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Laparoscopic Colostomy in Gynecologic Cancer

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ABSTRACT **Study Objective:** The purpose of our study was to report on our case series of 7 patients with gynecologic cancer who underwent laparoscopic colostomy for elective fecal diversion. Our aim was to retrospectively estimate feasibility, safety, and efficacy of the laparoscopic approach in the setting of gynecologic malignancy, given the high incidence of earlier abdominal surgery and pelvic radiation treatment in this select population.

Design: Retrospective chart review (Canadian Task Force classification I).

Setting: University of Texas, M.D. Anderson Cancer Center.

Patients: All patients with a history of gynecologic cancers who underwent laparoscopic colostomy during the study period.

Interventions: We retrospectively reviewed all patients who underwent elective laparoscopic diverting colostomy in our department of gynecologic oncology. Surgical indications, medical history, operative and stomal complications, estimated blood loss, return of bowel function, and length of hospital stay were collected.

Measurements and Main Results: Seven patients underwent laparoscopic colostomy during the study period. Six of these patients underwent an end descending colostomy, and 1 patient underwent a loop colostomy. Indications included rectovaginal fistula (n = 5), colonic/pelvic fistula (n = 1), or large bowel obstruction (n = 1). No intraoperative or postoperative complications occurred, nor did any conversions to laparotomy. The median blood loss was 50 mL (range 10–75). Median operative time was 102 minutes (range 69–159). Six (86%) patients had a history of pelvic radiation. In addition, 3 (43%) patients had a history of laparotomy. The median patient weight was 59.8 kg (range 47.1–82.2). The median time to tolerance of a regular diet was 2 days (range 1–3) and the median length of hospital stay was 3 days (range 2–4). No immediate or delayed stomal complications were noted with a median follow-up of 6 months (range 1–15).

Conclusion: Laparoscopic colostomy in advanced gynecologic cancer may be a safe and feasible technique with minimal morbidity, rapid return of bowel function, and short hospital stay. Journal of Minimally Invasive Gynecology (2008) 15, 723–728

Keywords: Gynecologic cancer; Laparoscopy; Colostomy; Rectovaginal fistula

Laparoscopic surgical indications in the field of gynecologic oncology continue to be defined. Surgical management of early cervical cancer, endometrial cancer staging, and pelvic and para-aortic lymphadenectomy are among the more common indications for laparoscopy in gynecologic oncology. When intestinal diversion is indicated, data in the general surgical literature suggest that the use of laparoscopic diverting colostomy may be a viable treatment approach [1–9]. In patients with gynecologic cancer, however, several characteristics of this population must be considered. These patients tend to have a significant tumor burden, poor nutrition, earlier abdominal surgery, and frequent history of pelvic irradiation.

A number of small retrospective studies have looked at the feasibility and outcomes of laparoscopic colostomy in patients with a variety of benign and malignant indications. These indications range from fistulas as a result of inflammatory bowel disease, fecal incontinence, perineal sepsis, or advanced colorectal cancer. Results of these studies reveal

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decreased postoperative morbidity, quicker return of bowel function, and shorter hospital stay [2–4]. The stomal complication rates vary but in general parallel or are less than those seen in open colostomy [2–4,10–12].

The purpose of this study was to report our technique and the surgical outcomes of 7 patients who underwent laparoscopic diverting colostomy performed in our department of gynecologic oncology.

Material and Methods

After institutional review board approval was obtained, the medical records of patients who underwent elective diverting colostomy by a gynecologic oncologist at our institution were identified from June 2005 through November 2006. Age, weight, tumor history, indication for colostomy, operative outcomes, time to tolerance of a regular diet, length of hospital stay, and stomal complications were obtained from the medical record. Blood loss was defined as the total volume of suctioned fluids minus the volumes of irrigation fluids used at the completion of surgery.

