

Malignant bowel obstruction in recurrent gynecologic cancers: who will benefit from palliative surgical intervention?

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Summary

Purpose of Investigation: To define factors that assist in the selection of patients with gynecologic cancer who have malignant bowel obstruction (MBO) for those who are most likely to benefit from palliative bowel surgery. **Materials and Methods:** Between 2004 and 2014, 11 women who underwent surgery for bowel obstruction after a discharge for the treatment of gynecologic cancer were included. The diagnosis of MBO was confirmed by symptoms and signs of intestinal obstruction along with abdominal X-ray, or a computed tomography (CT) scan. **Results:** The median age of women was 58 years and the median time to surgery was six days. Colostomy was performed in seven of eleven patients, ileostomy in three, and bowel resection and anastomosis in two. Postoperative oral intake was achieved in ten of eleven cases, with a median period of 77 (range, 27–224) days. The progression free interval (PFI) of the primary cancer was < 6 months in six patients and ≥ 6 months in five. The median duration of post-operative oral intake in patients with PFI of < 6 and ≥ 6 months was 34.5 (range, 0–65), and 120 (range, 89–224) days, respectively ($p = 0.0014$). The median survival time after surgery in patients with PFI of < 6 and ≥ 6 months was 43 (range, 11–111), and 156 (range 94–253) days, respectively ($p = 0.0206$). **Conclusion:** PFI of primary gynecologic cancer is a good indicator that could help select for those patients who would most likely benefit from palliative bowel surgery. Surgery for MBO should be considered for patients without serious contraindications.

Key words: Malignant bowel obstruction; Bowel surgery; Gynecologic cancer; Oral intake; Progression free interval.

Introduction

Malignant bowel obstruction (MBO) is a common and distressing outcome in patients with gynecologic cancer [1]. Several studies have suggested that bowel obstruction occurs in 25–60% of patients treated for gynecologic cancer [2–4]. Although surgery is normally the primary treatment for selected patients with MBO, it should not be routinely performed for surgical intervention in patients with a poor prognostic state. Various treatment options are now available for patients who are unsuitable for surgery (add ref). Palliative chemotherapy and medical palliation of intestinal obstruction have been employed as alternatives since they have less morbidity, but have a reduced survival rate compared with that of surgery [5, 6].

We determined here whether the surgical approach produces an effective and long-lasting palliation to the quality of life (QOL) and survival in patients. Furthermore, an attempt was made to define factors that could help select, from a cohort of patients with gynecologic cancer and MBO, those who were most likely to benefit from palliative bowel surgery.

Materials and Methods

Patients operated for MBO due to gynecologic cancer at the University of the Ryukyus Hospital, a tertiary referral teaching hospital in Okinawa, Japan between 2004 and 2014 were included in this study. Eleven women were enrolled, and their medical records were retrospectively reviewed. This retrospective study was conducted according to the principles stated in the 1964 Declaration of Helsinki and subsequent revisions and was approved by the Institutional Review Board of this university (#1256). The authors used an opt-out method to obtain consent from the patients.

All women who underwent surgery for bowel obstruction after a discharge for the treatment of gynecologic cancer were included. The exclusion criteria included women with bowel obstruction as the first symptom of their gynecologic cancer and with persistent intestinal paralysis or obstruction following the treatment of the primary cancer. The diagnosis of MBO was confirmed by signs and symptoms of intestinal obstruction along with abdominal X-ray or CT scan. Nasogastric or long gastro-intestinal tubes for bowel decompression were frequently employed during the course of conservative management. Bowel surgery for the palliation of MBO was indicated only for patients with a rel-

