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Palliative Colostomy for End-Stage Gynecologic Cancer

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Abstract

Purpose: This study aimed to investigate the use of colostomies to alleviate gastrointestinal symptoms in patients with end-stage gynecologic cancer presenting with malignant bowel obstruction (MBO).

Material and Methods: We retrospectively investigated 12 patients undergoing palliative colostomy for MBO due to end-stage gynecological cancer. Two main areas were assessed:

i. postoperative complications, the duration of postoperative oral intake, and the postoperative survival; and

ii. The effect of the patient's preoperative general condition and nutritional status on postoperative vital prognosis using the palliative prognostic (PaP) score and the prognostic nutritional index (PNI), respectively.

Results: Postoperative oral intake was possible for 10 of the 12 patients. The median length of oral intake was 42 (6-150) days and the median duration of postoperative survival after colostomy was 54.5 (14-217) days. All patients died due to disease progression. For the 8 patients in the group with PaP scores under 5.5, the median durations of postoperative oral intake and postoperative survival were 58 and 85.5 days, respectively. For the 4 patients in the group with PaP scores of ≥ 5.5, the corresponding values were 3 and 25.5 days, respectively. For the 10 patients in the group with PNI of <40, the median durations of postoperative oral intake and postoperative survival were 38.5 and 51.5 days, respectively. For the 2 patients in the group with PNI of ≥ 40, the corresponding values were 88 and 183.5 days, respectively.

Conclusion: Colostomy performed on patients for MBO due to end-stage gynecological cancer contributed to improved quality of life. The data suggests that the PaP score and PNI may facilitate the prediction of postoperative outcomes.

Keywords: Palliative colostomy; Gynecologic cancer; Quality of life

Introduction

In advanced recurrent cancer, malignant bowel obstruction (MBO) is often accompanied by anorexia, nausea, vomiting, and additional gastrointestinal symptoms regardless of the primary site [1,2]. This appears particularly in gynecologic cancers because pelvic recurrence due to peritoneal metastasis is common, and this often contributes to a marked decline in patient's quality of life (QOL) during end-stage disease. In recent years, octreotide has been identified as an effective conservative treatment for MBO, but has limited efficacy, which precludes reliance on this

drug to improve QOL [3]. Therefore, most patients remain incapable of oral intake with conservative treatment.

In contrast, there are reports that colostomy leads to relatively satisfactory, effective, and sustainable improvements in QOL, partially due to the fact that oral intake can be reintroduced [4]. However, there are few reports of colostomy performed on patients suffering from end-stage gynecological cancer.

Colostomy is indicated for palliative surgery in cases of end-stage cancer. A decline in nutritional status is a concern in patients with gastrointestinal symptoms. In such cases, a careful assessment of the dangers of surgery, the prognosis, and the potential for improvement in QOL is required. In the present study, preoperative assessment and prognosis were performed using the PaP score (Table 1) [5,6] and Onodera's PNI (Table 2) [7], respectively. The latter is considered effective in assessing the nutritional status of patients and in prognostic determinations for gastrointestinal surgery. The PaP score, advocated by Pirovano and Glare, provides an index of a patient's general condition in cases of advanced cancer; it utilizes indices of clinical outcome prediction, the Karnofsky performance scale, anorexia, dyspnea, white blood cell count, and lymphocytes. The criteria are assigned points and the total score is assessed on a scale of 0-17.5 points. Lower scores indicate improved prognosis, with a score of <5.5 points, indicating that survival can be expected for ≥ 30 days.

Thus, the present study was designed to retrospectively investigate the resumption of oral intake and other issues related to end-stage gynecological cancer patients who underwent palliative colostomy.

Subjects and Methods

We enrolled 12 patients who underwent palliative colostomy for the purpose of alleviating gastrointestinal symptoms caused by MBO due to end-stage gynecologic cancer at Kurume University Hospital between January 2002 and May 2010. Two main areas were assessed:

ı. Postoperative complications, the duration of postoperative oral intake, and the postoperative survival; and

ıı. The effect of the patient's preoperative general condition and nutritional status on postoperative vital prognosis. The preoperative

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Palliative Prognostic score (PaP score)		
Anorexia		1.5pt
Dyspnea		1pt
Karnofsky Performance Score		
	10 to 20	2.5pt
	30 to 300	0pt
Total WBC Count		
	<8,000	0pt
	8,000-11,500	0.5pt
	>11,500	1.5pt
Lymphocyte Percentage		
	>20 %	0pt
	12-20 %	1pt
	<12 %	2.5pt
Clinician's Estimate Of Survival Measured In Weeks		
	1 to 2 weeks	8.5pt
	3 to 4 weeks	6.5pt
	5 to 6 weeks	4.5pt
	7 to 10 weeks	2.5pt
	11 to 12 weeks	1.5pt
	>12 weeks	0pt

Table 1: Preoperative general condition using the palliative prognostic PaP.

prognostic nutritional index (PNI)
PNI=(10 × Alb (g/dl))+(0.005 × total lymphocyte counts)

Table 2: Preoperative nutritional state using the prognostic nutritional index PNI.

