Gynecologic Oncology 134 (2014) 566–569

Contents lists available at ScienceDirect

Gynecologic Oncology

journal homepage: www.elsevier.com/locate/ygyno

The role of palliative colorectal stents in gynaecologic malignancy

Leah Jutzi [a,*], David Russell [b], Stephen Ho [b], Janice S. Kwon [a]

[a] Division of Gynecologic Oncology, University of British Columbia and British Columbia Cancer Agency, Diamond Health Care Centre, 2775 Laurel Street, Vancouver, British Columbia V5Z 1M9, Canada
[b] Department of Radiology, Vancouver General Hospital, Jim Pattison Pavilion, 899 12 Ave. W, Vancouver, British Columbia V5Z 1M9, Canada

HIGHLIGHTS

- Colorectal stents can be used in bowel obstruction from gynaecologic cancer.
- This intervention results in a 47% rate of clinical success.
- No clinical predictors of stent outcome were identified in this study.

ARTICLE INFO

Article history:
Received 25 April 2014
Accepted 23 June 2014
Available online 28 June 2014

Keywords:
Palliative treatment
Intestinal obstruction
Ovarian carcinoma
Endometrial carcinoma

ABSTRACT

Objective. The objectives of this study were to determine the clinical success of colorectal stenting in patients with large bowel obstruction secondary to gynaecologic malignancy and to determine whether there are any predictors of outcome.

Methods. This was a retrospective cohort study of all patients with a gynaecologic malignancy and large bowel obstruction referred for colorectal stenting at Vancouver General Hospital between January 2006 and February 2013. All stents were placed using image guidance with the exception of one placed endoscopically. Information was extracted from the medical record. Data were analysed using descriptive statistics. Chi-square and Fisher's exact tests were used to compare stent outcomes and clinical variables.

Results. There were 32 patients in the study. The median age was 66 (range 40–78). The median follow-up was 28.9 months (range 0.8–481). The primary tumour was ovarian in 75% and uterine in 18.8%. Seventy-five percent of patients had a technically successful stent insertion. Of these, 37.5% had a complication requiring intervention. The rate of clinical success was 47%. There were no statistically significant associations between any clinical variables and failed stent insertion or complications.

Conclusion. Colorectal stenting in patients with a large bowel obstruction secondary to gynaecologic malignancy is associated with a high rate of technical success but a low rate of clinical success. There were no clinical predictors of outcome identified in this study. If patients are offered this procedure, they should be counselled about the anticipated benefit and associated risks.

Introduction

Bowel obstruction is common at the end of life in gynaecologic cancer. During the last six months of life in ovarian cancer, up to 31% of patients are admitted to the hospital with a bowel obstruction [1]. In the past, options for relieving obstruction were limited to gastrostomy tube (G-tube) insertion or surgery. Surgical options include ileostomy, bypass or most commonly, colostomy. Median survival after G-tube placement in ovarian cancer is 8 weeks [2]. This intervention is therefore generally reserved for patients unable to tolerate surgery or with proximal obstruction or bowel dysfunction from carcinomatosis. Surgery for bowel obstruction from recurrent ovarian cancer is associated with a 22% rate of serious morbidity including abscess, peritonitis and fistula and a 6% rate of mortality [3].

In colorectal cancer, self-expanding metallic stents (SEMS) have been used since the early 1980s as a bridge to surgery and for palliation [4–6]. A systematic review of 88 studies reported a clinical success rate of 92% in this setting [7]. Clinical success was defined as successful insertion and patency at 72 h. In one series of 233 such patients, the complication rate was 24% [8]. The most common complications of colorectal stent insertion include recurrent obstruction, perforation, stent migration and bleeding [7]. Increasingly, colorectal stenting has been utilised in patients with non-colorectal malignancies [9,10].

There are important differences between intrinsic obstruction from a colorectal primary and extrinsic compression from a gynaecologic malignancy. Patients undergoing stenting for a non-colorectal primary are

* Corresponding author. Fax: +1 604 875 4869.
E-mail addresses: leah.jutzi@vch.ca (L. Jutzi), daverussell@gmail.com (D. Russell), stephen.ho@vch.ca (S. Ho), janice.kwon@vch.ca (J.S. Kwon).

http://dx.doi.org/10.1016/j.ygyno.2014.06.020
0090-8258/

more likely to have undergone prior chemotherapy, radiation or abdominal surgery and are more likely to have carcinomatosis [9]. It is well recognised that in the setting of bowel obstruction in recurrent gynaecologic cancer, a significant proportion of patients have coexisting sites of obstruction in the small and large bowel [3,11]. Therefore, it is important to examine clinical outcomes in gynaecologic patients rather than extrapolating from the experience in colorectal cancer.

In the literature, technically successful stent insertion is consistently defined as the ability to place a stent across the length of a stricture [5,8,9]. However, the definition of clinical success is more variable and ranges from patency at 72 h to successful insertion without the need for further surgery [6,7,10].

