

Application of Fast Rehabilitation Surgery in Perioperative Nursing of Laparoscopic Cholecystectomy

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Abstract: Objective: To explore the effect of rapid rehabilitation surgery (FTS) in perioperative nursing of patients undergoing laparoscopic cholecystectomy (LC). **Methods:** 110 LC patients who volunteered to participate in this study from September 2015 to January 2016 in our department were randomly divided into control group and experimental group. The control group was given routine perioperative nursing, while the experimental group was given FTS perioperative nursing, and the results were analyzed statistically. **Results:** The time of getting out of bed, the time of first exhaust, the time of hospitalization and the cost of hospitalization in the experimental group were significant. The difference between the two groups was statistically significant ($P < 0.05$). The satisfaction of nursing work in the experimental group was higher than that in the control group, and the difference between the two groups was statistically significant ($P < 0.05$). **Conclusion:** Applying the nursing concept of R. Apid rehabilitation surgery to perioperative nursing of patients undergoing laparoscopic cholecystectomy can effectively shorten the recovery time, reduce the economic burden of patients, improve the satisfaction of patients, and achieve the goal of rapid recovery.

1. Introduction

The concept of fast track surgery (FTS) was first proposed by Danish surgeon Kehlet in 2001. It refers to the adoption of a series of optimization measures for perioperative management with evidence-based medical evidence to reduce the physiological and psychological traumatic stress of patients undergoing surgery, so as to achieve the goal of rapid recovery of patients. Its core link is to reduce trauma and stress damage of patients and accelerate their recovery [2-3]. Laparoscopic cholecystectomy (LC), as a minimally invasive operation, has been widely used and developed in hepatobiliary and pancreatic surgery in many hospitals in China. Its characteristics also provide a basis for the application of FTS. The purpose of this study was to explore the application of FTS concept in perioperative nursing of laparoscopic cholecystectomy. The patients recovered quickly after operation and achieved good clinical results. The following conclusions are made.

2. Materials and Methods

2.1. General Information

From September 2015 to January 2016, 110 patients who underwent laparoscopic cholecystectomy (LC) in our department met the research criteria and volunteered to participate in this study were randomly divided into control group and experimental group. There were 55 patients in the control group, 30 males and 25 females, aged 23-70 years, with an average age of 46.53 ± 14.10 years, 32 cholelithiasis, 16 cholecystitis and 7 gallbladder polyps; 55 patients in the experimental group, 28 males and 7 females. 27 cases were aged from 25 to 72 years, with an average age of 48.07 ± 13.73 years. There were 35 cases of gallstones, 15 cases of cholecystitis and 5 cases of gallbladder polyps. There was no significant difference in general data of sex, age, anesthesia and disease composition between the two groups ($P > 0.05$), which was comparable.

2.2. Method

2.2.1. The control group adopted the traditional perioperative nursing measures, informing the operation-related knowledge one day before the operation; fasting for 12 hours, water deprivation for

6 hours; giving routine enema, indwelling gastric tube, skin preparation; no strict requirements for ward environment, operating room temperature, intraoperative warmth, use of anesthetics; pulling out urinary tube 3-5 days after the operation, pulling out gastric tube after anal exhaust, drinking water, and giving liquid diet after defecation. The patients volunteered to get out of bed and had no specific activity plan.

2.2.2. The experimental group applied the concept of FTS to the perioperative nursing process. Two days before the operation, the patients and their families were given detailed preoperative education and explained the measures of the concept of FTS to obtain the cooperation of patients and their families; 6 hours before the operation, fasting for 3 hours, drinking 10% glucose 500 ml 2-4 hours before the operation; unconventional enema, no indwelling of gastric and urinary catheters; the ward remained quiet, and the room temperature was controlled at 25-28 degrees Celsius during the operation. It is suggested that anesthesiologists should use new short-acting anesthetics to monitor body temperature and control temperature at 37 C. Intravenous self-controlled analgesic pump combined with oral non-steroidal analgesics should be used to relieve pain. After operation, patients can drink water when awake and gradually transition to diet and resume normal diet within 48 hours. They should get out of bed 4-6 hours after operation, and work out activity plan according to individual.

2.3. The self-designed questionnaire of patient satisfaction was used in this study. The score of the questionnaire (> 90) was very satisfactory, the score of 60-90 was relatively satisfactory, and the score of (< 60) was unsatisfactory. Questionnaire survey was conducted one day before discharge to instruct patients to fill out the questionnaire and take it back on the spot. The recovery rate was 100%.

2.4. Evaluation Index

The first exhaust time, hospitalization days, hospitalization expenses, time of getting out of bed and patient satisfaction were observed and recorded.

2.5. Statistical Method

The data were set up by Microsoft Excel software and analyzed by SPSS17.0 software. Measuring data were tested by t test, counting data by χ^2 test and rank sum test. P < 0.05 showed significant difference.

3. Results

3.1. Comparison of General Data of Two Groups of Patients

Table 1 Comparison of general data of two groups of patients

Group	n	Age(years)	sexuality		Composition of the disease		
			Man	female	Gallstones	Cholecystitis	Gallbladder polyp
Control group	55	46.53±14.10	30	25	32	16	7
Experimental group	55	48.07±13.73	28	27	35	15	5
		χ^2/t		0.037		0.500	
		P		0.848		0.779	

3.2. Comparisons of Postoperative Indicators between the Two Groups

Table 2 Comparison of postoperative indicators between the two groups

Group	n	Exhausttime (h)	Getoutof bedtime (h)	Hospital days (d)	Hospital costs(thousands of dollars)
Control Group	55	37.73±11.98	11.42±3.14	10.56±2.76	14.22±2.45

Experimental group	55	26.78±8.23	7.58±1.84	9.20±1.88	12.27±2.11
T		5.585	7.820	3.028	4.455
P		0.000	0.000	0.003	0.000

3.3. Comparisons of Two Groups of Patients' satisfaction with Nursing Work

Table 3 Comparisons of patient satisfaction between the two groups

Group	n	Very satisfied	More satisfactory	Not satisfied
Control group	55	10	34	11
Experimental group	55	15	38	2
rank test			-2.223	
P			0.026	

Table 1 shows that there is no significant difference in gender, age and disease composition between the two groups ($P > 0.05$), and the difference is not statistically significant, so the two groups of patients can be compared.

