

## EFFECT OF COMPREHENSIVE NURSING INTERVENTION ON THE POSTOPERATIVE REHABILITATION PROCESS AND SAFETY OF PATIENTS WITH PERIANAL ABSCESS TREATED BY RADICAL SURGERY

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### ABSTRACT

**Objective:** To explore the influence of comprehensive nursing intervention on the rehabilitation process and safety of patients with perianal abscess after radical surgery.

**Methods:** A total of 128 patients with perianal abscess treated by radical surgery in our hospital from January 2019 to May 2021 were randomly divided into two groups, in which 64 patients in the control group were given routine anorectal surgery nursing intervention and 64 patients in the observation group were given comprehensive nursing intervention on the basis of control group. The pain VAS score, simplified comfort scale score, constipation symptom score, dysuria score, postoperative wound healing time, postoperative complication rate and total nursing satisfaction rate were compared between the two groups before and after intervention.

**Results:** The pain VAS score of the observation group after intervention was significantly less than that of the control group and before intervention ( $P < 0.05$ ). The scores of simplified comfort scale in observation group after intervention were significantly higher than those in control group and before intervention ( $P < 0.05$ ). After intervention, the scores of constipation symptoms and dysuria in the observation group were significantly lower than those in control group and before intervention ( $P < 0.05$ ). The wound healing time in observation group was significantly shorter than that in control group ( $P < 0.05$ ). The incidence of postoperative complications in the observation group was significantly less than that in control group ( $P < 0.05$ ). Meanwhile, the total nursing satisfaction rate in the observation group was significantly higher than that in the control group ( $P < 0.05$ ).

**Conclusion:** Comprehensive nursing intervention for patients with perianal abscess can effectively alleviate clinical symptoms, improve postoperative comfort, accelerate postoperative rehabilitation process, reduce the risk of postoperative complications, and contribute to improve nursing satisfaction.

**Keywords:** Comprehensive nursing intervention, surgery, perianal abscess, rehabilitation, safety.

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### Introduction

Perianal abscess, one of the common suppurative diseases in anorectal department, is caused by inflammation invading perianal tissues after anal gland infection, which is more common around anal canal, anus, and rectum, and has the characteristics of rapid onset, rapid progress and self-collapse<sup>(1)</sup>. Patients with perianal abscess often seek medical advices due to persistent pain and fever

in anus. Moreover, perianal abscess may develop into septicemia or toxemia if not treated in time, even poses a great threat to the safety of human life<sup>(2)</sup>. In recent years, one-time radical surgery has been widely used in the treatment of perianal abscess, which is able to thoroughly remove pus and abscess tissue and contributes to avoid anal fistula<sup>(3)</sup>; however, it is necessary to pay attention to the particularity of anorectal position. Patients are more prone to bacterial infection after surgery, resulting

in delayed wound healing and serious impact on the quality of life<sup>(4)</sup>. Therefore, it has received increasing attention to seek a more active and effective nursing intervention for maximizing postoperative comfort, relieving pain and accelerating the rehabilitation process. The present study analyzed and explored the impact of comprehensive nursing intervention on the postoperative rehabilitation process and safety of patients with perianal abscess treated by radical surgery so as to explore the clinical application value of this optimized nursing scheme. It was reported as follows.

## Data and methods

### *Clinical data*

A total of 128 patients with perianal abscess treated by radical surgery in our hospital from January 2019 to May 2021 were included and randomly divided into control group and observation group, with 64 cases in each group. In the control group, there were 38 males and 26 females with an average age of (37.81±5.96) years old, an average BMI of (24.01±2.76) kg/m<sup>2</sup>/m<sup>2</sup> and an average course of disease of (5.60±1.22) years. According to the types of abscess, there were 14 cases of ischiorectal abscess, 35 cases of low perianal abscess, 13 cases of anorectal abscess and 2 cases of pelvic rectal abscess. In the observation group, there were 38 males and 26 females with an average age of (37.81±5.96) years old, an average BMI of (24.01±2.76) kg/m<sup>2</sup>/m<sup>2</sup> and an average course of disease of (5.60±1.22) years.

