

# Application of ERAS Concept in Surgical Nursing Following Gynecological Malignant Tumors Operation

Baozhu Huang<sup>1</sup>, Lili Gu<sup>1</sup>, Jiangyong Cao<sup>2</sup>, Jianying Wang<sup>3\*</sup>

<sup>1</sup> Gynecology Department, the Fifth Affiliated Hospital Sun Yat-sen University, Zhuhai, Guangdong, 519000, P.R.China

<sup>2</sup> Maternity Ward, the Fifth Affiliated Hospital Sun Yat-sen University, Guangzhou, Zhuhai, 519000, P.R.China

<sup>3</sup> Obstetrics and Gynecology Department, the Fifth Affiliated Hospital Sun Yat-sen University, Zhuhai, Guangdong, 519000, P.R.China

\* Correspondence should be addressed to Jianying Wang (564902280@qq.com)

Received date: May 20, 2018; Accepted date: September 29, 2018; Published date: January 02, 2019

## Abstract

This paper aims to explore the potential of surgical rapid rehabilitation in postoperative nursing following malignant tumors operation. 50 patients who underwent laparoscopic surgery in our department were selected and randomly assigned into observation group and control group with 25 cases in each. Patients in the observation group received routine care, while the concept of surgical rapid rehabilitation was additionally applied to the control group. The postoperative time to first anal exhaust and off- bed activity, as well as the pain scores within 5 days after surgery, and the postoperative incidence of bloating and vomiting were compared between two groups. As a result, the time of anal exhaust and the time of getting out of bed in the control group were significantly earlier than those in the observation group ( $P<0.05$ ) with statistical difference. The pain score and the incidence of vomiting and bloating in the control group were significantly lower than those in the observation group ( $P<0.05$ ), indicating there were statistical difference. In conclusion, ERAS concept applied to patients with gynecological malignant tumors is feasible and worth promoting.

**Keywords** Rapid surgical rehabilitation, Malignant tumor, Nursing



## 1. Introduction

ERAS (Enhanced Recovery After Surgery) refers to a multidisciplinary evidence-based approach for perioperative care to reduce the physical and psychological traumatic stress of surgical patients and facilitate rapid recovery. Accelerated rehabilitation surgery was first proposed by Professor Kehet (University of Copenhagen, Denmark) in 1997. Through a series of optimized perioperative treatments, the rapid recovery was achieved by reducing the physical and psychological traumatic stress of surgical patients <sup>[1]</sup>.

## 2. Clinical data

### 2.1 Select respondents

We selected patients who underwent laparoscopic surgery from July 2016 to March 2019, including 18 cases of endometrial cancer, 25 cases of cervical cancer, and 7 cases of ovarian cancer. Their ages range between 42 to 77 years old. The average age was (56 ±10.2) years. Laparoscopic radical hysterectomy + laparoscopic pelvic lymphadenectomy were performed in 33 cases and ovarian cancer cytoreductive surgery was performed in 7 cases.

### 2.2 Inclusion and exclusion criteria

2.2.1 Inclusion criteria: (1) patients with endometrial cancer and cervical cancer below stage IIa and ovarian cancer below stage IIIC; (2) patients without serious complications in internal medicine.

2.2.2 Exclusion criteria: (1) patients who were unwilling to participate in this study; (2) patients with serious basic diseases; (3) patients with serious complications.

## 3. Statistical observation index

**3.1 The time to first anal exhaust and to leave bed were compared between two groups. P<0.05 indicates significance.**

**3.2 Pain score index: We used a numerical rating scale from 0 to 10 (0 point: painless; 1-3 points: mild pain; 4-7 points: moderate pain; 8-10 points: severe pain).**

## 4. Method

**4.1 Observation group: Routine care was adopted in observation group.**

**4.2 Control group: The concept of surgical rapid rehabilitation in addition to the routine care was adopted in control group.**

4.2.1 A comprehensive nutritional risk assessment was performed using a nutritional risk score (NRS2002) before surgery, provided with appropriate nutritional support based on the score.

4.2.2 A refined pre-operative education was provided, teaching patients to have various discomfort measures after surgery.

4.2.3 The preoperative fasting time was shortened: slag-free carbohydrate fluid was permitted 6 hours before surgery.

4.2.4 The postoperative pain management was standardized with multiple analgesia strategies used, which was beneficial to reducing the incidence of adverse reactions of analgesia and accelerating the postoperative recovery of intestinal function.

4.2.5 To prevent postoperative nausea and vomiting, antiemetics were used.

4.2.6 Postoperative diet recovery time: slag-free liquid diet was provided 4-6 hours after surgery. Patients should take oral diet and a certain amount of liquid food after early recovery to maximize the input nutrition effectively. This method promoted wound healing and avoided the abdominal infections fundamentally. If the patient did not have nausea or vomiting within 24 hours after the operation, a semi-liquid diet could be provided, followed by normal diet after 24 hours <sup>[1]</sup>.

