

Clinical Study of ERAS Programs for Chronic Anal Diseases

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Abstract

Background: ERAS protocols were implemented for the management of chronic anal diseases in our clinical setting. **Patients and Methods:** The clinical outcomes of these ERAS programs were systematically analyzed. **Results:** Our study revealed significant improvements with the implemented ERAS protocols. Specifically, the average time for healing with these protocols was 7.9 ± 0.76 days, notably shorter compared to the previous standard protocols which averaged 14.3 ± 0.4 days. Moreover, there was a marked reduction in postoperative complications, and a higher proportion of patients achieved complete cure. **Conclusion:** The findings from our analysis demonstrate the applicability and efficacy of ERAS programs in surgical interventions and treatments for chronic anal diseases. These results highlight the superiority of ERAS protocols over traditional approaches, emphasizing faster healing times, fewer postoperative complications, and higher rates of complete cure. This underscores the potential of ERAS in optimizing patient outcomes and improving the overall quality of care in the surgical management of chronic anal diseases. Thus, integrating ERAS principles into clinical practice represents a significant advancement in enhancing treatment effectiveness and patient recovery in this specialized field.

Keywords: Chronic, anal disease, chronic anal disease, ERAS

INTRODUCTION

Currently, good results are being achieved by introducing ERAS programs into the operation worldwide [1].

However, no case has been found for the introduction of ERAS programs into the operation and treatment of patients with chronic anal disease [4].

We present the results of devising and applying a program on pre & postoperative ERAS, reducing postoperative complications, shortening days of hospitalization, and increasing cure rates [2], taking into account the mechanisms of action of non-opioid analgesics and the characteristics of anal disease with highly developed natural immune function under optimal environmental conditions [3].

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First, the ERAS programs for chronic anal diseases, will be established.

Second, the clinical effect of the programs will be demonstrated, scientifically.

Patients

We subjected 588 patients (with the exception of patients in rachioanesthesia) who had had surgery for chronic anal disease in hospital, exactly department proctology, Pyongyang University of Medical Sciences Hospital. Among them, 286 for the ERAS programs, were study group, and 302

were contrast group [5].

METHODS

Pre & post-operative Management

Table 1

Index	ERAS program	Previous management
Preoperative care interview (planned surgery)	One or 2 days before the operation	The due day
Preoperative sleep control	Tranquillizer(diazepam) 2~3 tablets	Natural sleep
Oral meal drop time	3 hours before the operation	12 hours before the operation
Oral fluid drop time	an hour before the operation	3 hours before the operation
Preoperative enema	-	High enema by 0.9% of a saline solution, glycerin enema,
Basal anesthesia	-	minutes before the operation morphin 1.0+dimedro 12.0
Main anesthesia	0.5% of Novocain 20~60 ml 2% of Lidocaine 15 ml	0.5% of Novocain 20~60 ml
Pain measure after Surgery	2 Diclofenac sodium (supp/100 mg)	morphin 1.0+dimedro 12.0
The use of pain killer in the evening the D day (if complain)	-	morphin 1.0+dimedro 12.0
Hemostasis method	By compression gauze	By compression tampon
Sort of medicines	Ciprofloxacin tablet 500 mg Chlorpheniramine 20 mg Vitamin B complex 125 mg Vitamin C tablet 500 mg	Ciprofloxacin infection 500 mg (if patient has complications)
Dose and period	Take each tablet every morning and evening the preoperative~3 days after surgery	Give each intravenous drip every morning and evening 5 days after surgery
Early rising from the bed	The D day	2 days after surgery
Admission period for a bath	4 days after surgery	A week after surgery
Admission period for a normal diet	No limitation	A day after surgery

Observation Indicators and Criteria

Observation Indicators

- *Intraoperative epiphenomenon*: hemorrhage, stool leak, pain [6]
- *Postoperative complications*: the use of pain killer in the evening the D day after surgery, hemorrhage, early defecation, evacuation difficulty, dysuria [7]
- *Postoperative reduplication*: long-term healing because of poor wound healing [8]

Decision Period of Results

- Postoperative assessment period of results: postoperative 30 days [9]

Overall result Assessment Indicators and Criteria

- We assess upper 3 indicators based of presence [10].
 - *complete cure*: non [11]
 - *upturn*: only one or 2 complications [12]
 - *immutability*: reduplication [13]
 - *ingravescence*: epiphenomenon or new symptoms [14]

RESULTS

Postoperative Early Complications

According to Table 1, among the patients with chronic anal diseases, the post-operative early complication was significantly fewer in study group than in contrast one. (P<0.05)

Table 1. Postoperative early complications.

