

ADVANCES IN IBD

Current Developments in the Treatment of Inflammatory Bowel Disease

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Corrective Endoscopy for the Treatment of Structural Complications After Pouch Surgery



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G&H When is pouch surgery indicated?

BS Despite advances in medical therapy, approximately 20% of patients with ulcerative colitis (UC) eventually require colectomy for medically refractory disease, poor tolerance of immunosuppressive medications, or colitis-associated neoplasia. Restorative proctocolectomy with ileal pouch–anal anastomosis (IPAA), also known as pouch surgery, has been the surgical treatment of choice for UC patients who require colectomy. Although the surgical procedure significantly improves patients' health-related quality of life, IPAA can be associated with a variety of complications or adverse sequelae.

G&H What are the most common structural complications following pouch surgery?

BS Proctocolectomy and IPAA involve complex procedures of bowel resection, anastomosis, fecal diversion, and reconstruction of the bowel. Approximately 20% to 30% of patients have some type of structural complication after pouch surgery. The largest categories of structural complications are blockage and leak. There are 2 common types of blockage: intrinsic blockage, which is typically a stricture or narrowing of the bowel from the inside, and extrinsic blockage, which usually results from the adhesion or angulation of bowel prolapse or pushing/bulging of the bowel or adjacent organs. Patients with bowel blockage or obstruction commonly present with bloating, nausea, vomiting, difficulty defecating, abdominal pain, constipation, or postobstructive diarrhea.

Stitches and/or staples are used in multiple areas when an ileal pouch reservoir is constructed. Therefore,

there is always a risk of leak whenever a suture line or staple line is used. Leaks commonly occur at the previous stoma site, the tip of the “J” area (ie, the dome of the “J” in a pouch configured in the shape of that letter), and the pouch–anal anastomosis (leading to an abscess or sinus at the presacral space, just in front of the tailbone [coccyx], or at the posterior wall of the vagina with the formation of a pouch–vaginal fistula [PVF]). Acute suture line or staple line leaks often result in the formation of an abscess or pelvic sepsis. Patients with an abscess or pelvic sepsis commonly present with fever, chills, night sweat, abdominal or pelvic pain, and leukocytosis.

Chronic leaks are commonly presented in the form of a fistula or sinus. The difference between the formations lies in the number of openings: a sinus has 1 opening in the bowel, whereas a fistula has at least 2 openings (1 in the bowel [eg, presacral sinus], and the other[s] either also in the bowel [eg, pouch-to-pouch fistula], the skin [eg, pouch-cutaneous fistula], or adjacent organs [eg, PVF]). Patients with a fistula or abscess can present with fistula drainage, concurrent abscess, coccyx pain, fever, night sweat, and failure to thrive.

Acute and chronic leaks of the pouch are common causes of pouch failure (defined as permanent pouch diversion) and the need for surgical pouch revision, redo, or excision, and the stoma remains forever.

G&H How have these complications traditionally been treated?

BS Treatment for structural complications of the pouch has traditionally been surgical, as medical therapy beyond the use of antibiotics has a limited role. For example,

pouch strictures are treated with bowel resection and anastomosis or strictureplasty. Examination under general anesthesia with bougie dilation is used for the treatment of anastomotic stricture. PVF or presacral sinus has been treated with surgical pouch advancement or a pouch redo surgery.

The disadvantages of the surgical procedures are obvious. They are invasive and not easy to perform, as they usually have to be done in stages (ie, temporary fecal diversion is required with the construction of an ileostomy). The corrective part of surgery is technically demanding and requires expertise. Patients often have a good deal of scar tissue in the area, adding to the difficulty of performing the procedure and leading to additional complications. In fact, for surgical revision or redo of the pouch, the estimated complication rate is approximately 30% to 40%.

G&H How can structural complications of the pouch be treated endoscopically?

BS The majority of structural complications can be treated with advanced, or corrective, endoscopy. Endoscopic therapy for pouch disorders has evolved from balloon dilation of strictures to a variety of other indications. The first application of endoscopic therapy in IPAA was endoscopic balloon dilation of strictures at various locations, including at the stoma site, inlet, and anastomosis. Bowel cleansing before endoscopic balloon dilation or other endoscopic treatment modalities is needed. Through-the-scope, wire-guided, short balloons (5.5 cm in length) or non-wire-guided, long balloons (8 cm in length) are used, with a targeted balloon diameter size of 18 to 20 mm. Endoscopic balloon dilation can be safely performed in an outpatient setting with patients under conscious sedation. The procedure typically takes 15 to 25 minutes to perform. After observing the patient for 30 minutes in the recovery room, the patient can be discharged home. Endoscopic balloon dilation is well tolerated, with a reported complication rate of approximately 3% to 5%. The main complications are perforation (especially in the treatment of a stricture at a prior loop ileostomy) and, to a lesser extent, bleeding. Thus, extreme precaution should be taken in performing this procedure.

Despite the use of endoscopic balloon dilation with large-caliber balloons, the recurrence of strictures is common, which often requires repeat procedures. Therefore, other endoscopic treatment modalities have been explored, including a technique known as endoscopic stricturotomy. Endoscopic stricturotomy or electroincision of a stricture can be performed with a needle knife or insulated tip knife. The knife is electrolyzed to deliver a cut and cauterizing power to the stricture simultaneously.

Endoscopic stricturotomy has been found to be more effective than endoscopic balloon dilation and has a lower risk of perforation. It does, however, have a higher risk of bleeding, although the bleeding can be easily controlled.