Age Median (Range 27-88)	51.5
Primary Cancer	
Ovarian Cancer	5
Uterine Cervical Cancer	4
Uterine Endometrial Cancer	1
Uterine Sarcoma	1
Vaginal Cancer	1

Table 3: The median age was 51.5 years, with a range of 27-88 years. The primary diseases were as follows: ovarian cancer (5 patients), cervical cancer (4 patients), endometrial cancer (1 patient), uterine sarcoma (1 patient), and vaginal cancer (1 patient).

general condition was assessed using the palliative prognostic PaP-(Table 1) [5,6] and-(Table 2) [7]. In this study, "end-stage gynecologic cancer" was defined as the stage at which no conceivable treatment was able to manage the primary disease, regardless of whether the patient presented with incipient or recurrent cancer.

Results

Patient Background (Table 3)

The median age was 51.5 years, with a range of 27-88 years. The primary diseases were as follows: ovarian cancer (5 patients), cervical cancer (4 patients), endometrial cancer (1 patient), uterine sarcoma (1 patient), and vaginal cancer (1 patient).

Surgical indications and surgical procedures performed

All patients had MBO or an incipient risk of MBO: 9 patients complained of ileus with abdominal pain, nausea, and vomiting; and the remaining 3 patients presented with rectal stenosis and dyschezia that was expected to develop into rectal obstruction. All patients underwent colostomy without tumor resection.

Postoperative complications

Postoperative complications included surgical site infection (4 patients) and delirium (1 patient), but all symptoms improved within 2 weeks of surgery and no patient died of any postoperative complications.

Postoperative progress (Table 4)

Postoperative oral intake was possible for 10 of the 12 patients. The median duration of oral intake was 42 (6-150) days), but 2 patients were unable to resume oral intake. The median duration of postoperative survival after colostomy was 54.5 (14-217) days. All patients died due to progression of the primary disease.

The assessment of postoperative prognosis (Table 5)

The median PaP score for all patients was 3.25 (range 1-13). For the 8 patients in the group with PaP scores <5.5, the median durations of postoperative oral intake and postoperative survival were 58 and 85.5 days, respectively. For the 4 patients in the group with PaP scores of ≥5.5, the corresponding values were 3 and 25.5 days, respectively, indicating markedly shorter durations.

The median PNI was 42 (range 18.6-48). For the 10 patients in the group with PNI of <40, the median durations of postoperative oral intake and postoperative survival were 38.5 and 51.5 days, respectively. For the 2 patients in the group with PNI of ≥ 40, the corresponding values were 88 and 183.5 days, respectively, indicating longer durations than that in the group of patients with PNI of <40.

Discussion

Persistent MBO causes a decline or cessation in oral intake, leading not only to a deterioration of the patient's nutritional status but also extended hospitalization. In addition, appetite is suppressed during

	Age	Primary	Indication	Pap Score	Pni	Post-Operative	
		Cancer		(0-17.5)		Oral Intake Days	Survival Days
1	40	CC	ileus	5.05	34.06	6	14
2	88	EC	ileus	13	18.06	0	30
3	51	OC	ileus	5.05	25.06	0	21
4	48	OC	RS	3.05	26.05	36	43
5	60	OC	RS	1	36.09	45	50
6	69	OC	ileus	1.05	39.03	14	56
7	30	CC	ileus	1.05	43.01	97	150
8	26	VC	ileus	5	32.07	43	60
9	60	CC	ileus	1.05	48	79	217
10	52	OC	ileus	3	28	150	180
11	44	CC	ileus	6.05	30.02	41	53
12	53	US	RS	2.05	35.02	71	111

Table 4: Pap score: palliative prognostic score, PNI: prognostic nutritional index, CC: uterine cervical cancer, EC: endometrial cancer, OC: ovarian cancer, VC: vaginal cancer, US: uterine sarcoma, RS: rectal stenosis, DOD: death of disease.