4.2.7 Postoperative activity guidance: ankle pump exercises were guided within 6 hours after surgery, and bedside activities were performed on the first day after surgery <sup>[2]</sup>.



## 5. Statistical analysis

Data were processed in SPSS 17.0 statistical software. The measurements were expressed as  $M \pm SD$ . The t test was used, and the difference was statistically significant at  $P < 0.05$ .

## 6. Results

### Comparison of the time to postoperative anal exhaust and the first time to leave bed

Group	Cases	Anal exhaust time (h)	Leave bed time (h)
Observation	25	18.9 $\pm$ 10.09	20.9 $\pm$ 5.37
Control	25	13.9 $\pm$ 5.29	17.5 $\pm$ 5.25
<i>p</i>		0.0017	0.0011

### Comparison of postoperative pain scores

Group	Cases	Day 1	Day 2-5
Observation	25	3.96 $\pm$ 0.9	1.96 $\pm$ 0.7
Control	25	3.08 $\pm$ 0.6	1.32 $\pm$ 0.5
<i>p</i>		0.001	0.002

### Comparison of incidence of vomiting and abdominal distension

Group	Cases	Vomiting	Percentage	Abdominal distension	Percentage
Observation	25	9	36%	10	40%
Control	25	2	0.8%	4	16%

## 7. Conclusion

Surgical pain, stress, nausea, vomiting, limitation of movement, semistarvation and drainage tube are all factors that delay postoperative rehabilitation.



7.1 Rapid nursing rehabilitation advocates eating 6 hours before surgery and drinking 2 hours before surgery. The longtime of fasting and water-deprivation was easy to lead to hypoglycemia, increase the stress reaction during and after surgery<sup>[2]</sup>. Oral carbohydrates 2 hours before surgery could reduce the discomfort of patients and insulin resistance after surgery, and did not increase the incidence of postoperative complications<sup>[3]</sup>.

7.2 Early eating and early movement could stimulate gastrointestinal contractile movement and reflex movement, accelerate gastrointestinal peristalsis and secretion, facilitate early recovery of normal diet, and reduce massive infusion after surgery to avoid increased cardiac burden, edema of intestinal wall and delayed recovery of intestinal function<sup>[4]</sup>. After early recovery, the patients should take oral diet and carry out a certain amount of liquid diet to enhance nutrition to the maximum extent. Through such method, the wound should be healed quickly and the problem of abdominal infection should be avoided fundamentally. If no nausea and vomiting within 24 hours after surgery, the patient could gradually turn to a semi-liquid diet and then turn to a normal diet 24 hours after surgery<sup>[5]</sup>.

7.3 Postoperative pain management is an important link of ERAS. Pain has been recognized as the fifth vital sign in clinical. Severe pain could cause severe stress reaction in physiology, psychology and behavior, lead to elevated heart rate, blood pressure and respiratory rate, increased myocardial oxygen consumption, immune and metabolic dysfunction, anxiety, as well as depression and other negative emotions<sup>[6]</sup>. Postoperative pain is also an important reason affecting the quality of prognosis. Therefore, the earlier usage of the NSAIDS for postoperative analgesia promotes the ERAS compliance and the patient's benefit, reduces the risk of complications and the mortality rate and shortens the patient's hospital stay.

In conclusion, the application of rapid surgical rehabilitation concept in the nursing effect of patients with gynecological malignant tumor is accurate and beneficial to patients, which is worth popularizing.

## Competing Financial Interests

The authors declare no competing financial interests.

## References

- [1] H. Kehet Multimodal approach to control postoperative pathophysiology and rehabilitation *Br J Anaesth* 1997; 78:606-617.
- [2] Xiaoyan Fan. Analysis of effect of rapid surgical rehabilitation nursing in perioperative period of gastrointestinal tumors [J]. *Women's Health Research*, 2018(18):136-137.
- [3] Junjiang Wang, Zhijian Luo, Xingyu Feng, Sheng Li, Weihao Li, Weixian Hu, Zejiang Lv, Jiangbin Zheng, Xinfeng Yang, Yong Li, Xueqing Yao. Safety and potential analysis of accelerated rehabilitation surgery in radical gastrectomy [J]. *Chinese Journal of Practical Surgery*, 2017, 37(03):271-275.
- [4] Ling Feng, Qianhong Fan. Analysis of effect of nursing intervention of traditional Chinese medicine on abdominal distension after laparoscopic cholecystectomy [J]. *Nursing Practice and Research*, 2015,12(07):147-148.
- [5] Hong Yu, Dan Jiang, Tingting Yang, Jingjing Wang. Application of rapid rehabilitation surgery in the perioperative laparoscopic colorectal-carcinoma surgery [J]. *Cardiovascular Disease Journal of Integrated Traditional Chinese and Western Medicine*, 2019, 7(10):124-125.
- [6] Aronson M, Holter S Semotiuk K, et al. DNA mismatch repair status need for colorectal surgery for meta chronous in young individuals undergoing colorectal cancer resection [J]. *Diseases of the Colon & Rectum*, 2015, 58(7):645~652.

## Acknowledgement

None.