The best results of an endoscopic therapy over a surgical therapy in this area are with endoscopic sinusotomy with a needle knife or insulated tip knife for the treatment of chronic anastomotic leak in the presacral space. A study comparing 141 patients treated with needle-knife endoscopic sinusotomy vs 85 patients treated with pouch redo surgery found that the endoscopic therapy was numerically more effective than the surgical therapy, with complication rates of 2.5% vs 43.5%, respectively.

The main complication of endoscopic sinusotomy, albeit rare, is bleeding. When a large area is electroincised and cauterized, an ulcerated area may develop and lead to delayed bleeding. My colleagues and I routinely place endoclips in the incised area and spray hypertonic glucose (50% dextrose).

Endoscopic therapy has been applied to treat leak at the tip of the “J.” A case series of 12 patients reported a long-term success rate of 67% with over-the-scope clips.

My colleagues and I have noticed that a growing number of patients develop distal anterior pouch body or cuff prolapse. The patients often present with dyschezia, excessive straining, and bloating. Currently, there is no effective medical or surgical therapy for pouch prolapse. My colleagues and I have used endoscopic banding to treat pouch prolapse, with the rubber band shrinking the prolapse. A majority of patients have experienced improvement in symptoms after treatment, which carries a minimum risk for procedure-associated complications.

Other endoscopic therapies have also been explored, such as endoscopic septectomy for distal ileal pouch, endoscopic fistulotomy, and endoscopic treatment of twisted pouch.

G&H Should these endoscopic therapies be used as first-line treatment?

BS Each type of therapy has its pros and cons. Medical therapy is noninvasive and is generally considered to be a safe approach, but has a limited role in the treatment of structural disorders of the pouch, such as stricture and sinus. Surgical therapy is effective, but it is more invasive and is associated with a higher risk for the development of complications. Thus, the endoscopic approach is in the middle. It is more effective than medical therapy and less invasive than surgery for treating structural disease. The goals of endoscopic therapy are to relieve the patient's symptoms, improve the patient's quality of life, and help the patient postpone or avoid surgery. In my opinion, due to its effectiveness and less-invasive nature,

endoscopic therapy should at least be tried as a first-line treatment in almost all structural disorders of the pouch. Endoscopic therapy is particularly useful in the treatment of strictures, leak at the tip of the “J,” or presacral sinus. If the endoscopic procedure fails or causes a complication, the worst-case scenario is that the patient would need surgery. This is what would have happened anyway if the endoscopic therapy had not been performed. Thus, in my opinion, there is nothing to lose with trying endoscopic therapy first.

If salvage surgery is performed, endoscopy can still be used if there is a surgical complication or if the disease recurs after the operation. Therefore, endoscopic management can be administered before or after surgery. Regardless of the therapy chosen, a multidisciplinary management approach is important, with the collaboration of endoscopists, colorectal surgeons, radiologists, pathologists, and nutritionists.

G&H Are repeat procedures required for these endoscopic therapies?

BS Strictures typically need to be periodically treated with endoscopic balloon dilation or endoscopic stricturotomy. The interval between each endoscopic stricturotomy is longer than the interval between each endoscopic balloon dilation. If patients with a presacral sinus or pouch-to-pouch fistula are amenable to being treated endoscopically, the therapeutic effects tend to last very long. Most patients can be permanently cured.

G&H What follow-up care is required after these procedures?

BS Typically, after patients receive endoscopic treatment for stricture, they undergo follow-up endoscopy every 3 or 6 months. Then, doctors try to space out follow-up to a yearly basis, as most patients are required to undergo surveillance pouch endoscopy for dysplasia every year anyway.

If a sinus or fistula is only partially treated, the patient needs to be brought back within 2 to 4 weeks and be retreated. If the sinus or fistula is completely healed, then follow-up is needed once a year unless there are other indications or complications occur.

G&H Do these endoscopic treatments have significant learning curves?

BS The learning curves for these endoscopic procedures are not steep, as the procedures themselves are not difficult to perform. It only takes 5 to 10 procedures to feel comfortable performing them. However, if a doctor

infrequently sees patients who need these procedures, I would recommend referring the patients to tertiary care centers or to providers who are more experienced.

G&H Are guidelines available for these procedures?

BS This field, which is being called interventional inflammatory bowel disease (IBD), has developed almost into a new subspecialty. The Global Interventional IBD Group, which is a group of IBD specialists and endoscopists, will be involved in guidelines for endoscopic therapy for IBD, including for the pouch. This group, of which I am a senior member, recently published a position statement in *Gastrointestinal Endoscopy*. In addition, we are considering endoscopic therapies for IBD, including for the pouch, for inclusion in the curricula for advanced gastrointestinal fellowships and advanced IBD fellowships.

G&H What are the next steps in research?

BS Technology is always evolving. Endoscopic balloon dilation, endoscopic stricturotomy, and endoscopic sinusotomy have become standards of care, but research is needed on new technologies, such as different techniques, clips, balloon sizes, and targeted stents for endoscopic treatment for IBD, as well as on endoscopy-guided stem cell therapy for the treatment of fistula and leak. Early research on the use of stents to treat stricture has shown some success.

To date, we do not have prospective or randomized, controlled trials in this area. Because conducting randomized, controlled trials has been logistically difficult, one option is to facilitate progression in the field with the establishment of multicenter registries.

Dr Shen is a consultant for AbbVie, Janssen, and Takeda, and serves as a speaker for AbbVie and Takeda.

Suggested Reading

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