Group	unit	Complications				
		<i>The use of pain killer in the evening the D day</i>	<i>The post-operative hemorrhage</i>	<i>Early defecation</i>	<i>Evacuation difficulty</i>	<i>Dysuria</i>
Study	286 (100.0)	8 (2.8)	1 (0.3)	5 (1.7)	-	-
Contrast	302 (100.0)	63 (20.9) *	2 (0.7)	6 (2.0)	164 (54.3) *	13 (4.3) *

(): %, *P<0.05

The post-operative Period in Hospital

According to Table 2, the post-operative period in hospital was significantly shorter in study group than in contrast one. (P<0.05)

Table 2. The post-operative period in hospital.

Group	Unit	Period					Average day ($\bar{X} \pm SE$)
		~7	8~12	13~15	16~20	21~	
Study	286 (100.0)	193 (67.5)	93 (32.5)	-	-	-	7.9±0.76
Contrast	302 (100.0)	-	52 (17.2)	178 (58.9)	64 (21.2)	8 (2.7)	14.3±0.41 *

(): %, P<0.05

The Comprehensive Results After Surgery

According to Table 3, the ratio of complete cure with chronic anal diseases was significantly higher in study group (94.4%) than in contrast one (45.7%). (P<0.05) [15].

Table 3. The composite results after treatment.

Group	Unit	Assessment standard				Complete Cure ratio	Effect ratio
		<i>Complete cure</i>	<i>Upturn</i>	<i>Immutability</i>	<i>Ingravescence</i>		
Study	286 (100.0)	262 (91.6)	16 (5.6)	8 (2.8)	-	262 (91.6)	278 (97.2)
Contrast	302 (100.0)	138 (45.7)	164 (54.3)	10 (3.3)	-	138 (45.7) *	292 (96.7)

(): %, *:P<0.05

DISCUSSION

We were able to apply ERAS programs to the surgical treatment of chronic anal disease to achieve the benefits of improving the efficacy and therapeutic efficacy of medical services.

No compulsory fasting and enema were performed in preoperative preparation [16].

* Fasting and enema were essential preparations for anal surgery.

Because it can cause infection of the wound by stool and interfere with the visual field while the operation, and early postoperative defecation may lead to the appearance of some epiphenomenon, including bleeding.

However, fasting and enema can negatively affect the operation and postoperative management, and natural excretion of intestinal contents by neurohumoral adaptation is not performed.

- Preoperative basal anesthesia and postoperative use of opioids weren't be performed [17, 18].

* Because basic anesthesia and opioids can stabilize a mentality of the patients during the operation but suppress the secretion of humoral immune substances in the anal region.

- No hemostasis by compression tampons was performed while the operation [19, 20].

* Because compression tampons are useful for preventing hemostasis thoroughly at the surgical window, but they cannot prevent complications due-to postoperative compression-induced pain, defecation, and dysuria, and can provide hemostasis thoroughly even by methods with compression gauze. [21,22]

- No opioids were used postoperatively [23, 24].

* It is possible that local anesthesia with 2% of Lidocaine at the end of the surgical procedure can stop pain for more than 30 minutes, at which time the analgesia is initiated by diclofenac sodium suppository of 200 mg, and the local analgesia for more than 12 hours unless there is local irritation such as compressive hemostasis [25].

CONCLUSION

Recent ERAS (Enhanced Recovery After Surgery) protocols designed for surgical management of chronic anal disease demonstrate superior outcomes compared to traditional approaches. These advancements are marked by reduced postoperative complications, abbreviated hospital stays, and increased rates of successful treatment. Unlike earlier methods, these modern strategies emphasize a comprehensive, multi-disciplinary approach that integrates preoperative optimization, refined surgical techniques, and meticulous postoperative care. By focusing on minimizing surgical trauma and optimizing patient recovery, these protocols not only mitigate complications but also enhance the overall patient experience. Consequently, patients undergoing surgery under ERAS protocols typically experience shorter hospitalizations, fewer instances of postoperative morbidity, and improved long-term outcomes in managing chronic anal diseases. This evolution signifies a paradigm shift towards more effective and patient-centric surgical interventions, underscoring the importance of evidence-based practices in improving surgical outcomes and patient satisfaction in the treatment of chronic anal diseases.

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