

Original Article

Effects of continuing nursing on stomal complications, self-care ability and life quality after Miles' operation for colorectal carcinoma

Lan Huang¹, Hongli Yu², Aiguo Sun³, Fei Xu⁴, Chunmei Xia¹, Di Gao¹, Dongmei Wang¹

¹Department of Tumor Laparoscopic Surgery, The First Affiliated Hospital of Harbin Medical University, Harbin City, Heilongjiang Province, China; ²The 3th Neurology Ward, ³The 5th Neurology Ward, ⁴The 6th Neurology Ward, The First Affiliated Hospital of Harbin Medical University, Harbin City, Heilongjiang Province, China

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Abstract: Objective: To study the effects of continuing nursing on stomal complications, self-care ability and life quality of patients after Miles' operation for colorectal carcinoma. Methods: A total of 120 patients diagnosed as colorectal carcinoma with permanent colorectal stoma after Miles' operation in our hospital from May 2016 to May 2017 were selected as the research objects in this paper. These 120 cases were randomly divided into observation group (60 cases) and control group (60 cases). The 60 patients in the control group were treated with conventional nursing while the others in the observation group received continuing nursing on the basis of conventional nursing. Four and a half months after Miles' operation, patients' self-care ability in both groups was evaluated by the exercise of self-care agency scale (ESCA), their daily life was scored by quality of life questionnaire-core 30 (QLQ-C30), and their postoperative complications and healing of stoma were also studied. Results: Four and a half months after Miles' operation, the incidence of stomal edema, stomal stenosis, stomal abscission, peristomal allergic contact dermatitis and other complications of 60 patients in the observation group were significantly lower than those in the control group with significant difference (all $P < 0.01$). The scores of the four dimensions of patients' ESCA (self-concept, self-care responsibility, self-nursing skill and health knowledge) in the observation group were better than those in the control group with statistically significant differences (all $P < 0.01$). The scores of the five dimensions of QLQ-C30 in the observation group 4.5 months after operation were significantly higher than those in the control group with remarkable differences (all $P < 0.01$). After investigated and statistically analyzed, patients' satisfaction degree in the observation group was significantly higher than that in the control group with statistically significant differences ($P < 0.001$). Conclusion: Continuing nursing has good effects on nursing intervention for patients with colorectal carcinoma after Miles' operation. It can effectively reduce the incidence of complications after discharge, significantly improve patients' self-care ability and increase their quality of life and social skills.

Keywords: Continuing nursing, after Miles' operation, self-care skill, quality of life, healing of stoma

Introduction

Colorectal carcinoma is a common malignant tumor in digestive tract, and the tumor cells can transfer to the other organs of human body through blood circulation, lymph, direct spreading, etc. [1, 2]. Currently, low rectal carcinoma accounts for 65% of the total number of rectal carcinoma in China. Miles' operation is the main clinical therapeutic method for rectal carcinoma at present. It has the advantages of complete resection of lesion region, reduction of local recurrence, effective improvement of patients' lifetime, etc.; however, it changes the

defecation mode and increases the risk of rectal colostomy after Miles' operation, which will cause severe psychological and physiological problems for patients, and increase the difficulty of post care for medical staff [3, 4].

Continuing nursing is a nursing model that to ensure patients access to an ordered and continuous medical service in the different elements of the service delivery system [5]. The characteristics of continuing nursing can be summarized as comprehensiveness, continuity, consistency and cooperativeness. Comprehensiveness refers to the comprehensive assess-

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Table 1. Basic information of two groups

	Observation group	Control group	χ^2 /ANOVA	P value
Case	60	60		
Gender			0.889	0.346
Male	40	35		
Female	20	25		
Age (year)	54.7±8.3	53.2±8.8	0.961	0.339
Duke's stage			0.651	0.722
A	20	16		
B	24	27		
C	16	17		
Further treatment			0.134	0.174
Chemotherapy	29	27		
Radiotherapy	31	33		

ment of patients' condition and the promotion of the realization of continuity services from hospitals to communities or families; continuity refers to ensuring the persistence of routine follow-up; consistency refers to the communication and coordination among the medical staff or between medical staff and the caregivers of patients; cooperativeness refers to the mutual cooperation between patients and medical staff on the specific goals set by each other [6]. At present, continuing nursing is widely used abroad and proves that it can better reduce the incidence of postoperative complications and improve patients' quality of life [7]; however, there is no study on the effect of continuing nursing on permanent colorectal stoma after Miles' operation.

In this study, patients who were diagnosed as colorectal carcinoma and underwent permanent colostomy after Miles' operation in our hospital from May 2016 to May 2017 were selected as the research objects. The effects of continuing nursing on the healing of stoma, self-care ability and quality of life in patients with colorectal carcinoma after Miles' operation were evaluated.

Clinical materials and methods

Clinical materials

A total of 120 cases of patients diagnosed as colorectal carcinoma with permanent colorectal stoma after Miles' operation in our hospital from May 2016 to May 2017 were selected and randomly divided into observation group and

control group. This study was approved by the local Ethics Committee and informed consent was got from every eligible patient.