Surgical Technique

All patients underwent a laparoscopic colostomy under general endotracheal anesthesia after consultation with an enterostomal nurse. Preoperative bowel preparations were given routinely except to patients with bowel obstruction. All patients received perioperative antibiotics. The patient was placed in the supine position, arms tucked at the side. The initial entry was made at the level of the umbilicus under direct visualization with a 10-mm bladeless trocar that incorporates the zero-degree laparoscope. In 1 patient with central obesity, the primary access was made through a supraumbilical midline port (approximately 5 cm superior to the umbilicus) to avoid injury to pelvic and vascular structures. The patient was then placed in Trendelenburg position and 10-mm right and left lower quadrant bladeless trocars were placed under direct visualization, with the left lower quadrant port placed at the previously marked stoma site. An additional 5-mm bladeless trocar was then placed in the midline above the pubic symphysis (Fig. 1). After exploration of the abdomen for tumor burden and identification of appropriate anatomic structures, the lateral peritoneal reflection was dissected using electrosurgical techniques to mobilize the sigmoid colon. Once the appropriate bowel segment was selected and adequately mobilized, a window was then made in the mesentery using blunt dissection and coagulation.

For the end colostomy, an endoscopic stapling device was then introduced and the bowel transected intracorporeally (Fig. 2). Once the bowel was transected, we used the Harmonic ACE (Ethicon Endosurgery, Cincinnati, OH) to transect the bowel mesentery and thus allow for ease of mobilization of the bowel. An Endo-Babcock clamp (Ethicon Endosurgery) was then introduced through the left lower

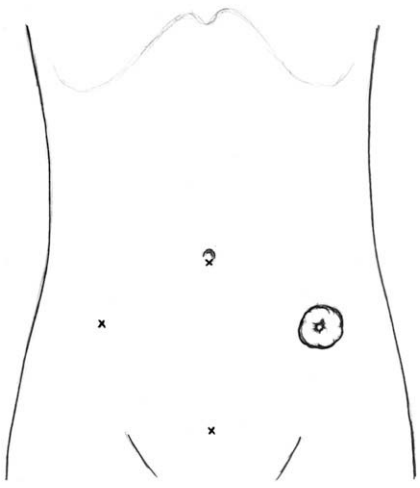

Fig. 1. Recommended trocar placement.

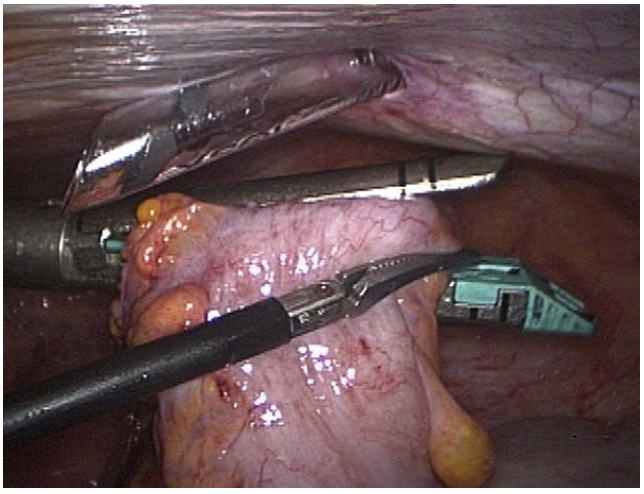

Fig. 2. Transection of bowel with endoscopic stapler.

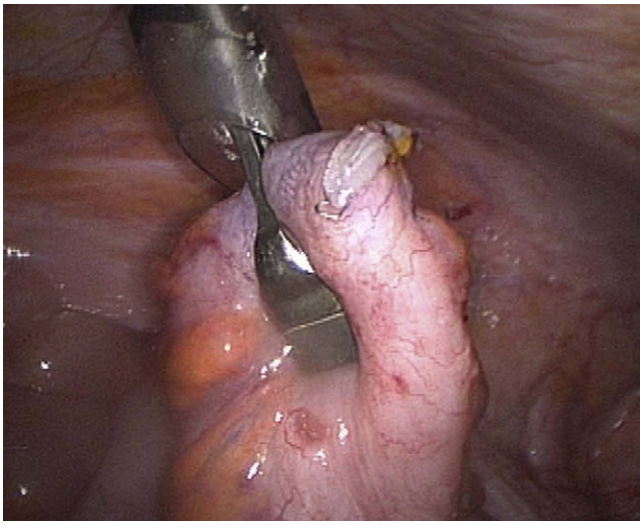

Fig. 3. Grasping of proximal bowel segment with delivery through left lower quadrant port site.