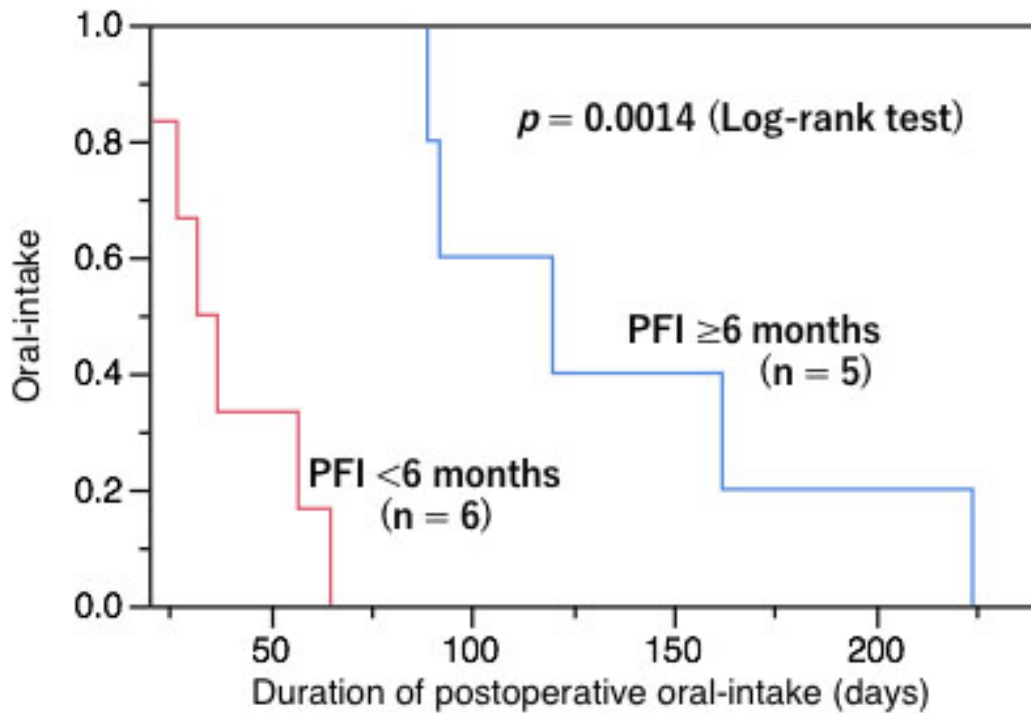


Figure 1. — Analysis of the duration of post-operative oral intake curves after surgery for malignant bowel obstruction using the Kaplan-Meier method. The median duration of post-operative oral intake in patients with progression-free interval of < 6 (n = 6) and \geq 6 (n = 5) months was 34.5 (range, 0–65), and 120 (range, 89–224) days, respectively ($p = 0.0014$).

atively good performance status (PS) and with a predicted life expectancy of longer than 60 days Surgery was also employed for those with a possibility of surgical decompression leading to oral intake-based on a CT scan or contrast radiography, and all who provided consent for surgery including ileostomy/colostomy. Patients with bowel obstruction present at the time of the initial cancer diagnosis that was relieved by primary surgery were excluded. The survival period was measured from the date of the diagnosis of MBO until the date of mortality.

All statistical analyses were performed using the JMP software version 10.0. The curves of the duration of post-operative oral-intake and survival time following surgery for MBO curves were estimated using the Kaplan–Meier method, and differences were tested using the log-rank test. A p -value of < 0.05 was considered statistically significant.

Results

Patient characteristics are summarized in Table 1, and all patients in the present cohort are listed in Table 2. The median age was 58 (range, 27–79) years. Primary cancer was detected in the cervix in six patients, in the corpus in three, and in the ovary in two patients. The International Federation of Gynecology and Obstetrics (FIGO) Staging system for cancer was employed, revealing Stage I in one patient, Stage III in eight, and Stage IV in two patients. The median period from the primary treatment for bowel surgery

was 414 (range, 165–2,713) days, and the median time from the diagnosis of MBO up to surgery was six (range, 1–42) days. With regards to the surgical intervention for MBO, colostomy was performed in seven of 11 patients, ileostomy in three, and bypass/small bowel resection and anastomosis in two. Two patients showed post-operative complications, which comprised anastomotic leakage in one and abscess formation in the second patient.

Post-operative oral intake was achieved in ten of 11 cases, with a median period of 77 (range, 27–224) days and the median survival time following surgery was 96 (range, 11–253) days. The progression-free interval (PFI) of the primary cancer after the primary treatment was < 6 months in six patients and \geq 6 months in five. The median duration of postoperative oral intake in patients with PFI of < 6 and \geq 6 months was 34.5 (range, 0–65), and 120 (range, 89–224) days, respectively ($p = 0.0014$) (Figure 1). The median survival time after surgery for MBO in patients with PFI of < 6 and \geq 6 months was 43 (range, 11–111), and 156 (range 94–253) days, respectively ($p = 0.0206$) (Figure 2).

Discussion

We described here the collection of data on patients operated for MBO as a consequence of the development of gynecologic cancer between 2004 and 2014 at the University of Ryukyus Hospital. The results show that PFI of the