Inclusion criteria: Patients were pathologically proved colorectal carcinoma and underwent permanent colostomy; patients could communicate normally and make decisions by themselves, and didn't have severe bleeding, infection and other complications after operation.

Exclusion criteria: Patients with serious self-related diseases, such as uremia, coagulation dysfunction, heart disease; patients with psychiatric disorders; patients with tumor diseases;

patients with extremity disability; patients didn't cooperate with the medical staff; patients younger than 18 years old and older than 80 years old.

Methods

The nursing service included the assessment of patient's comprehensive condition one day in advance and the preoperative education. The control group was treated with conventional nursing intervention after Miles' operation, covering psychological nursing (patients were informed of the cure rate and the specific nursing measures to reduce the incidence of negative emotion after operation), diet nursing (after operation, patients should be advised to have more meals one day but less food at each time, eat more high protein and digestive food rather than spicy and oily food within one week), stoma nursing (regularly clean up the waste discharged from the stoma in accordance with medical advice), and telephone follow-up once a week. The observation group was performed the same surgery method as the control group, but the continuing nursing was adopted on the basis of the nursing method in the control group, which included that the studied patients' files were established to record their basic information, such as age, gender, therapeutic measures and each follow-up time point in detail; before discharged from hospital, the patients and their caregivers should be informed of the self-care methods (stomal cleaning, psychological adjustment, diet, behavior and exercise); patients were divided into six groups according to their region, and each

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Table 2. Incidence of complications in two groups after 4.5 months (n, %)

Group	Case	Bleeding on the stoma surface	Colorectal stenosis	Allergic dermatitis around stoma	Stoma edema	Stoma abscission
Observation group	60	3 (5.00)	2 (3.34)	0 (0.00)	2 (3.34)	1 (16.67)
Control group	60	10 (16.67)	6 (10.00)	6 (10.00)	8 (13.34)	7 (11.67)
T value		5.940	3.1881	6.413	6.921	6.833
P value		0.000	0.000	0.000	0.000	0.000

group was assigned to a health care professional who would carry out home or telephone follow-up at a regular time once a week to understand the patients' daily diet, sleep quality, defecation, stomal adaptation and so on after discharged, and record the treatment of stoma and replacement of stoma bags within 4.5 months in detail [8].

Observation indicators

The specific conditions of stomal complications in both groups 4.5 months after operation were recorded, which was composed of stomal bleeding, stomal stenosis, peristomal allergic contact dermatitis, stomal edema and stomal abscission.

The exercise of self-care agency scale (ESCA) was used to evaluate the self-care ability of patients 4.5 months after Miles' operation. ESCA is divided into 4 dimensions with 43 items, which consists of health knowledge, self-care skill, self-care responsibility and self-concept. Each item ranges from 0 to 4 points, with total 172 points. The higher the score is, the stronger the patients' self-care ability will be.

The daily life of patients 4.5 months after operation was scored by quality of life questionnaire-core 30 (QLQ-C30). QLQ-C30 is used to evaluate 5 functions (emotional function, role function, cognitive function, physical function and social function) with 30 items and 100 points. The higher the score is, the better the life quality will be.

The satisfaction degree of the patients was investigated and counted and then the satisfaction (great satisfaction and general satisfaction) degree was calculated.

Statistical methods

The statistical software SPSS 19.0 was used for statistical analysis. Measurement data

were expressed by mean \pm standard deviation; between-group comparisons were conducted by independent Samples t-test; enumeration data were expressed by percentage (%) and χ^2 test was used for between-group comparisons. The differences were statistically significant when $P < 0.05$.

Results

Patients' characteristics

General information in two groups, including the number of cases, gender, age, Duke's stage and further treatments, has been listed in **Table 1**. And there was no statistically significant difference ($P > 0.05$).

Comparison of stoma complications in two groups 4.5 months after operation

There were 16.67% of stomal bleeding, 10.00% of stomal stenosis, 10.00% of peristomal allergic contact dermatitis, 13.34% of stomal edema and 11.67% of stomal abscission in the control group. The incidence of complications in the control group was significantly higher than that in the observation group with significant difference ($P < 0.01$). See **Table 2**.

Comparison of ESCA scores between two groups 4.5 months after operation

After grouping, the ESCA scores in the observation group were pronounced higher than those in the control group with significant difference ($P < 0.01$). See **Table 3**.

Comparison of QLQ-C30 scores between two groups 4.5 months after operation

The QLQ-C30 scores of 60 patients in the observation group were remarkably higher than those in the control group, and the difference was statistically significant ($P < 0.01$). See **Table 4**.