Two groups of patients recovered and discharged from hospital. Table 2 shows that the first exhaust time, the time of getting out of bed after operation, the days of hospitalization and the cost of hospitalization in the experimental group are lower than those in the control group. There are significant differences between the two groups in the above aspects ($P < 0.05$). It shows that the application of FTS concept in perioperative nursing of LC can effectively shorten the recovery of LC patients. Time, reduce hospitalization time and hospitalization costs, improve the quality of life of patients.

From Table 3, it can be seen that the satisfaction of nursing work in the experimental group was significantly higher than that in the control group ($P < 0.05$), which indicated that the application of FTS made patients really get high quality nursing service, and the patients affirmed the work of nurses.

4. Discussion

Since the concept of fast rehabilitation surgery (FTS) was put forward by Kehlet, a Danish surgeon in 2001, its concept refers to the application of various proven effective methods before, during and after surgery to reduce surgical stress and complications and to accelerate the recovery of patients after surgery. FTS is a synergistic effect of a series of effective measures. It can be quickly applied to various surgeries after clinical application. The advantages and feasibility of domain identification have also been fully demonstrated. Its application in perioperative nursing mainly embodies in the following aspects:

4.1. Preoperative propaganda and psychological nursing Most surgical patients are afraid of the success rate of the operation and the recovery after the operation because they lack sufficient knowledge of the operation, so they will have some preoperative fear. Studies have shown that about 80.7% of surgical patients have anxiety and 68% of surgical patients have depression. Bad emotions can lead to a decrease in the adaptability of patients' physical and mental conditions and can not cooperate well with the operation, thus increasing the risk of the operation process and the incidence of postoperative complications [6]. The concept of FTS attaches great importance to preoperative education and psychological nursing. Nurses introduce the relevant knowledge of operation and the content of FTS concept to patients in detail before operation, inform patients and their families of rehabilitation plans and nursing measures adopted in the rehabilitation process, so that patients can understand the problems and nursing countermeasures that may arise in the whole rehabilitation process, and realize the importance of their own cooperation in treatment, so as to cooperate actively with doctors and nurses. Personnel, faster and better to achieve the goal of rehabilitation.

4.2. Preoperative preparation and intraoperative nursing The traditional preoperative preparation

includes fasting for 12 hours, water deprivation for 6 hours, indwelling gastric tube, urinary tube and enema. Premature fasting and water deprivation may lead to trauma of patients undergoing operation under semi-starvation, aggravate stress and at the same time may lead to hypoglycemia, increase intraoperative and postoperative infusion volume [7]. FTS advocates fasting for 6 hours before operation, fasting for 3 hours before operation and giving 500 ml of 10% glucose solution for 2-4 hours before operation. This avoids hypoglycemia and dehydration, reduces the volume of fluid infusion during and after operation, thus reduces the patient's cardiac load and avoids many complications. Indwelling nasogastric tube can directly stimulate the throat of patients, leading to nausea and vomiting. Indwelling catheterization can also cause urinary tract infection, which is not conducive to the early activity of patients. FTS does not advocate routine indwelling of gastric tube and urinary catheter, which can effectively reduce the discomfort symptoms caused by patients, alleviate the fear and anxiety of patients. Studies have shown that although enema can ensure intestinal cleanliness and prevent abdominal infection, oral laxatives and enema can lead to or aggravate preoperative dehydration and electrolyte disturbance. Mechanical enema may also lead to the spread and metastasis of cancer cells [8,9]. According to FTS, intestinal preparation is not necessary before operation, and relevant studies have shown no adverse effects on patients. FTS concept also emphasizes that monitoring the temperature of patients during the operation to avoid hypothermia. Using infusion heater and warm blanket to keep the patients warm can effectively reduce the occurrence of intraoperative bleeding and postoperative infection.

4.3. The concept of FTS in post-operative nursing advocates early effective pain relief, which is conducive to patients'early out-of-bed activities. The experimental group shows that patients can adjust the dosage of the pain relief pump according to their own pain conditions to achieve the best pain relief effect. Early ambulation after operation can improve blood circulation, increase vital capacity and reduce venous thrombosis.

In this study, the experimental group formulated a specific activity plan for patients'getting out of bed after operation: 6 hours after operation, with the help of nurses, patients began to get out of bed and stand or walk at the bedside, three times a day, 20 minutes each time, and gradually increased the amount of activity every day. Early out-of-bed activities can help patients peristalsis and promote exhaust and defecation. According to FTS, early eating after operation will not cause abdominal distension, promote the recovery of intestinal peristalsis, reduce the incidence of abdominal surgical infection, shorten hospital stay, and do not increase the incidence of anastomotic leakage [11]. There were no abdominal distension and other related problems in the experimental group after early eating, which indicated that it was safe to start giving patients liquid diet 6 hours after operation.

In a word, in the process of nursing for LC patients'rehabilitation, nurses scientifically and reasonably apply FTS concept to effectively implement various nursing measures, thus shortening the hospitalization time of patients, reducing hospitalization costs, improving the quality of nursing, and ultimately improving patients' satisfaction and achieving the goal of rapid rehabilitation.

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