According to the types of abscess, there were 14 cases of ischiorectal abscess, 35 cases of low perianal abscess, 13 cases of anorectal abscess and 2 cases of pelvic rectal abscess. There was no significant difference in general data between the two groups ( $P>0.05$ ). This study was approved by the Ethics Committee of our hospital, and the patients and their families signed informed consent forms.

### *Inclusion and exclusion criteria*

#### *Inclusion criteria:*

- The diagnostic criteria of perianal abscess were met by anoscopy, compression examination and bimanual examination<sup>(5)</sup>;
- 18~60 years old;
- Successful completion of one-time radical surgery under general anesthesia;
- Had the ability to communicate normally.

#### *Exclusion criteria:*

- History of anal surgery;

- Diabetes;
- Serious cardiovascular and cerebrovascular diseases;
- Perianal tuberculosis;
- Malignant tumor;
- Mental system diseases;
- Unable to tolerate surgery;
- Pregnant and lactating women.

### *Nursing methods*

*The control group was given routine anorectal surgical nursing intervention, and the specific measures included:*

- Supervising fasting and drinking 5~6 hours before surgery;
- Enema treatment;
- Postoperative diet nursing;
- Disinfecting the surgical incision regularly.

*The observation group was given comprehensive nursing intervention on the basis of the control group, and the specific measures included:*

- Before the surgery, a specialized nurse would conduct a comprehensive assessment of the patient's condition and surgical risks to understand whether there were contraindications such as bleeding tendency, coronary heart disease and diabetes;
- Instructed patients to wear surgical wristbands one hour before surgery, and assist them to change loose clothes and trousers;
- After admission, performed systematic health education for patients and their families, such as issuing health manuals, broadcasting promotional videos and one-on-one on-site guidance, comprehensively introduced diseases and surgery-related knowledge, nursing priorities, patiently answered the doubts of patients and their families, and gave positive psychological counseling, and helped them build confidence in successfully completing the surgery;
- Assisted patients in placing proper body positions during surgery, closely monitored vital signs, ensured proper temperature and humidity in the operating room, and gave positive psychological support by touching and shaking hands;
- After the surgery, the distraction method was used to relieve the pain of patients, such as listening to music, watching TV, and chatting.

Meanwhile, instructed patients to perform reasonable exercise and breathing exercises to effectively relieve the body tension; 6 hours after

the surgery, instructed patients to take antipyretic and analgesic drugs. If the pain was severe and unbearable, opioid drugs could be injected intramuscularly; Assisted patients to change position or press the incision when turning over to avoid pain;

Explained the importance of defecation on time to the patients and their families after surgery, and recommended the patients to drink honey and warm saline in the morning. Within 72 hours after surgery, the diet should be based on crude fiber. The intake of spicy, cold or irritating food was strictly prohibited, and instructed patients to massaged the abdomen regularly. In case of constipation, intestinal laxative drugs could be used; Instructed patients to apply hot water bottle to the bladder at a suitable temperature, and gently massage the bottom and front wall of the bladder; Instructed patients to strictly follow the sequence of defecation-sitz bath-microwave-dressing change, thoroughly clean the wound before sitz bath, keep the temperature suitable for sitz bath, and guide to complete the levator ani movement; Deep flushing with hydrogen peroxide and metronidazole aqueous solution was performed when dressing change, and the granulation tissue of the wound was trimmed beyond the epidermal area.

Instructed patients to complete levator ani muscle exercise and anal relaxation and contraction exercise after surgery, 3min each time, 4 times a day; If the wound was obviously bleeding, silk thread ligation was used to stop bleeding.

### Observation indicators

VAS method was used to evaluate the degree of pain, with a total score of 10 points. The higher the score, the more severe the pain was<sup>(6)</sup>. The comfort level was evaluated by simplified comfort scale, with 28 indexes, each item scored 1~4 points, and the total score was 112 points.

