lymphatic vessels local circulation obstruction and vascular permeability increase. Water retention in the tissue interstitial space and trigger traumatic edema. After anal fistula surgery, there will be tissue fluid exudation and necrotic material formation which mixed with a small amount of intestinal fluid and fecal water. These substances together constitute the wound

secretion. The formation of purulent secretions can lead to perianal itching and poor wound healing if localized infection occurs [11].

Therefore, the primary goal after anal fistula surgery is to maintain a relatively clean environment, anti-inflammatory and analgesic, reduce tissue edema and promote wound healing.

3.2 Traditional Chinese Medicine Treatment of Postoperative Wound of Anal Fistula in Chang'an Niushi Anorectal Academic School

Chang'an Niushi Anorectal Academic School believes that dampness, heat, deficiency and stasis are all gathered after anal fistula surgery, and the wound is difficult to heal. Therefore, postoperative treatment should be based on clearing dampness and heat, promoting Qi, activating blood circulation and eliminating blood stasis, tonifying Qi and blood, and detoxifying and regenerating muscle [8]. Chang'an Niushi Anorectal Academic School has many ways to promote the healing of postoperative fistula, including oral administration of traditional Chinese medicine, traditional Chinese medicine fumigation and sitz bath, traditional Chinese medicine external application and acupoints.

3.2.1 Oral administration of Chinese medicine soup

Chang'an Niushi Anorectal Academic School classifies anal fistula into three types of evidence. That is, damp heat downpour syndrome, syndrome of lingering pathogen due to deficient vital Qi and Yin deficiency syndrome, which is consistent with what most domestic scholars believe. According to the overall dialectic and local dialectic, the three types of symptoms were treated with Ermiao Pills combined with Bixie Dampness-excreting Decoction plus or minus herbs, Tuoli Xiaodu Powder plus or minus herbs and Qinghao Biejia Decoction plus or minus herbs respectively.

3.2.2 Traditional Chinese medicine fumigation and sitz bath

Traditional Chinese medicine fumigation and sitz bath therapy is a common postoperative treatment for anal fistula. Its therapeutic principle is to accelerate the healing of postoperative wounds by clearing heat and removing dampness, activating blood circulation, promoting Qi and detoxifying and regenerating muscle. Traditional Chinese medicine fumigation and sitz bath therapy has the characteristics of direct access to the place of disease and maximization of the efficacy of medicine [12]. Moreover, it is highly accepted by patients and has good compliance with medication. Chang'an Niushi Anorectal Academic School summarized the traditional Chinese medicine fumigation and sitz bath formula for postoperative anal fistula wounds through the postoperative anal fistula "dampness", "heat", "stasis" three major real evil combats in the trauma characteristics and combined with the advantages of traditional Chinese medicine fumigation and sitz bath. The composition of traditional Chinese medicine fumigation and sitz bath formula is as follows: 15g of rhubarb, 20g of glauber's salt, 15g of gallnut, 9g of borax, 6g of dilong (Pheretima), 12g of eclipta prostrata, 20g of smilacis glabrae rhizoma, 15g of bran-processed atractylodis rhizoma, 3g of

saposhnikovia divaricata to exert the effect of clearing away heat, inducing dampness and removing toxin and activating blood circulation to alleviate pain and reduce swelling.

3.2.3 External application of traditional Chinese medicine

The external application of Chinese medicine is to use Chinese medicine preparation to directly apply on the wound, which plays different roles depending on the dosage form (including ointment, dispersant, etc.) and the composition of the medicine. Roughly, it is a kind of external treatment method that includes the effects of reducing swelling and pain, drying and astringent, promoting healing and protecting the wound [12]. Shengji Yuhong Ointment, which is composed of licorice, Angelica dahurica, Angelica sinensis, Arnebiae Radix, Draconis Sanguis, and Fraxinus chinensis, is applied externally to achieve the effect of regenerating muscle and astringent sores, reducing swelling and pain, helping wound recovery and minimizing the formation of scars. Angelica sinensis has the function of nourishing blood and generating muscle. Angelica dahurica is able to dissipate cold, relieve pain and activate blood circulation to drain pus. Arnebiae Radix has the effect of cooling the blood and detoxifying the toxin. Licorice can harmonize the medicinal properties of these drugs. It can help promote the growth of new granules and accelerate wound healing through the joint action of these ingredients. Alternatively, Wugu Kirin Ointment can be applied externally to promote healing. The ingredients of Wugu Kirin Ointment include Draconis Sanguis, Elephant Leather, pearl powder, Os Draconis and other herbs, which are known for their ability to astringently regenerate muscles, reduce inflammation and stop bleeding, and soften and disperse knots. The use of vaseline oil gauze tamponade to achieve adequate drainage and prevention of wound false healing after external application of the ointment. If oedema occurs on the wound, then use Jinhuang Cream as appropriate to clear away heat and detoxify the toxin, reduce swelling and relieve pain.

