Palliative Laparoscopic End Colostomy in a Nonagenarian

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ABSTRACT

Background: Patients with advanced gynecologic malignancy often require fecal diversion as a sole procedure in cases of obstruction or fistula formation. This unique patient population has a frequent history of advanced age, prior abdominal surgery, pelvic radiation, poor nutritional status and medical comorbidities. The use of laparoscopic colostomy for palliative fecal diversion in this context has not been well described in the gynecologic oncology literature.

Case: We present the first case of palliative laparoscopic end-colostomy in a nonagenarian as a sole procedure for fecal diversion in advanced gynecologic malignancy.

Conclusion: Palliative laparoscopic end-colostomy is a safe, feasible, and effective method to optimize quality of life in select elderly women with advanced gynecologic malignancy.

Key Words: Fecal diversion, Laparoscopic colostomy, Gynecologic cancer.

INTRODUCTION

The applications of laparoscopic surgery in the management of gynecologic malignancy continue to evolve as new techniques are developed and evaluated. In advanced disease, fecal diversion may be indicated, most commonly to relieve distal bowel obstruction or the sequelae of fistula formation. Traditionally, this is accomplished by an open approach, via either a laparotomy or a trephine incision.

This select population of patients is characterized by an increased incidence of surgical risk factors: advanced age, poor nutritional status, medical comorbidities, prior abdominal surgery, and a frequent history of pelvic radiation. Although data are lacking in the gynecologic oncology literature, the general surgical literature suggests that the laparoscopic approach is a feasible and safe alternative for colostomy placement. A heterogenous group of studies has demonstrated the usual benefits of a minimally invasive operation, with no apparent increase in perioperative morbidity or stomal complications.1–7

The primary goal of the procedure in this context is improved quality of life. There have been very few reports of this technique in nonagenarians (patients older than 89 years). Extreme age is often considered a relative contraindication to definitive surgical management of malignancy related complications, but conservative management often fails to significantly reduce debilitating symptoms. In this heterogenous patient population, select patients with good performance status can derive significant quality-of-life benefit from palliative surgical procedures. We present a case of palliative laparoscopic end-colostomy in a 93-year-old patient with advanced vaginal sarcoma and a symptomatic rectovaginal fistula.

CASE REPORT

A 93-year-old female presented with malodorous vaginal discharge and pain. She reported a remote history of uterine cancer treated 40 years earlier with abdominal hysterectomy and postoperative radiation therapy. Unfortunately, her treatment records were no longer available, and she had not seen a gynecologist in many years. Past medical history was significant for hypertension, chronic
renal insufficiency, urinary incontinence, and hearing loss. Despite her advanced age, she lived independently and required no assistance with activities of daily living.

Upon initial presentation, a physical examination was remarkable for a bulky, friable, fixed vaginal mass and palpable inguinal lymphadenopathy. She was admitted to the hospital and underwent examination under anesthesia, cystoscopy, proctoscopy, multiple biopsies, and left inguinal lymph node biopsy. A 12-cm necrotic mass was noted to occupy the entire vagina with extension to the labia minora and a clearly evident 2-cm rectovaginal fistula. No evidence was found of bladder involvement. Pathology revealed a high-grade sarcoma metastatic to the inguinal node, with a histochemical profile indicative of leiomyosarcoma.

After extensive discussion with the patient, she opted for palliative diverting colostomy, because her quality of life was most affected by the consequences of the rectovaginal fistula. Following appropriate workup, medical and cardiac clearance was obtained, and the patient gave consent for a laparoscopic end colostomy.

Preoperative bowel prep and perioperative antibiotics were given, and the intended stomal site was marked with conscious positioning. The patient was placed in the supine position with both arms tucked. A 10-mm bladeless trocar that incorporates the laparoscope was placed 2 cm above the umbilicus under direct visualization with the 0° laparoscope, and the abdomen was insufflated. An initial survey demonstrated filmy omental adhesions to the previous midline laparotomy scar and no other abnormalities. Thus having confirmed the feasibility of the procedure, the patient was placed in the Trendelenburg position, and three 5-mm trocars were placed in the right lower quadrant, the left lower quadrant (LLQ) intended stomal site, and the midline suprapectic area, respectively.