	Post-Operative Oral Intake Days	Post-Operative Survival Days
Pap Score		
<5.5	58	85.5
➢ 5.5	3	25.5
PNI		
<40	38.5	51.5
➢ 40	88	183.5

Table 5: Assessment of postoperative prognosis.

end-stage cancer, which has a central role in the maintenance of life. Furthermore, the reduced enjoyment of eating contributes to a patient's sense that she is experiencing a life crisis, thereby reducing QOL. Although conservative treatments exist for MBO, including octreotide, steroids, tubal drainage, and endoscopic stent insertion, their efficacy is limited and the resumption of oral intake can be difficult [8-10]. In contrast, it has been reported that patients who opt for colostomy are able to maintain their oral intake, with a consequent improvement of QOL. However, few such reports exist among gynecological cancers, making it difficult to define the indices for QOL improvement [11].

Thus, the present study investigated the duration of oral intake and the duration of survival as indirect indices of QOL that can be objectively assessed in end-stage gynecological cancer patients following palliative colostomy.

The prevalence of MBO in gynecological cancer is high, particularly in cases of ovarian cancer. In this study, 5 of the 12 patients (42%) suffered from recurrent ovarian cancer. According to studies by McCahill and Ripamonti, the prevalence of MBO is higher in cases of recurrent ovarian cancer than in cases of colorectal cancer [2,3] Primary surgical indications were ileus (9 patients; 75%) and rectal stenosis (3 patients; 25%), representing MBO or an incipient risk of MBO. However, gynecological cancer typically leads to the formation of pelvic region masses, and the enlargement of these masses can easily cause rectal stenosis. In our opinion, in cases in which constriction of the rectal mucosa has been confirmed by imaging, bimanual palpation, and rectal examination, it is advisable to consider colostomy at a relatively early stage before the onset of abdominal pain, nausea, vomiting, and other symptoms. Oral intake was possible for 10 of the 12 patients (83%), and although the duration of possible oral intake ranged from 6 to 150 days, the fact that colostomy even temporarily restored oral intake offers the potential to significantly improve QOL. Unfortunately, postoperative survival for the 2 patients who were unable to resume oral intake was short, at 30 and 21 days; however, 1 of these patients was of advanced age and had poor prognostic scores (PaP=13; PNI=18.6). The other patient with a short postoperative survival had low PaP and PNI scores of 5.5 and 18.6, respectively. These results suggest the possibility that in patients whose pre-surgical nutritional state is poor, palliative surgery itself may contribute to a decline in vital prognosis.

In this study, patients whose PaP score was<5.5 points prior to colostomy (n=8) had a median postoperative oral intake of 58 days (14-150 days) and a median postoperative survival of 85.5 days (43-217 days). In comparison, patients with a PaP score of ≥ 5.5 had markedly poorer outcomes, with a median postoperative oral intake of 3 days (0-41 days) and a median postoperative survival of 25.5 days (14-43 days).

In the field of gastrointestinal surgery, PNI is a predictive factor for palliative surgery that takes into account a patient's nutritional status using the serum albumin level and total lymphocyte count. A PNI of <40 is considered a contraindication for resection and anastomosis of the GI tract. In many cases of post-chemotherapy end-stage gynecologic cancer, decline in bone marrow function leads to reduction in white blood cell and lymphocyte counts. It is therefore unclear whether the use of the lymphocyte count is appropriate in the PNI assessment. In the present study, patients with a pre-colostomy PNI of ≥40 (n=2) had a median postoperative oral intake of 88 days (79-217 days) and a median postoperative survival of 183.5 days (150-217 days). In contrast, those with PNI of <40 (n=10) had markedly shorter durations, with a median postoperative oral intake of 38.5 days (0–71 days) and a median postoperative survival of 51.5 days (14-111 days). Thus, the data from this study suggest that the patients in whom the bone marrow function declines after chemotherapy benefit from a general assessment using the PaP score and other indices, and an objective assessment of their nutritional status using PNI. Taken together, these may assist in determining a comprehensive prognostic prediction.

This study, limited by a small sample size and retrospective were recruited at only one site and there could have been associated selection bias. The lack of a control group might also demonstrate as a limitation.

Conclusion

Colostomy in cases of end-stage malignant tumor occupies a unique position, not only because of the medical ethics but also because it creates a major change in a woman's body image and because randomized controlled studies would be difficult. Thus, efforts should be made to investigate the QOL-related indications for colostomy through further retrospective studies based on comparative studies with relatively less invasive Tran's anal stent placement surgery [11] and other surgical procedures.

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