The higher the score, the better the comfort level was<sup>(6)</sup>. The scores of constipation and dysuria symptom scale ranged from 0~6 points, of which 0 was asymptomatic, and 6 was constipation symptom which continuously leads to serious decline in quality of life or inability to urinate on its own<sup>(7)</sup>; The time required for wound healing was recorded and the average value was calculated; The incidence of perianal pain, incision infection and urinary retention were recorded and the percentage was calculated; The nursing satisfaction was evaluated according to the nursing satisfaction questionnaire formulated by the nursing department of our hospital. The total score was 100 points, of which >90 points was

judged as very satisfactory, 70~90 points as basically satisfactory, and <70 points as unsatisfactory.

### Statistical methods

SPSS18.0 software was used for statistical processing. The measurement data were compared by t-test and expressed as ( $\bar{x}\pm s$ ); The counting data were compared by  $\chi^2$  and expressed as %;  $P<0.05$  was considered significant.

### Results

#### Comparison of pain VAS score and simplified comfort scale score between the two groups before and after intervention

The pain VAS score of observation group after intervention was significantly less than that of the control group and before intervention ( $P<0.05$ ). The scores of simplified comfort scale in observation group after intervention were significantly higher than those in control group and before intervention ( $P<0.05$ ). See Table 1 for details.

Groups	Cases	Pain VAS score		Simplified comfort scale score	
		Before intervention	After intervention	Before intervention	After intervention
Control group	64	6.24±1.33	4.31±0.95*	56.31±6.29	68.55±8.81*
Observation group	64	6.31±1.40	1.76±0.48* <sup>△</sup>	57.85±6.62	85.72±11.38* <sup>△</sup>

**Table 1:** Comparison of pain VAS score and simplified comfort scale score between the two groups before and after intervention (score).

\*Compared with that before treatment,  $p<0.05$ ; <sup>△</sup>Compared with the control group,  $P<0.05$ .

#### Comparison of constipation symptom score and dysuria score between the two groups before and after intervention

The scores of constipation symptoms and dysuria in observation group after intervention were significantly lower than those in the control group and before intervention ( $P<0.05$ ). See Table 2 for details.

Groups	Cases	Constipation symptom score		Dysuria score	
		Before intervention	After intervention	Before intervention	After intervention
Control group	64	2.28±0.37	1.40±0.23*	2.67±0.44	1.04±0.19*
Observation group	64	2.23±0.40	0.69±0.14* <sup>△</sup>	2.80±0.48	0.52±0.10* <sup>△</sup>

**Table 2:** Comparison of constipation symptom score and dysuria score between two groups before and after intervention (score).

\*Compared with that before treatment,  $p<0.05$ ; <sup>△</sup>Compared with the control group,  $P<0.05$ .

### **Comparison of postoperative wound healing time and postoperative complication rate between the two groups**

The wound healing time in control group and observation group was (13.04±4.62) d and (8.23±2.90) d respectively. The wound healing time in observation group was significantly shorter than that in control group ( $P<0.05$ ). The incidence of postoperative complications in the observation group was significantly less than that in control group ( $P<0.05$ ). See Table 3 for details.

Groups	Cases	Perianal pain	Incision infection	Uroschesis	Incidence of postoperative complications (%)
Control group	64	3	6	4	20.31
Observation group	64	1	2	0	4.69 <sup>△</sup>

**Table 3:** Comparison of postoperative complications between the two groups.

<sup>△</sup>Compared with the control group,  $P<0.05$ .

### **Comparison of total nursing satisfaction rate between the two groups**

The total nursing satisfaction rate of observation group was significantly higher than that of control group ( $P<0.05$ ). See Table 4 for details.

Groups	Cases	Very satisfied	Basically satisfied	Dissatisfied	Total satisfaction rate (%)
Control group	64	20	28	16	75.00
Observation group	64	36	24	4	93.75 <sup>△</sup>

**Table 4:** Comparison of postoperative complications between the two groups.

<sup>△</sup>Compared with the control group,  $P<0.05$ .

## **Discussion**

Perianal abscess is one of the common and frequently-occurring disease in anorectal department. Currently, the treatment for perianal abscess is still dominated by surgery, in which one-time radical surgery is the most widely used<sup>(8)</sup>. One-time radical surgery for perianal abscess can effectively improve anal function, however, the adverse stress caused by the surgery can induce abnormal neuroendocrine reaction mainly excited, stimulate the secretion of catecholamine and adrenaline, eventually result in pain, decrease of peripheral circulation and other problems, which are not conducive to the postoperative rehabilitation process<sup>(9)</sup>.