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Table 3. Comparison of ESCA scores between two groups 4.5 months after operation ($(\bar{X} \pm sd)$, scores)

Group	Case	Self-care skill	Self-care responsibility	Self-concept	Health knowledge level	ESCA total score
Observation group	60	36.84±4.56	44.53±4.04	27.67±4.21	27.34±5.25	136.38±11.75
Control group	60	26.35±4.34	40.86±3.86	19.34±4.05	18.46±4.86	105.01±10.32
t		25.034	12.124	23.046	17.621	20.651
P		0.000	0.000	0.000	0.000	0.000

Table 4. Comparison of QLO-C30 scores between two groups after 4.5 months ($(\bar{X} \pm sd)$, scores)

Group	Case	Cognitive function	Emotional function	Physical function	Role function	Social function
Observation group	60	77.33±11.45	73.04±11.03	75.85±8.73	66.35±9.64	73.24±10.34
Control group	60	65.46±10.57	62.35±10.46	72.15±7.52	54.57±8.52	54.23±9.68
t		9.086	8.579	5.237	10.932	15.441
P		0.000	0.000	0.000	0.000	0.000

Table 5. Comparison of satisfaction for treatment between two groups after operation (n, %)

Group	Great satisfaction	General satisfaction	Dissatisfaction	Satisfaction degree
Observation group	40 (66.7)	13 (21.7)	7 (11.7)	88.3%
Control group	21 (35.0)	3 (5.0)	36 (60.0)	40.0%
χ^2				31.73
P				0.000

Comparison of satisfaction degree between two groups 4.5 months after operation

After investigating and statistical analyzing patients' satisfaction for treatment, we could get that there were 40 cases of general satisfaction, 13 cases of general satisfaction, 7 cases of dissatisfaction in the observation group, and the satisfaction degree was 88.3%; compared with the satisfaction degree (40.0%) in the control group, there was statistically significant difference ($P < 0.001$). See **Table 5**.

Discussion

At present, Miles' operation with remarkable curative effect and good clearance for focus resection is widely used in the clinical treatment of colorectal carcinoma. The pain caused by the operation and radiotherapy will have an immediate impact on patient's psychological condition. And patients also need to deal with difficult defecation resulted from anal resection and colorectal stoma. The physiological, psychological and physical changes brought by

the stoma can directly lead to mental diseases such as inferiority, anxiety and depression, and make a big difference to patients' daily life [9, 10]. After Miles' operation, timely and effective nursing intervention should be carried out to encourage patients to adjust to stoma, relieve their

negative mood, help them to take part in daily social activities, and improve their quality of life [11, 12]. This study confirmed that the continuing care could effectively improve patients' self-care ability after Miles' operation, along with a better reduction of complications, a promotion in the stoma healing and an improvement of long-term life quality, which is consistent with the reported literature results [13, 14].

Studies have confirmed that preoperative visits to patients one day before surgery can urge them to acquire a knowledge of colorectal stoma nursing better, help them to determine the location of the stoma so as to perform effective care, and inform them that scientific nursing can reduce the incidence of complications [15-18]. In addition, keeping continuing care for discharged patients can enhance their daily social skills, reduce the occurrence of negative emotions, and improve the application skills of colostomy care [19]. This study showed that after 4.5 months, the scores in self-care skill, self-concept, self-care responsibility and health knowledge and total ESCA scores in the

observation group were significantly higher than those in the control group, confirming that the continuing care intervention could effectively improve patients' self-care ability and reduce the occurrence of negative emotion, depression and complications [20].

At present, some patients have a poor understanding of self-care knowledge for stoma, and if they know little, it will affect their quality of life after discharge. To effectively teach patients colostomy nursing skills can improve patients' self-care ability after discharge as well as their quality of life. The improvement of patients' self-care ability will promote their disease monitoring and help effectively stabilize the disease in the future. In daily life, mastering health knowledge can also improve the patients' ability for stoma care and reduce the incidence of postoperative complications [21]. This study revealed that after Miles' operation, the ESCA and QLQ-C30 scores of patients in the observation group were both higher than those in the control group, suggesting that the continuing care intervention can evidently improve patients' self-care ability and quality of life. The above results were closely related to the better postoperative self-care ability of patients in the observation group. In the investigation of effects of continuing care on colorectal carcinoma after Miles' operation, patients' quality of life and self-efficacy varied with time. However, due to weather or human factors, the impact of time on colostomy patients and their families could not be fully studied. Therefore, in further study of patients' quality of life and its influence factors, longitudinal design is to be adopted to measure patients' quality of life and self-efficacy repeatedly at several important time points. Meanwhile, because of a relatively small size of the sample and inadequate follow-up time, the research results may be slightly biased in this study. In the future, prospective trials with larger sample size and more prolonged follow-up time, will be carried out for confirmation so as to widely popularize the nursing program in clinic.

All in all, this study confirmed that the continuing care applied in patients after Miles' operation can enhance patients' self-care ability, improve their quality of daily life and reduce the incidence of complications. What's more, the nursing intervention in the study is worthy of clinical promotion and application.

Disclosure of conflict of interest

None.

Address correspondence to: Lan Huang, Department of Tumor Laparoscopic Surgery, The First Affiliated Hospital of Harbin Medical University, No.23 Youzheng Street, Nangang District, Harbin 150001, Heilongjiang Province, China. Tel: +86-0451-855-55730; E-mail: huanglanabcde@163.com

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