



Clinical Value of Preventive Ileostomy in Laparoscopic Radical Resection of Low Rectal Cancer

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Abstract

Objective: To explore the application effect of ileostomy in laparoscopic radical resection of low rectal cancer, and to provide reference basis for clinical treatment.

Methods: In this study, 76 cases of patients with laparoscopic low rectal cancer underwent preventive application of terminal ileostomy in our hospital, and compared with another group of 50 cases of patients with laparoscopic low rectal cancer without terminal ileostomy, and observed the occurrence of postoperative anastomotic fistula in the two groups.

Results: Compared with the non fistula group, the patients in the fistula group had shorter postoperative exhaust time (12.1 ± 1.9 H vs. 26.0 ± 2.0 h), earlier eating time (15.0 ± 3.1 H vs. 25.8 ± 2.2 h), lower anastomotic incidence (1 (1.3) n% vs. 7 (14.0) n%), shorter drainage tube extraction time (2.2 ± 0.6 d vs. 7.6 ± 0.6 d), shorter hospitalization time (5.2 ± 0.7 d vs. 9.8 ± 0.7 d). There were significant differences between the two groups ($P < 0.05$).

Conclusion: For elderly patients with low rectal cancer, in laparoscopic radical resection of low rectal cancer, preventive fistula can significantly shorten the exhaust time and hospital stay, shorten the drainage tube extraction time, and reduce the incidence of anastomotic fistula. Therefore, preventive fistula is a very safe and effective treatment.

Keywords: Elderly patients with low rectal cancer; Ileum preventive fistula; Anastomotic fistula

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Introduction

In recent years, with the improvement of the national economic level, people's living standards have gradually improved, and then people's living standards and dietary structure have undergone great changes. With these changes, the incidence rate of colorectal cancer is increasing year by year, especially the incidence rate of rectal cancer [1]. The length of the rectum is about 15 cm, which refers to the junction between the dentate line and the rectum sigmoid colon. The canceration of the rectum occurs in this section of the intestinal canal. Because of the different distance from the dentate line, rectal cancer is divided into high, medium and low. Low rectal cancer refers to the canceration of the intestinal canal within 5 cm from the dentate line [2]. In addition, studies have found that rectal cancer is more likely to occur in the elderly population over 60 years old, accompanied by many basic diseases in this population, such as hypertension, diabetes, coronary heart disease, etc, which increases the risk of perioperative period [3]. Rectal cancer is mainly treated by surgery, but with the progress of science and technology, the surgical treatment is gradually changing, traditional open surgery has been replaced by laparoscopy, many patients with low rectal cancer can still complete anastomosis after tumor resection, but anastomotic fistula has been a problem for surgeons [4]. Studies have shown that the incidence of postoperative anastomotic fistula in rectal cancer is 3% to 21%, especially in low rectal cancer; the incidence of anastomotic fistula is higher, especially in patients with diabetes, intestinal obstruction, hypoproteinemia or preoperative neoadjuvant radiotherapy and chemotherapy [5]. Therefore, how to avoid anastomotic leakage has always been a problem that surgeons need to solve. Researchers have different opinions on whether preventive fistula can reduce the incidence of anastomotic leakage after low rectal cancer surgery [6,7]. In this study, the clinical data of 126 elderly patients with low rectal cancer were retrospectively analyzed in our center, in order to explore the clinical value of preventive fistula in laparoscopic Dixon operation for low rectal cancer.

Table 1: Comparison and comparison of observation indexes between the two groups.

Group	Number of Cases n	Exhaust Time h	Eating Time h	Anastomotic Fistula n%	Drainage tube Removal Time d	Hospital Stay d
Fistula group	76	12.1 ± 1.9	15.0 ± 3.1	1 (1.3)	2.2 ± 0.6	5.2 ± 0.7
No fistula group	50	26.0 ± 2.0	25.8 ± 2.2	7 (14.0)	7.6 ± 0.6	9.8 ± 0.7
T/ χ^2		9.69	6.38	5.21	4.61	3.99
p		0.002	0.012	0.22	0.032	0.046

Materials and Methods

We collected the clinical data of elderly patients with anal preservation after surgical treatment for low rectal cancer in the Second Department of External Surgery of the Fourth Hospital of Hebei Medical University from 2018 to 2020.

Inclusion criteria

1) Age \geq 60 years; 2) All patients were diagnosed with rectal cancer. 3) All tumors were located within 5 cm from the tooth line of rectal cancer; 4) The pathological stages were Stage I-III (TNM) 5) All patients underwent prerectal resection; 6) End-to-end anastomosis of all staplers; 7) Complete clinical data.