In recent years, comprehensive nursing intervention has been applied in clinical nursing work, which takes holistic nursing as the

foundation, takes nursing quality as the core, and carries out nursing intervention around the needs of patients<sup>(10)</sup>. Moreover, comprehensive nursing intervention is able to create comfortable treatment and nursing environment, as well as relieve physical and mental symptoms by implementing behavior/speech intervention before, during and after surgery, thus effectively improving comfort and nursing service quality<sup>(11)</sup>. In the present study, the scores of constipation symptoms and dysuria in the observation group after intervention were significantly lower than those in the control group and before intervention ( $P<0.05$ ). The wound healing time in observation group was significantly shorter than that in control group ( $P<0.05$ ). The incidence of postoperative complications in the observation group was significantly less than that in the control group ( $P<0.05$ ), which indicated that comprehensive nursing intervention had advantages in promoting the healing process of patients with perianal abscess after radical surgery, relieving clinical symptoms and reducing postoperative complications. During the implementation of comprehensive nursing intervention, nursing staff should explain the steps and specific methods of dressing change to patients in detail, emphasize the importance of rational and scientific dressing change, and correct misconceptions. Meanwhile, it was necessary to instruct the patients to perform the levator ani exercise, which could accelerate the recovery of anal function, while regular dressing change and disinfection of wounds could contribute to dry the wounds, prevent infection and promote tissue regeneration. Considerable studies have illustrated that<sup>(12)</sup> patients with perianal abscess are at higher risk of postoperative urinary retention and constipation due to factors such as intraoperative traction, anesthesia and change of defecation posture, which significantly prolongs the postoperative rehabilitation time. The application of preventive measures in comprehensive nursing intervention, including comprehensive assessment of patients' condition and surgery risk before surgery, and strengthening wound examination, bleeding treatment, local heat preservation and massage after surgery, are all beneficial to reduce the tension of urethral sphincter and relieve the spasm degree of bladder sphincter, which is of great significance for preventing urinary retention<sup>(13)</sup>. In addition, treatment measures, including guiding patients to ensure a light and highfiber diet, administration of relaxing bowel drugs, as well as reasonable and scientific exercise,

are able to effectively promote intestinal peristalsis and reduce the risk of constipation<sup>(14)</sup>.

Pain, one of the common postoperative complications of anorectal diseases, may lead to the decline of sleep quality, aggravate tissue catabolism, and eventually lead to tissue damage<sup>(15)</sup>. The results of this study showed that the pain VAS score of the observation group after intervention was significantly less than that of the control group and before intervention ( $P < 0.05$ ). The scores of simplified comfort scale in observation group after intervention were significantly higher than those in control group and before intervention ( $P < 0.05$ ), which indicated that comprehensive nursing intervention for patients with perianal abscess treated by radical surgery was beneficial to relieve postoperative pain and improve comfort. In the process of comprehensive nursing intervention, nurses provide patients and their families with more disease and treatment-related information support through preoperative health education, enhance self-response ability, improve the mastery of health knowledge and nursing initiative, and thus bring closer the nurse-patient relationship<sup>(16)</sup>; Meanwhile, active psychological counseling can alleviate patients' nervousness, anxiety and even fear, which is of great significance to guide the patients to use distraction and relaxation methods and analgesic drugs after surgery, so as to reduce the pain degree of patients<sup>(17)</sup>.

The results of this study showed that the total satisfaction rate of nursing in the observation group was significantly higher than that in the control group ( $P < 0.05$ ), which was mainly related to the comprehensive nursing intervention, the more detailed and complete nursing intervention content, the easier for patients to master the disease and surgery-related treatment, and the clearer feeling of the attention from nurses.

## Conclusion

Taken together, comprehensive nursing intervention for patients with perianal abscess can effectively alleviate clinical symptoms, improve postoperative comfort, accelerate postoperative rehabilitation process, reduce the risk of postoperative complications, as well as improve nursing satisfaction.

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