In addition, for patients with poor wound healing ability after surgery, the department gave Kangfuxin solution + vaseline oil gauze tamponade to promote wound healing. Kangfuxin solution is a proprietary Chinese medicine preparation, which can be taken orally or used externally, and has the effect of promoting blood circulation, nourishing Yin and promoting muscle growth. The medicinal ingredients of Kangfuxin solution contain peptides (antimicrobial peptide, pyrokinetic peptide, neuropeptide, midgut peptide, diuretic peptide, cardiac active peptide), dihydroisocoumarin analogs and other substances [13]. It can significantly increase the number of neutrophils, macrophages, and lymphocytes in the skin lesion surface [14], thus promoting necrotic tissue detachment and re-repair [15]. And it can elevate the level of glutathione and promote cellular protein synthesis, providing nutritional support for skin and mucosal cells, fibroblasts, etc., and prompting their rapid proliferation [16].

3.2.4 Other Chinese medical treatments

The department has expertise in combining traditional Chinese medicine acupoint application, moxibustion, and ear acupoint therapy to prevent and treat postoperative complications such as abdominal distension, diarrhea,

abdominal pain, and constipation after anal fistula surgery. Modern medicine has shown that these traditional Chinese medicine treatments have many therapeutic effects. For example, moxibustion can fully utilize the warm nature of mugwort leaves and promote local circulation, thereby reducing local inflammatory reactions and promoting the dissipation and absorption of inflammatory secretions and exudates [17].

3.3 Chang'an Niushi Anorectal Academic School's Modern Medical Treatment of Postoperative Anal Fistula Wounds

Chang'an Niushi Anorectal Academic School believes that the most important western medical therapy for treating postoperative anal fistula patients is anti-infective therapy, which can effectively reduce the probability of wound infection and promote wound healing. The department selects appropriate antibacterial drugs according to the results of drug sensitivity, and gives empirical use of antibacterial drugs such as cefuroxime sodium to fight infection before the results of drug sensitivity come out. For those who cannot clean the wound exudate in time because of the deep location of the internal opening, rinsing with metronidazole sodium chloride injection can be added at the time of dressing change. This can clean the wound secretion and dirt and play a local anti-inflammatory effect.

3.4 Chang'an Niushi Anorectal Academic School for the Prevention of Postoperative Trauma of Anal Fistulae

The incidence of anal fistula is increasing year by year, seriously affecting the normal life and work of patients. Zhu Bing Yuan Hou Lun of anal fistula mentioned the etiology of the mechanism "After the occurrence of carbuncle, the heat and toxin are not completely exhausted, and there is a heavy wind and cold that can take advantage of it. The cold beats on the swelling, and the accumulation of nodules cannot be eliminated. Therefore, after a long period of time, one occurrence occurs, and over time, it becomes a fistula." So anal fistula is a residual phenomenon of residual toxicity after the rupture of perianal abscess. The incidence of anal fistula is related to untreated perianal abscess, emotional internal injury, improper diet, imbalance of Yin and Yang, damage to organs, excessive sexual exertion, overeating spicy food, and excessive alcohol consumption. In addition, the postoperative wound is injured by a golden blade, which consumes the body's positive energy and damages the skin's veins. Causing deficiency of Qi and blood, evil toxins can easily accumulate around the anus. Local obstruction of Qi and blood circulation and the retention of dampness, heat, and toxins in the flesh can lead to blood loss, flesh decay, pus formation, and wound discord after ulceration. According to the medical philosophy of "treating diseases before they occur" and "preventing diseases before they occur" in traditional Chinese medicine, Chang'an Niushi Anorectal Academic School suggests that patients should pay attention to adjusting their diet after surgery and try to eat as little damp, hot, and turbid foods as possible, such as fat, sweet, spicy, and alcohol. And it is necessary to regulate emotions and balance work and rest, and pay attention to preventing cold and warmth to avoid feeling external pathogens, in order to prevent the occurrence of this disease and related complications.

4. Conclusion

The Chang'an Niushi Anorectal Academic School believes that after anal fistula surgery, the wound is often in an open state and inconvenient to suture. In addition, the wound is distributed at the tail of the digestive tract, and significant pollution and other factors combine to hinder wound healing. At the same time, the sensitivity of the perianal nerves is high, leading to unbearable postoperative pain and a decrease in the patient's quality of life [18]. At present, surgery is the main treatment method [19]. Traditional Chinese medicine believes that wound infections after anal fistula surgery are mostly caused by the accumulation of dampness, heat, deficiency, and blood stasis. The treatment mainly focuses on clearing dampness and heat, promoting Qi and blood circulation to remove blood stasis, tonifying Qi and blood, and removing decay and promoting muscle growth. Moreover, the doctor of anal fistula must treat the wound seriously. Therefore, after anal fistula surgery, the primary goal should be to maintain a relatively clean environment, anti-inflammatory and analgesic effects, reduce tissue edema, and promote wound healing. Western medicine mainly focuses on anti-infection treatment. The Chang'an Niushi Anorectal Academic School has accumulated rich experience in the treatment of wound healing after anal fistula surgery, especially in the field of traditional Chinese medicine, which has unique advantages. The comprehensive therapy of traditional Chinese medicine can have a synergistic effect, mainly using oral administration of traditional Chinese medicine, fumigation and sitz bath of traditional Chinese medicine, external application of traditional Chinese medicine, and acupoint application. The combination of traditional Chinese and Western medicine can improve the therapeutic effect of wound healing after anal fistula surgery, relieve pain, reduce exudation, alleviate edema, promote wound healing, and enable patients to return to normal work and life as soon as possible.

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