

Clinical Efficacy of Ten-flavored Rhubarb Powder on Postoperative Perianal Abscess Observation

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Abstract: Objective: To investigate the postoperative treatment of perianal abscess with decaphyllum dahuang san and observe its clinical efficacy. Methods: 62 patients with perianal abscess requiring surgical treatment admitted to the Department of Anus and Intestines of Wuhu Hospital of Traditional Chinese Medicine from June 2023 to June 2024 were included, and a simple random allocation method was applied to randomly divide the subjects involved in the study into a study group and a control group, with 31 cases in each group. The patients in the study group were treated with postoperative sitz baths with ten-flavored rhubarb powder, while the patients in the control group were treated with sitz baths with potassium permanganate solution, and the healing time of the trauma, postoperative pain, and edema of the patients in the two groups were compared. Results: The patients in the study group and the control group were effectively cured, and the difference in wound healing time between the two groups was statistically significant ($P<0.01$), with the healing time of the control group being slower than that of the study group; the difference in postoperative pain and edema between the two groups was also statistically significant ($P<0.05$), with the clinical efficacy of the control group being lower than that of the study group. Conclusion: The clinical efficacy of ten-flavored rhubarb powder after perianal abscess surgery is good, which effectively reduces patients' postoperative pain and edema, shortens wound healing time and saves medical resources, and is worth promoting its use.

Keywords: Perianal abscess, Ten-flavored rhubarb powder, Wound healing, Pain, Edema.

1. Introduction

Perianal abscess in Chinese medicine is called “anal carbuncle”, which is a common condition in anorectal surgery, and there are more male patients than female patients, and patients commonly suffer from pain in the perianal area, which can affect their quality of life and safety in serious cases. The incidence of perianal abscess is high, with a reported incidence of 2%, accounting for 8% to 25% of anorectal diseases [1]. Surgical treatment is the main method, and the commonly used surgical procedures are abscess incision and drainage and one-stage radical surgery. Among them, one-stage radical surgery is to remove the abscess tissue and deal with the primary foci in order to achieve the purpose of not forming anal fistula in the future, but postoperative pain, edema, and delayed healing of the wound will occur. Traditional Chinese medicine (TCM) has good advantages in improving the postoperative complications of perianal abscess, especially the effect of Chinese medicine sitz bath in promoting wound healing and reducing edema pain [2]. Chinese medicine sitz bath is a common clinical Chinese medicine treatment technology, using Chinese medicine decoction while hot for sitz bath, with the help of heat to make the medicinal power through the mucous membrane and the skin effect on the body, with qi and blood flow, pulse and collateral harmonization and couperous tissue dredging and other therapeutic effects [3]. Ten-flavored rhubarb powder is an in-hospital preparation developed by Wuhu Hospital of Traditional Chinese Medicine. In this study, 62 patients with perianal abscess were selected to observe and evaluate the therapeutic effect of postoperative sitz bath with Ten-flavored rhubarb powder, which is reported as follows.

2. Data and Methods

2.1 Clinical Information

62 patients with perianal abscess requiring surgical treatment admitted to the Department of Anus and Intestines of Wuhu Hospital of Traditional Chinese Medicine from June 2023 to June 2024 were randomly divided into two groups, namely, the study group and the control group. The patients in the study group were treated with Shifu Da Huang San sitz bath after surgery, while the patients in the control group were treated with potassium permanganate solution sitz bath. There were 31 cases in the study group, 19 males and 12 females, aged 17-60 years, with a mean of (37.84 ± 13.12) years; onset time was 1-7 days, with a mean of (3.52 ± 1.43) days. In the control group, there were 31 cases, 22 males and 9 females, aged 16-60 years, with an average of (36.17 ± 13.10) years; the time of onset was most 1-8 days, with an average of (4.20 ± 1.81) days. The data of the two groups were comparable and none of the differences were statistically significant ($P>0.05$).

Inclusion criteria: refer to the clinical diagnostic criteria of perianal abscess in the Chinese Expert Consensus on Clinical Diagnosis and Treatment of Perianal Abscess [4], understand and voluntarily participate in this program. Exclusion criteria: accompanied by other diseases of the anus and intestines, previous diabetes mellitus, hypertension, coagulation abnormality, etc. can not be operated, mental illness can not cooperate with the patient.

2.2 Treatment

Both groups of patients underwent surgery of “one-stage radical treatment of perianal abscess”, and were treated with anti-infection and symptomatic treatment after surgery. Starting from the first day of surgery, both groups of patients were given routine dressing change once a day, as well as medicated sitz bath in the morning after defecation, and medicated sitz bath in the evening before going to bed.