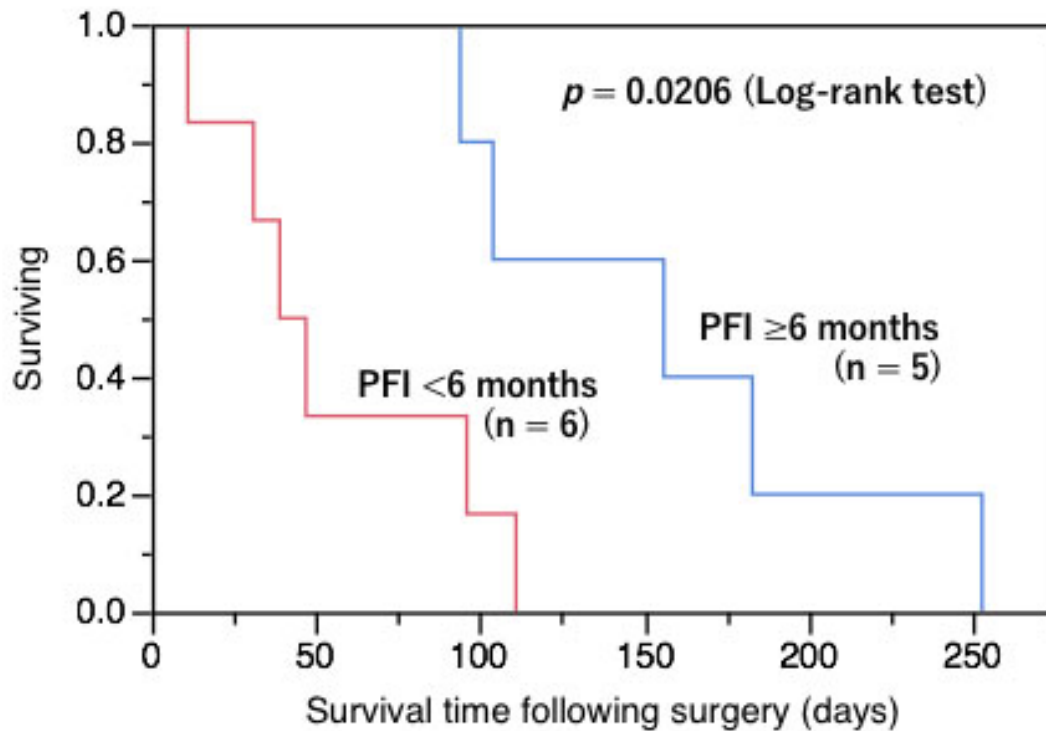


Figure 2. — Analysis of the survival time curves after surgery for malignant bowel obstruction (MBO) using the Kaplan-Meier method. The median survival time after surgery for MBO in patients with a progression-free interval of < 6 ($n = 6$) and ≥ 6 ($n = 5$) months was 43 (range, 11–111) days, and 156 (range 94–253) days, respectively ($p = 0.0206$).

primary gynecologic cancer is a good indicator in the selection of patients who are most likely to benefit from palliative bowel surgery. Patients with a longer PFI showed a significantly longer time of post-operative oral intake, leading to a significantly longer survival period after the surgery for MBO.

For the treatment of ovarian cancer, the treatment-free interval (TFI) is usually used to select the appropriate regimen [7]. In the subset analysis of a Gynecologic Oncology Group trial for the treatment of advanced and recurrent endometrial cancer, the time to recurrence after primary chemotherapy is predictive of survival [8]. Previous reports [9] of prospective trials have demonstrated that TFI is a very good indicator for the response to chemotherapy and for the prognosis of patients with recurrent cervical cancer after definitive concurrent chemoradiotherapy (CCRT). The authors showed in the retrospective study [10] that TFI has predictive value for response to chemotherapy and for the prognosis of patients with recurrent cervical cancer after definitive CCRT. Thus, it is important to consider TFI or PFI as predictive factors in the treatment for recurrent gynecologic cancer. A previous report on bowel surgery for MBO as a palliative procedure investigated 20 gynecologic cancers treated with bowel surgery for MBO and found that the interval from the last anticancer therapy to the diagnosis of MBO might serve as a prognostic factor when con-

sidering surgical intervention [11]. The present findings are consistent with this.

With regards to surgery for MBO arising due to gynecologic cancer, previous reports have identified valuable factors for an effective and long-lasting palliation with regards to the QOL and survival, such as advanced-stage cancer, presence of ovarian malignancy, early-onset obstruction [12], albumin levels [13] and residual tumor during initial surgery, and chemotherapy [14, 15]. In the present cohort of patients, only PFI was found to be a good indicator, and other factors such as age, PS, laboratory values, and types of prior anticancer therapies did not show significant differences. The present patients represent a limited and selected cohort, of which approximately 50% had cervical cancer, none had ascites, and they had a relatively good PS because the surgery for palliation of the MBO. This was a good indicator only in patients with a relatively good PS, those with a predicted life expectancy longer than 60 days, those with a possibility of surgical decompression leading to oral intake-based CT scan or contrast radiography and those who provided consent for surgery.

The significance of this study is that the authors analyzed patients operated for MBO arising due to gynecologic cancer at a single institution. However, one of the limitations of the present study is its retrospective nature, with a relatively small sample number and selection bias. While all

attempts were made to acquire complete and accurate data, retrospective chart reviews can be affected by recall bias and difficulties in data abstraction from charts.

Conclusion

PFI of the primary gynecologic cancer is a good indicator that could help select those patients who were most likely to benefit from palliative bowel surgery. Surgery for MBO should be considered under patient conditions where there were no serious contraindications.

Acknowledgements

The authors would like to thank Enago (www.enago.jp) for the English language review.

Conflict of interest

The authors report no conflicts of interest.

Submitted: October 29, 2018

Accepted: January 21, 2019

Published: August 15, 2020

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