The objectives of this study were to determine the clinical success of colorectal stenting in patients with large bowel obstruction secondary to gynaecologic malignancy and to determine whether there are any predictors of outcome. The primary outcome was clinical success. This was defined as technically successful insertion with relief of obstructive symptoms and no intervention for a stent-related complication *at any point in the future*.

Methods

This was a retrospective cohort study of all patients with a gynaecologic malignancy and large bowel obstruction referred for colorectal stenting at Vancouver General Hospital between January 2006 and February 2013. Patients were identified from an interventional radiology database. Large bowel obstruction was diagnosed by a gynaecologic oncologist based on history, physical examination, abdominal X-rays and a CT scan of the abdomen and pelvis.

An interventional radiologist placed all of the stents with the exception of one placed endoscopically by a gastroenterologist. Patients gave informed consent prior to the procedure. Intravenous conscious sedation was given to all patients. Contrast imaging was obtained using rectal contrast to determine the length and location of the obstruction. A guide wire was then passed across the obstruction. One or more stents were placed to cover the length of the obstruction and deployed. Imaging obtained immediately following stent placement confirmed patency. Patients were included in the study even if the attempted stent insertion was unsuccessful.

Data extracted from the medical record included date of cancer diagnosis, primary site, stage and treatment. The onset of obstructive symptoms, location and extent of disease at the time of obstruction and length and location of the obstruction were also recorded. Information regarding stent insertion, symptoms following insertion, complications, duration of hospital stay, any subsequent surgery and survival was collected. Patients were followed until the date of death or last follow-up.

Data were analysed using descriptive statistics. Overall survival was calculated from the date of attempted stent insertion to the date of death or last follow-up. To identify predictors of outcome, Chi-square and Fisher's exact tests were used to compare rates of failed stent insertion, stent complications, and further surgery with other clinical variables. Statistical analyses were performed using SPSS (version 22.0).

Results

Patient characteristics

There were 32 patients in the study. The median age was 66 (range 40–78). The median duration of follow-up was 28.9 months (range 0.8–481 months). The primary tumour was ovarian in 24 patients (75%) and uterine in 6 (18.8%). One patient had a cervical primary and one had disseminated intraabdominal adenocarcinoma consistent with a gynaecologic primary, but no primary site identified. Twenty-seven patients (84.3%) had surgery during their primary cancer treatment. Five patients (15.6%) did not have surgery. Two patients progressed on chemotherapy, one declined surgery following neoadjuvant chemotherapy, one was treated with chemoradiotherapy for cervical cancer and one died prior to initiating therapy. Ten patients (31.2%) had pelvic radiotherapy. Eight of these patients (25%) had radiotherapy prior to stent placement. Ninety-four percent of patients received chemotherapy, with a median number of 3 lines of treatment (range 1–8). Further details are provided in Table 1.

Twenty-eight percent of patients had a large bowel obstruction at presentation or while receiving primary therapy. Seventy-two percent developed a bowel obstruction as part of their recurrent disease. Of those with recurrent disease, the median progression free interval was 6.9 months (range 1.6–96 months). Fifty percent of these patients had carcinomatosis and 44% had a pelvic mass. The most common site of obstruction was the rectosigmoid (50%), followed by the sigmoid (34.3%), rectum (12.5%) and descending colon (3.1%). An objective length of obstruction was not given for 15 patients. For the remaining 17, the median length of obstruction was 7.5 cm (3–20 cm). The median time from decision to stent to attempted stent placement was 3 days (range 0–36 days). The median total duration of hospital admission was 13 days (range 1–55 days). This includes hospital admission at outside facilities.

Stent outcomes

The outcomes of attempted stent placement are depicted in Fig. 1. Twenty-four patients (75%) had technically successful stent insertion. Of the 8 patients with failed stent insertion, 6 (75%) had surgery and 2 (25%) had symptom management only with no further intervention for the obstruction. Five patients had a colostomy and one had an ileostomy. One of the patients with a colostomy also required an enterocolostomy to relieve a more proximal site of obstruction.

Of the 24 patients with successful stent insertion, 9 (37.5%) had a complication requiring intervention. Therefore, the rate of clinical success was 47%. There were no statistically significant associations between any clinical variables including age, location of recurrence, location or length of obstruction or prior pelvic radiotherapy and failed stent insertion or complications. The median overall survival for all patients from the time of attempted stent insertion to the date of death or last follow-up was 4.1 months (range 0.1–45.4 months).

Complications

There were 12 stent related complications in 10 patients for a complication rate of 42%. Obstruction occurred in 5 patients (21%).

Table 1
Patient characteristics.

Primary	n	%
Ovary	24	75
High grade serous	22	68.8
Low grade serous	1	3.1
Carcinosarcoma	1	3.1
Uterus	6	18.8
High grade endometrial	5	15.6
Low grade stromal	1	3.1
Cervix	1	3.1
Unknown	1	3.1
Surgery		
Y	27	84.3
N	5	15.6
Radiation		
Y	10	31.3
Before stent	8	25
After stent	2	8.3
N	22	68.8
Chemotherapy		
Y	30[a]	93.8
N	2	6.3

[a] Median lines of chemotherapy = 3 (range 1–8).