Superior Mesenteric and Portal Vein Thrombosis Following Laparoscopic-Assisted Right Hemicolectomy

Report of a Case

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PURPOSE: This article describes a case of superior mesenteric and portal vein thrombosis following laparoscopic-assisted right hemicolectomy. METHODS: A retrospective case review was performed. RESULTS: Data continue to grow regarding safety and technical feasibility of laparoscopic-assisted colectomy. As this minimally invasive alternative to open colonic resection becomes more popular, it is inevitable that information on benefits and complications associated with it will continue to expand. We report a case of superior mesenteric and portal vein thrombosis following laparoscopic-assisted colon resection. To our knowledge, this represents a complication of laparoscopic colon resection that has not been previously reported in literature. CONCLUSION: Careful patient selection for this procedure is important. Additionally, the incision for extracorporeal resection and anastomosis in laparoscopic-assisted colectomy must be planned appropriately and carefully monitored intraoperatively to avoid potential complication of vascular trauma leading to mesenteric vein thrombosis. [Key words: Laparoscopy; Laparoscopic colectomy; Complications; Laparoscopic-assisted colectomy]


Laparoscopic-assisted colectomy has been shown to be technically feasible for a number of colonic pathologic conditions, including colorectal polyps, cancer, diverticular disease, colonic lipomas, rectal prolapse, intestinal stomas for diversion, cecal or sigmoid volvulus, bleeding, and colitis.1,2 As this minimally invasive alternative to open colonic resection becomes more popular, it is inevitable that complications of this approach will be described. A case of superior mesenteric and portal vein thrombosis following a laparoscopic-assisted hemicolecction is reported. To our knowledge, this is a complication of laparoscopic colon resection that has not been previously reported in the literature.

REPORT OF A CASE

A 63-year-old man was found to have occult blood in his stool on routine physical examination. Past medical history was significant for hypertension and gout, for which he takes Hytrin® (Abbott Laboratories, Abbott Park, IL) and Benemid® (Merck, West Point, PA). Past surgical history includes an inguinal hernia repair and bilateral hip replacements. Physical examination was otherwise unremarkable.

The patient underwent colonoscopy for work-up of guaiac-positive stool, which revealed three polyps. A 1.5-cm pedunculated rectal polyp and 1-cm pedunculated sigmoid polyp were removed with a snare. A 1.5-cm sessile polyp at the ileocecal valve was identified. Polypectomy was not believed to be safe, and a biopsy was taken. Pathologic examination of the three specimens revealed benign adenomatous tissue.

The patient subsequently underwent a laparoscopic-assisted right hemicolecction. The procedure was performed using four trocars for dissecting and retracting. The right colon, including the hepatic flexure, were mobilized. A 7-cm transverse incision was made in the right mid abdomen. The right colon and terminal ileum were brought through this muscle-splitting incision. A limited right colon resection was
performed, and the specimen was sent for a frozen section. The lesion was a flat, 1.5-cm tubular adenoma. A functional end-to-end stapled anastomosis was performed. The procedure took approximately 2.5 hours, and estimated blood loss was 100 ml.

The patient's immediate postoperative course was uneventful. He was started on a liquid diet on postoperative day 3. This was advanced to a general diet the following day, and he was discharged to home with a prescription for pain medication on the same day.

On postoperative day 10, the patient experienced severe abdominal pain, which woke him from sleep. He was tolerating his diet and had no other gastrointestinal complaints. On physical examination, his abdomen showed no signs of distention or tenderness. His Tylenol® (McNeil Consumer Products, Fort Washington, PA) with codeine prescription was renewed, and he was sent home.

The patient was seen in the emergency room on postoperative day 17 with persistent abdominal pain that increased in severity with meals. He was having normal bowel movements and denied nausea or vomiting. On physical examination, he had no fever and abdominal examination was unremarkable. Laboratory studies were remarkable only for mild elevation of transaminases and specifically revealed a normal white blood cell count and amylase. At this time, it was believed that he may have gastritis or peptic ulcer disease. He was then started on an H2 blocker and sent home.

He continued to have pain, which was increasing in duration and severity. On postoperative day 21, the patient underwent a computed tomography (CT) scan of the abdomen. This revealed a thrombus within the superior mesenteric (Fig. 1) and portal veins (Fig. 2). At this point he was admitted to the hospital.

The patient was initially started on a heparin drip. A hematology consultation was obtained, and hypercoagulable states such as protein C, protein S, and antithrombin III deficiencies were excluded. Besides recent surgery, he had no other predisposing conditions to have caused mesenteric and portal vein thrombosis.

During his hospital stay, he continued to have pain without any signs of intestinal necrosis. Because the pain was not improving, the heparin drip was discontinued and thrombolytic therapy was started on postoperative day 22. Streptokinase therapy was initiated at 250,000 units for 30 minutes followed by 100,000 units per hour. Over the next four days, the patient improved significantly. He was then placed on a heparin drip, which was converted to Coumadin® (DuPont Pharma, Wilmington, DE).

The patient resumed his diet and was pain-free after three days of thrombolytic therapy. A computed tomography scan was performed on postoperative day 32, which showed near resolution of the thrombus within the superior mesenteric vein (Fig. 3) and no evidence of thrombus in the portal vein (Fig. 4). He was discharged on the following day still receiving Coumadin®. There have been no further symptoms reported.