Treatment group: on the basis of the conventional treatment, add ten flavors of rhubarb powder sitz bath (Wuhu City Hospital of Traditional Chinese Medicine hospital preparation), put the bag of medicine into the sitz basin, add boiling water 1500ML, soak for 20 minutes, wait until the temperature of the liquid cooled down to about 40 ° C, then take a sitz bath, each time for about 30 minutes, one bag at a time, twice a day, until the trauma is completely epithelialized. Control group treatment: on the basis of conventional treatment, add 1:5000 potassium permanganate solution fumigation sitz bath, specific operation as above.

2.3 Observational Indicators and Assessment Criteria

2.3.1 Observations

It was divided into: wound healing time; 3-day postoperative pain score; and 5-day postoperative wound edema score.

2.3.2 Comparison of efficacy evaluation criteria

(1) Wound healing time, defined as the time required to record the time from the start of treatment on the first postoperative day until the wound is completely healed and a new epithelial layer is formed.

(2) Pain scoring was done using the perianal affected area pain score using VAS

0 points: no pain;
1-3 points: slight pain, but tolerable;
4-6 points: obvious pain, will affect the quality of sleep, still tolerable;
7-10 points: the pain is strong, difficult to bear, seriously affecting the impact of appetite and sleep.

(3) Scoring criteria for edema in the affected perianal area

3 points: swelling >2 cm in diameter, severe bulging of traumatic tissue, shiny skin, loss of skin texture;
2 points: swelling diameter 1-2 cm, trauma moderately bulging, skin texture present but not obvious;
1 point: swelling <1 cm in diameter, slight bulging of the trauma, skin texture present;
0 points: no edema seen.

2.4 Statistical Methods

SPSS 27.00 statistical software was used to analyze the results, and the measurement data were expressed by ($\bar{x} \pm s$) and t-test was used, and the count data were tested by χ^2 test, and the result of $P < 0.05$ was regarded as statistically significant difference.

3. Test Results

3.1 Healing Time

Both groups of patients improved, but the healing time of the trauma in the study group was significantly shorter than that of the control group, and the healing time of the study group was 18-32 days, while that of the control group was 18-38 days, and the difference was statistically significant ($P < 0.01$),

as shown in Table 1.

Table 1: Comparison of differences in healing times ($\bar{x} \pm s$)

Groups	Number of Examples	Healing Time (days)
Research Group	31	24.23±3.55
Comparison Group	31	30.16±4.78
T value		5.56
P value		<0.01

3.2 Comparison of Postoperative Complication Scores

Comparison of the scores of the patients' postoperative 3-day trauma pain and postoperative 5-day trauma edema, there was a significant difference in the edema pain scores that occurred using the two surgical approaches, and the differences were statistically significant ($P < 0.01$), and the pain and edema in the study group were significantly better than those in the control group, as shown in Table 2.

Table 2: Comparison of postoperative complication scores between the two groups ($\bar{x} \pm s$)

Groups	Number of Examples	Wound Pain	Wound Edema
Research Group	31	3.55±1.98	0.61±0.55
Comparison Group	31	5.23±2.16	1.19±0.75
T value		3.19	3.46
P value		0.002	0.001

4. Discussion

Perianal abscess, also known as anorectal abscess, is an acute purulent disease that occurs in the soft tissues around the rectum and anal canal or its interstitial space. Many experts believe that perianal abscesses are mainly formed due to bacterial invasion of the anal sinuses, leading to infection of the anal glands and spreading to the perianal space [2]. Surgery is preferred for its treatment, but surgery is an invasive operation with a large trauma of postoperative damage, and as the anus is an organ of defecation, patients often experience postoperative trauma pain, edema, and slow healing, and solving postoperative problems becomes critical. Western medicine commonly used potassium permanganate solution sitz bath to clean the wound, but due to the concentration of poor control will damage the skin, pigmentation, low concentration can not achieve the effect of sterilization, so it is not recommended long-term use.