After lysing the omental adhesions, the lateral peritoneal reflections of the descending and sigmoid colon were dissected by using electrosurgical techniques, with subsequent mobilization. After selecting an appropriate segment of the distal descending colon, a window was created in the mesentery by using blunt dissection. The left lower quadrant trocar was converted to a 10-mm port to accommodate an endoscopic stapler, which was then used to transect the descending colon intracorporeally. The Harmonic ACE (Ethicon Endosurgery, Cincinnati, OH) was used to partially transect the mesentery, thus creating a well-mobilized and tension-free proximal limb. An endo-Babcock clamp introduced via the LLQ port was used to elevate the proximal limb to the level of the anterior abdominal wall. After enlarging the LLQ trocar incision in a circumferential fashion, the fascia was incised and the bowel, clamp, and trocar sleeve were easily externalized as a unit. Prior to desufflation of the abdomen, anatomically correct and tension-free bowel orientation was confirmed laparoscopically and meticulous hemostasis was obtained. The staple line was then excised, and the stoma matured in the usual fashion. The total operating time was 135 minutes. With an estimated blood loss of 20 mL and no complications, the patient tolerated the procedure well.

She had an uncomplicated postoperative course and tolerated a regular diet on the second postoperative day. Her discharge to a skilled nursing facility, delayed by bed availability, occurred on postoperative day #9. She reported a high level of satisfaction with the procedure, with significantly decreased vaginal discharge and a rapid return to her normal daily activities. She was treated postoperatively with palliative chemoradiation, and enjoyed a self-reported dramatic improvement in her quality of life. With the exception of a 21-day re-admission for a urinary tract infection, with discharge delayed by bed availability, she spent her final 4 months feeling well outside of the hospital until she passed away secondary to progressive disease.

DISCUSSION

In select cases of advanced gynecologic malignancy, fecal diversion may be indicated as a sole procedure for palliation, most often in the context of distal bowel obstruction or colovaginal fistula. The primary objective of these procedures is improved quality of life. Historically, this has been accomplished through the use of open techniques, via either midline laparotomy incision or the smaller-scale trephine approach.

Studies of intestinal diversion techniques in the general surgical literature suggest that laparoscopic diverting colostomy is an attractive alternative to open procedures.1–7 The data are limited by retrospective analysis and marked heterogeneity of the patient population and surgical indications. However, in general, these studies have demonstrated a benefit in relevant parameters, including decreased blood loss, less postoperative pain and morbidity, more rapid return of bowel function, and decreased length of hospital stay.

Patients with advanced gynecologic malignancy requiring fecal diversion constitute a distinctive group with a particularly high rate of surgical risk factors. These include
advanced age, medical comorbidities, suboptimal nutrition status, significant tumor burden, prior abdominal surgery, and a frequent history of pelvic radiation therapy. The rate of stomal complications after open colostomy procedures in this patient population has been reported in 2 large series, with early and late complication rates of 6.3% to 11% and 15.3% to 19%, respectively.8,9

The utilization of minimally invasive procedures is especially desirable in these late-stage patients with a short life expectancy, to achieve minimal perioperative morbidity and maximal quality of life. Currently, no data have been published limited to gynecologic cancer patients comparing outcomes of laparoscopic versus open colostomy. However, in 2 general surgical series that compared the open and laparoscopic approaches, patients in the laparoscopy group demonstrated decreased narcotic analgesia requirement, more rapid return of bowel function, and a shorter length of hospital stay.3,4 These studies suggest that the risk of postoperative complications was no higher

Figure 1. After mobilization of the lateral peritoneal reflections, a window is made in the sigmoid mesentery.

Figure 2. The bowel is transected intracorporeally using an endoscopic stapler.

Figure 3. The proximal limb is grasped and externalized.

Figure 4. After ensuring a well-oriented, tension-free proximal limb, the stoma is matured.
in the laparoscopic group, and may be lower. The rate of parastomal hernia formation has limited data and has yet to be determined in comparison with laparotomy. The rate of successful laparoscopic completion of the procedure varies widely in the literature, consistent with heterogeneity of the patient population and surgeons’ experience. The largest series in the general surgical literature report conversion rates to laparotomy of 1.3% to 15%, most often secondary to excessive adhesions, inadequate colonic mobilization, or overwhelming ascites.

Overall, the available data confirm the safety and feasibility of the laparoscopic approach for fecal diversion as a sole procedure and support its superiority in select patients. To the best of our knowledge, our 93-year-old patient is the oldest to have undergone the procedure, with the 2 oldest patients previously reported being 91 years of age. We propose that laparoscopic diverting colostomy should be offered as a safe and effective option to advanced gynecologic cancer patients in the palliative context. The procedure is generally well tolerated in properly selected patients, even in those of advanced age, and offers these women the best chance to maximize their quality of life during the final stages of their disease.

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