
Subtotal Colectomy for Lower Gastrointestinal Bleeding

61

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Indications

- Bleeding from the lower gastrointestinal tract for which the location within the colon cannot be determined
- Bleeding from the lower gastrointestinal tract that is refractory to nonoperative treatment measures
- Bleeding from the lower gastrointestinal tract due to diffuse diverticular disease
- Bleeding from the lower gastrointestinal tract that is either nonlocalized by radiologic or endoscopic means or cannot otherwise be controlled

Essential Steps

1. Make a vertical laparotomy incision in the midline.
2. Explore all four quadrants of the abdominal cavity.
3. Mobilize the right colon:
 - Make a division in the lateral peritoneal reflection and extend this opening from

the cecum to the hepatic flexure. Take down any adhesions between the retroperitoneum and colon. Identify and protect the duodenum and right ureter from injury.

4. Mobilize the transverse colon by dividing the greater omentum near the colon.
5. Mobilize the splenic flexure and left colon:
 - Make a division in the lateral peritoneal reflection and extend this opening from the splenic flexure to the sigmoid colon. The left colon should be reflected medially by taking down any adhesions between it and the retroperitoneum.
 - Identify points of transection on the terminal ileum and rectosigmoid colon.
6. Identify the point of intended transection of both the rectosigmoid colon and the terminal ileum.
7. Use a linear-cutting stapler to divide the terminal ileum.
8. Use electrocautery to score the peritoneum overlying the intended line of mesenteric resection.
9. Use 2-0 ties and suture ligatures or, alternatively, an electronic vessel-sealing system, to divide the mesentery.
10. Plan the site of intended division of the rectosigmoid colon (most commonly, above the peritoneal reflection at the point where the taenia fuse to form a single longitudinal muscular layer on the rectum).

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11. Divide the rectosigmoid junction with a linear-cutting stapler and remove the specimen.
12. Obtain hemostasis.
13. *If using staplers to create the anastomosis:*
 - *Bring together the stapled ends of the terminal ileum and rectosigmoid colon.*
 - *Place two stay sutures with 3-0 silk.*
 - *Use electrocautery to make enterotomies.*
 - *Place a linear-cutting stapler across the common wall and fire (caution should be taken to ensure that no mesentery protrudes into the intended staple line).*
 - *Inspect the staple line for hemostasis. Use gentle electrocautery, as needed, along the staple line to ensure hemostasis.*
 - *Use either a linear-cutting stapler or two-layer suture closure to close the remaining enterotomies.*
14. *If using sutures to create the anastomosis:*
 - *Bring together the end of the rectosigmoid colon and the antimesenteric border of the terminal ileum.*
 - *Create a two-layered anastomosis between the rectosigmoid stump and the antimesenteric border of the terminal ileum. For the inner layer, use running or interrupted 3-0 Vicryl and for the outer layer, use interrupted 3-0 silk.*
15. Check the luminal size and integrity of the anastomosis. Ensure there is no tension or torsion of the anastomosis.
16. Obtain hemostasis.
17. Irrigate the abdomen.
18. Place drains, if desired.
19. Close the midline wound in layers.

Note These Variations

- Primary anastomosis versus diverting ileostomy with Hartmann's pouch or mucus fistula
- Stapled versus sutured anastomosis

Complications

- Ureteral or duodenal injury
- Recurrent bleeding

- Anastomotic leak
- Abscess

Template Operative Dictation

Preoperative Diagnosis Lower gastrointestinal bleed

Procedure Subtotal colectomy with ileoproctostomy

Postoperative Diagnosis Same

Indications This ___-year-old *male/female* developed bright red blood from the rectum, and on workup with *tagged red blood cell scan/sigmoidoscopy/colonoscopy/angiography* was found to have *angiodysplasia/diverticular disease/indeterminate colonic source* refractory to blood transfusion and conservative management. After a full discussion was held with the patient regarding the potential risks, potential benefits, and alternative treatment options to surgery, *he/she* ultimately consented to subtotal colectomy with ileocolonic anastomosis for definitive management.

Description of Procedure The patient was properly identified in the holding area and taken to the operating room. *Epidural catheter was placed for postoperative pain relief.* The patient was placed in the supine on the operating room table, and sequential compression stockings were placed bilaterally. Time-outs were performed using both preinduction and pre-incision safety checklists to verify correct patient, procedure, site, and additional critical information prior to beginning the procedure. The abdomen was prepped and draped in the usual sterile fashion. An IV line was inserted, general anesthesia was induced, and the patient was successfully intubated. Perioperative antibiotics were given. A Foley catheter was placed in the patient's urinary bladder utilizing sterile technique.

A vertical midline incision was made. This was deepened through the subcutaneous layer, and hemostasis was achieved with electrocautery.

The linea alba was incised and the peritoneal cavity entered. The abdomen was explored. *Given that the patient had undergone previous abdominal surgery, adhesions were sharply taken down under direct vision with the Metzenbaum scissors.*

The abdominal cavity was inspected for gross abnormalities. The colon appeared to be full of blood with an extensive amount of diverticula throughout the colon, starting somewhat above the sacral promontory at the peritoneal reflection all the way to the cecum/other. The small bowel was also inspected for evidence of bleeding. With the exception of the region of the terminal ileum, no blood was found in the lumen of the small bowel, and there were no abnormalities noted.

Initially the right colon was mobilized by dividing the peritoneal attachment from the cecum to the hepatic flexure. The colon and terminal ileum were mobilized medially, and caution was taken to identify and protect the duodenum and right ureter. We then sharply took down attachments of the greater omentum from the transverse colon extending up to the splenic flexure. At this point, we divided the lateral peritoneal reflection of the left colon, from the splenic flexure to the sigmoid colon. The left colon was reflected medially. Care was taken at all times to protect the left ureter.

Points of division on the terminal ileum and rectosigmoid colon were then selected. The bowel was divided in both locations with a linear-cutting stapler. The mesentery was scored and divided. The mesenteric vasculature was secured with ties and suture ligatures/an electronic vessel-sealing system. The specimen was removed and sent to pathology.

Hemostasis was ensured along the staple line.

Choose One

If stapled anastomosis: *The end of the rectosigmoid colon was brought together with the antimesenteric border of the terminal ileum, and two 3-0 silks were placed. Enterotomies were made. The linear-cutting stapler was inserted and fired along the common wall. The staple line was inspected for hemostasis. The linear-cutting stapler/a two-layer suture closure technique was used to close the enterotomies. The staple lines were imbricated with ___ suture.*

If sutured anastomosis: *The rectosigmoid colon was then sutured to the terminal ileum in two layers: An inner layer of interrupted/running 3-0 Vicryl and an outer layer of interrupted 3-0 silk.*

The luminal size and strength of the anastomosis were verified. Hemostasis was ensured. A drain was placed near the anastomosis.

(Optional: Multiple interrupted through-and-through retention sutures of ___ were placed.) The fascia was closed with interrupted _____/a running suture of _____. The skin was closed with skin staples/subcuticular sutures of ___/other.

A sterile dressing was applied. The patient was successfully extubated at the end of the procedure. All needle, sponge, and instrument counts were correct at the end of the case. A debriefing checklist was completed to share information critical to postoperative care of the patient. The patient tolerated the procedure well and was taken to the postanesthesia care unit in stable condition.

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