Laparoscopic Small Bowel Resection

44

Walid Faraj, Hussein Nassar, and Ahmad Zaghal

Indications

- Small intestinal neoplasm
- Resection of nonviable bowel in the context of intestinal obstruction
- Ischemic small bowel
- Stricture

Essential Steps

1. Foley catheter, nasogastric tube insertion.
2. Induce pneumoperitoneum (Veress needle or Hassan cannula).
3. Place trocars – supraumbilical 10 mm for laparoscope – then one in each midclavicular line, left and right, approximately 6–7 cm from umbilicus (also 10 mm), taking due consideration of location of old scars to avoid adhesions.
4. Explore the abdomen.
5. Lyse any adhesions.
6. Identify segment to resect.
7. Create a window in the mesentery at the resection margins.
8. Divide the mesentery.
9. Deliver the resected segment.
10. Restore bowel continuity.
11. Close the mesenteric defect.
12. Check hemostasis.
13. Close wounds.

Note These Variations

- Extent of resection
- Stapled or sutured anastomosis
- Placement of incision to deliver bowel
- Use of second-look operation for intestinal ischemia
  - Anastomosis may be delayed until second operation in this case.
- Length of the remaining bowel

Complications

- Anastomotic leak
- Intra-abdominal abscess
- Wound infection
- Enterocutaneous fistula
- Intestinal obstruction
- Short bowel syndrome
- Bleeding
- Internal hernia
- Incisional hernia at trocar site

W. Faraj, MBBS, FACS, FRCS (✉)
H. Nassar, MD • A. Zaghal, MD, MRCS
Department of Surgery, American University of Beirut Medical Center, Beirut, Lebanon
e-mail: wf07@aub.edu.lb

J.J. Hoballah et al. (eds.), *Operative Dictations in General and Vascular Surgery*,
DOI 10.1007/978-3-319-44797-1_44

Template Operative Dictation

Preoperative Diagnosis *Intestinal tumor/ischemia/other*

Procedure Exploratory laparoscopy, with *lysis of adhesions and* laparoscopic small bowel resection

Postoperative Diagnosis Same

Indications This ___-year-old *male/female* presented with signs and symptoms of ___, work up confirmed the diagnosis of___, and the decision was to proceed with laparoscopic segmental small bowel resection.

Description of Procedure Time-outs were performed using both preinduction and pre-incision safety checklist to verify correct patient, procedure, site, and additional critical information prior to beginning the procedure. The patient was placed supine on the operating table, anesthesia placed appropriate lines and induced and intubated the patient without complications, and preoperative antibiotics were given. Foley catheter and nasogastric tube were inserted, and the patient's anterior abdomen was prepped and draped in the usual sterile fashion. A time-out was completed verifying correct patient, procedure, site, positioning, and implant(s) and/or special equipment prior to beginning this procedure.

A supraumbilical 10 mm trocar was inserted under direct vision, using Hasson technique, or a Veress needle was used to insufflate the abdomen and a 10 mm trocar was placed in the supraumbilical location. Abdominal exploration revealed *no incidental findings/the following incidental findings* (*detail*). This was followed by insertion of two trocars, one on the left and the other on the right side, at the midclavicular line 6–7 cm from the umbilicus, 10 mm each, respectively.

Adhesions were lysed sharply under direct vision.

[Choose One:]

If ischemia: *The segment of nonviable small bowel was ___ cm long, ___from the ligament of Treitz. An arterial Doppler probe was used to determine arterial mesenteric pulsation to aid the laparoscopic inspection.*

The bowel was found to be gangrenous, and the decision was to proceed with laparoscopic small bowel resection with anastomosis/second-look operation with delayed reconstruction, after extensive normal saline irrigation of the abdomen.

If tumor/stricture: *The region of the tumor/stricture was identified, and the resection planned to get enough surgical margins and include the nodal basin* via *a wide resection margin in the mesentery*.

A window was created at the junction points between the mesentery and the borders of bowel resection; a V-shaped portion of the mesentery suspending the bowel segment was scored using electrocautery, then LigaSure was used to divide the mesentery, and then the resection borders of the selected bowel segment were cut using a cutting linear stapler.

A separate incision was made in the left lower quadrant, and the specimen was placed in a laparoscopic specimen bag and delivered through this incision.

Then attention was drawn toward restoring the continuity of the bowel.

The antimesenteric angles of the proximal and distal margins were then approximated using stay silk sutures, enterotomies were made using electrocautery at the antimesenteric borders, and the cutting linear Endo GIA was inserted and fired. Lumen was then inspected for bleeding points.

The enterotomies were then closed with *Endo GIA/using two layers of 3-0 Vicryl or PDS sutures*.

The mesenteric defect was then closed using running suture of 3-0 PDS.

Abdomen was irrigated extensively with normal saline.

The remaining of the bowel looked viable.

Hemostasis secured.

Trocar sites were then closed in layers, with O/PDS for the fascia and 4/0 Monocryl continuous subcuticular sutures for the skin.

The left lower abdominal incision was also closed in layers, 0/PDS interrupted sutures for the fascia and 3-0 nylon interrupted sutures for the skin.

A debriefing checklist was completed to share information critical to postoperative care of the patient. The patient tolerated the procedure well and was transferred to the postanesthesia care unit in stable condition.