In Chinese medicine, the name of perianal abscess is "anal carbuncle". Its formation is related to dampness and heat toxicity. The heavy and sticky nature of dampness can easily carry heat toxicity down to the anus, and when the heat toxicity accumulates to a certain extent, it will lead to local muscle corruption and form anal carbuncle. According to Chinese medicine, postoperative complications of anal carbuncle are related to the etiology of "dampness-heat" and "stasis". Although the surgery has removed the pus formed due to the accumulation of dampness-heat and toxicity, the dampness-heat in the body has not yet been removed completely, so the traumatic wound will still discharge a lot of viscous secretion after the surgery. Surgery will damage the tendons and muscles, leading to poor circulation of qi and blood, causing stagnation of qi and blood, stagnation of stagnant blood, and pain will be aggravated. At the same time, surgery also depletes the body's qi, blood and fluids, and wound healing requires the nourishment of qi and blood. As a result, postoperative patients often experience wound pain,

swelling, and slow wound growth [5]. The Chinese medicine sitz bath treatment method allows the medicinal liquid to directly contact the affected area, so that the active ingredients in the medication can directly act on the wound surface, and these ingredients enter the body through infiltration, rapidly exerting the therapeutic effect and achieving therapeutic effects. At the same time, the warmth of the sitz bath can reduce the sensitivity of the nociceptive nerves, reduce the symptoms of edema, warm the local qi and blood meridians, accelerate blood circulation, and then promote the rapid healing of the wound [6].

Ten-flavored rhubarb powder is an in-hospital preparation developed by Wuhu Hospital of Traditional Chinese Medicine, which has been in clinical use for more than twenty years, the whole formula consists of Guanhuangbai, Zihuadidin, Dandelion, Bitter ginseng, Poria cocos, Parsley, Wu Bei Zi, Manganese nitrate, and Ice Tablet. The main functions are: clearing away heat and removing toxins, eliminating blood stasis, subduing swelling and relieving pain. Specific analysis of the efficacy of traditional Chinese medicine: rhubarb has the effect of diarrhea and attacking accumulation, clearing heat and fire, cooling blood and detoxification, expelling blood stasis and clearing the menstruation, etc. It is used externally to treat sores and swellings caused by heat and toxins; modern pharmacological research has found that rhubarb has the effects of anti-inflammatory, anti-bacterial, antioxidant, anti-tumor and so on [7]. Phellodendron Bark is bitter in taste, cold in nature, with the effect of clearing heat and drying dampness, diarrhea, detoxification and treatment of sores; some studies have shown that Phellodendron Bark has antiulcer, antitumor, neuroprotection, antidiarrheal, bacteriostatic, and other aspects of the pharmacological effects [8]. Bitter ginseng is bitter in taste and cold in nature, and it has the efficacy of clearing heat and drying dampness and killing worms in traditional Chinese medicine; pharmacological studies have also shown that bitter ginseng mainly has anti-inflammatory, antifungal, antitumor, cell protection and other effects [9]. Bitter ginseng and *Cyperus rotundus* are often used in combination in Chinese herbal medicine to strengthen the anti-inflammatory, antibacterial and analgesic effects, which can reduce the infection, inflammation and pain of wounds and strengthen the recovery of the disease [10]. Dandelion is bitter, sweet and cold in nature, and its main effects include clearing away heat and detoxification, eliminating swelling and dispersing knots, diuretic and diuretic, and its active ingredients have anti-tumor, anti-bacterial and anti-inflammatory, antioxidant, immune-enhancing and diuretic effects [11]. Poria cocos has the efficacy of detoxification, dehumidification, and joint facilitation, and its active ingredients have anti-inflammatory, antiviral, and antioxidant effects [12]; and the traditional Chinese medicine *Momordica charantia* has the efficacy of antibacterial, insecticidal, and antipruritic effects. Zihuadidin has the effects of clearing heat and removing toxins, cooling the blood to reduce swelling, eliminating carbuncles and dispersing boils, and pharmacological studies have found that it has better antiviral, anti-inflammatory and antibacterial effects [13]. Five times the seeds can astringent stop bleeding, collect moisture and astringent sores, has been shown to have antibacterial, antidiarrheal, hemostatic, anti-inflammatory, promote wound healing and other pharmacological effects [14]. The Chinese medicine ice tablet has the effect of

clearing heat and relieving pain, and it has been shown that the components in ice tablet have good antibacterial, anti-inflammatory and analgesic effects [15]. Manganite is cold and bitter in nature, has the function of laxative, clearing fire and swelling, and also has good effect in anti-inflammatory [16].

According to the results of the above data, the wound healing time of the study group was significantly shorter than that of the control group ($P<0.01$), and the postoperative pain and edema scores of the two groups were significantly lower than those of the control group ($P<0.01$), which better illustrates the clinical efficacy of Decamethonium rhubarb powder in reducing the patients' postoperative pain, edema and shortening the healing time of the wound.

In summary, the clinical use of Chinese herbal medicine (ten-flavored rhubarb powder) and surgery combined program, effective treatment of perianal abscess postoperative complications, relieve the patient's pain, shorten the wound healing time, reduce the postoperative edema and pain brought to the patient's psychological pressure, so as to improve the patient's experience of medical treatment, to improve the patient's quality of life, and to promote the patient's early recovery.

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