Considerations and Complications in Patients Undergoing Ileal Pouch Anal Anastomosis

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KEYWORDS

• Restorative proctocolectomy • Ileal pouch anal anastomosis (IPAA) • Complications
• Pouchitis • Pouch failure • Salvage pouch surgery • Pouch vaginal fistula
• Crohn disease of the pouch

KEY POINTS

- Restorative proctocolectomy with ileal pouch anal anastomosis remains the standard operative approach for patients with ulcerative colitis and for most patients with familial adenomatous polyposis.
- Most of the literature suggests an acceptable complication rate with good-to-excellent functional and acceptable quality of life.
- Pelvic sepsis and delayed onset of Crohn disease remain critical obstacles in understanding the long-term outcomes in patients who undergo ileal pouch anal anastomosis.
- Proper evaluation for underlying pathology, in addition to preoperative counseling and optimization of the patient's condition, adherence to meticulous surgical technique, and diligent postoperative care, contribute to improving surgical outcomes that result in the preservation of pouch function over time.

INTRODUCTION

Total proctocolectomy with ileal pouch anal anastomosis (IPAA) preserves fecal continence as an alternative to permanent end ileostomy in select patients with ulcerative colitis (UC) and familial adenomatous polyposis. The procedure is technically demanding, but consistently offers improved quality of life, low reoperation rates for complications, and high patient satisfaction.[1,2] When a meticulous operation is performed and surgical complications are expeditiously managed, successful outcomes are achieved. This article outlines both the early and late complications that can occur after IPAA. The workup and management of these potentially morbid conditions is emphasized.

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ACUTE COMPLICATIONS

Hemorrhage

The clinical features of postoperative pouch bleeding vary depending on timing, severity, and patient factors. The diagnostic and therapeutic methods include observation, endoscopy, and reoperative abdominal surgery. Acute hemorrhage can occur during surgery or in the early postoperative period. Furthermore, bleeding may be intraluminal, intra-abdominal or both.

The incidence of hemorrhage after IPAA is approximately 1.5% to 3.5%.[2,3] Lian and colleagues[3] found no differences in gender distribution, pouch configuration, and anastomotic type between patients with and without bleeding. Those patients who had the staple line reinforced during the initial surgery had less bleeding but this did not reach statistical significance. Furthermore, they discovered that 66% of bleeding occurred within 7 days after surgery. Of the 47 patients who bled, 34 bled transanally: 9 from the ileostomy, 2 from both, and 2 abdominally.

Intraoperatively there are several described, yet poorly studied, maneuvers that may decrease bleeding during IPAA surgery. During construction of the pouch, the linear and circular suture lines may commonly bleed. Biologic staple line reinforcement, suturing the staple line, and waiting 1 minute after the linear staple line is closed before firing have been suggested to reduce this potential problem. None of these preferences have been substantiated with data, although all are worthwhile to consider in practice. Furthermore, after firing the stapler, the suture lines should always be inspected after a few minutes have passed. This delay allows the vasoconstrictive phase of wound healing to pass and small but potentially significant bleeding commonly occurs from the new anastomosis. Last, at the completion of the IPAA, it is prudent to routinely perform pouchoscopy. This may help identify and reduce the number of patients with clinically significant hemorrhage within 24 hours.

During the postoperative phase, minor limited bleeding can be expected; however, when hemorrhage persists and the patient is stable, irrigation of the pouch with a 1:200000 adrenaline solution is commonly the first method of treatment.[2] In a series of more than 1000 patients, this method controlled bleeding in 80% of cases.[2] This procedure may initially be performed on the ward; however, if bleeding persists or the patient has any signs of hemodynamic instability, the patient must be brought to the operating room.

In the operative theater, the room must be prepared for both a thorough endoscopic evaluation and potentially an abdominal approach. The pouch is initially inspected with a variety of lighted anoscopes, and flexible endoscopes. In a series of patients requiring postoperative endoscopy and clot evacuation, 53% had bleeding from the linear stapling line.[3] The specific bleeding point can routinely be identified and then cauterized or clipped (**Fig. 1**). When a specific area along the staple line is not detected but generalized oozing is found (**Fig. 2**), epinephrine enemas are the treatment of choice. Lian and colleagues[3] reported a 96% success rate in this setting with cauterization, clips, or epinephrine injection. Minor re-bleeding after these treatments should be expected. This can often be managed with an epinephrine enema on the ward.[3]

Clinically significant delayed pouch bleeding is uncommon. When this occurs, it should be assumed to be a sign of pelvic sepsis from a dysfunctional ileal-anal anastomosis until proven otherwise. Therefore, the threshold for bringing these patients back to the operating room or sending for further imaging is low. If the anastomosis is bleeding and appears to be disrupted, the bleeding points should be sutured and any collections should be addressed by drainage through the anastomosis. Typically, a penrose drain, mushroom or even Foley catheter can be placed transanally into the