Exclusion criteria

1) Diseases with organ dysfunction; 2) Complicated with blood, immune, infection and other related diseases; 3) Complicated with other malignant tumor diseases; 4) Local TNM staging is late or metastatic; 5) People who have had abdominal surgery in the past. According to the above criteria, a total of 126 patients with low rectal cancer were included, including 76 patients who underwent double-lumen terminal ileum fistula and 50 patients who did not, including 72 males and 54 females, aged 60 to 85 years, with an average age of (71.28 ± 7.54). There were no significant differences in general information (age, sex, degree of tumor differentiation, TNM stage) between the two groups ($P > 0.05$).

Both groups received routine bowel cleaning and preparation before operation. Laparoscopic surgery was performed with the routine 5-hole method. First, the abdominal cavity was explored. After confirming that there was no abdominal metastasis, we cut the mesentery with an ultrasonic scalpel. The sub-mesenteric arteries and veins were dissociated along Toldt space, lymph nodes at the root of the mesangial were removed, and blood vessels were cut off at the root. In the process of dissociating Toldt space, attention should be paid to protecting the inferior abdominal nerve plexus and the ureter on the left side. Then, the whole mesangial resection of the rectum was performed under laparoscopic direct view, and end-to-end anastomosis was completed. After checking that there was no leakage at the anastomotic site, the operation in the control group was completed, and the double lumen ileostomy was performed in the observation group. The ileal canal about 20 cm away from the ileocecal part was taken and marked, from the middle and outer 1/3 of the line between the anterior superior iliac spine of the right lower abdomen and the umbilicus, we took about 3 cm incision, cut the skin, subcutaneous tissue and aponeurosis of the external oblique muscle, separate the internal oblique muscle and transverse abdominal muscle, cut the peritoneum, and take out the marked ileal bowel from the incision, the ileum was sutured and fixed intermittently with the peritoneum, aponeurosis of external oblique muscle and skin, and then the ileum was cut transversely at the side of the mesangial margin for 1/2 week, that is, the double lumen stoma was completed. The ileum blood supply at the stoma was observed to be normal, and

the pocket was placed. The operation was completed. After operation, both groups received unified nutritional support treatment.

The indexes we observed included: postoperative exhaust time, feeding time, anastomotic leakage, drainage tube removal time, and hospital stay.

SPSS 26.0 software was used for statistical analysis, and ($x \pm s$) and composition ratio were used for statistical description of measurement data and count data. At the same time, χ^2 test was used for comparison between groups, rank sum test was used for grade data, and T test was used for measurement data. ($P < 0.05$) was considered statistically significant.

Results

Compared with the two groups, the observation group had shorter postoperative exhaust time, earlier eating time, lower incidence of anastomotic stoma, shorter drainage tube extraction time and shorter hospitalization time ($P < 0.05$) (Table 1).

Discussion

Literature studies have reported that the incidence of anastomotic leakage after rectal cancer surgery is 3% to 21% [5]. In this study, the incidence of anastomotic leakage is 6%, while the postgraduates who have performed preventive ostomy found that the incidence of anastomotic leakage is 1%. It can be seen that the incidence of anastomotic leakage is much lower than that reported in the literature after preventive ostomy, while the incidence of anastomotic leakage in patients who have not performed preventive ostomy is 14%, which is consistent with the literature, it can be seen that prophylactic fistulation can effectively prevent anastomotic leakage after rectal cancer surgery. Anastomotic leakage is one of the common complications after rectal cancer surgery. The occurrence of anastomotic leakage has a serious impact on the later clinical treatment of patients. Therefore, we are actively looking for better methods to reduce the impact of anastomotic leakage on patients. Preventive fistulation can make the intestinal contents discharged from the body without passing through the anastomotic stoma, avoid the stimulation of the anastomotic stoma due to premature peristalsis of the intestinal canal and the deposition of intestinal contents, and reduce the tension of the anastomotic stoma. It provides important conditions for the late healing of the anastomosis. In this study, we found that compared with the group without prophylactic fistula, the patients in the prophylactic fistula group were better than those in the control group in terms of exhaust time, eating time, anastomotic fistula, drainage tube removal time and hospital stay, and the differences between the two groups were statistically significant. In the relevant literature reports, this study was consistent with its results [8-10]. In particular, after prophylactic fistula, the patient has a short exhaust time and early eating time, which effectively promotes the recovery of gastrointestinal function after operation. The two complement each other. Early eating can effectively promote the recovery of normal physiological function of gastrointestinal

mucosa, so as to promote the absorption of enteral nutrition, reduce the consumption of systemic nutrition due to enterogenous systemic infection caused by bacterial migration, and accelerate the recovery of patients after operation, and can complete the standard treatment in the later effective time.

To sum up, for elderly patients with low rectal cancer, in laparoscopic radical resection of low rectal cancer, preventive fistula can significantly shorten the exhaust time and hospital stay, shorten the drainage tube removal time, and reduce the incidence of anastomotic leakage. Therefore, preventive fistula is a very safe and effective treatment.

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