ADVANCES IN IBD

Current Developments in the Treatment of Inflammatory Bowel Disease

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Common Chronic Complications Following Inflammatory Bowel Disease Surgery

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G&H What are the most common surgeries performed for the treatment of inflammatory bowel disease?

SS The most common operations for Crohn's disease are resection, strictureplasty, and bypass, with bypass being uncommonly performed except in rare occasions for disease of the stomach and duodenum. For ulcerative colitis, the most common procedure is proctocolectomy with either creation of an ileal pouch-anal anastomosis or an end ileostomy. The ileal pouch-anal anastomosis procedure is often performed in 2 or 3 stages, and removal of the colon with creation of an ileoproctostomy is an uncommonly performed operation nowadays.

G&H What are the most common chronic postoperative complications that gastroenterologists are likely to encounter?

SS Many chronic complications can develop following these operations. As I discussed in greater detail at last year's Advances in Inflammatory Bowel Disease Conference, the most common include inflammation of the anorectal cuff or anal transitional zone, neoplasia in that same area, recurrence of Crohn's disease, nonhealing perineal wound following a proctocolectomy with ileostomy, an out-of-circuit rectum, pouchitis after an ileal pouch-anal anastomosis, short-bowel syndrome, small bowel obstruction, infertility, high ileostomy output, parastomal hernia, ileostomy prolapse, parastomal ulcer, parastomal pyoderma gangrenosum, retraction or stenosis of a stoma, and pouching difficulties.

G&H What is the cause of postoperative anal transitional zone inflammation, and how should it be managed?

SS Surgeons usually leave the last 1 to 2 cm of anorectal mucosa leading down to the dentate line because it likely benefits patients by giving them a lower likelihood of experiencing daytime or nighttime seepage following a proctocolectomy with ileal pouch-anal anastomosis. However, that area contains columnar epithelium, so it can be affected by an inflammatory process, which can occur just as it does with any person who has inflammatory bowel disease. Often, patients will experience some bleeding or a change in their bowel habits.

Recommended first-line treatment is topical therapy, whether it consists of 5-aminosalicylic acid compounds or corticosteroids. If symptoms do not resolve, then the patient should be examined for an alternate cause of the problem. This could entail obtaining magnetic resonance imaging of the pelvis or performing an examination in the operating room. Some physicians have talked about injecting the area with either biologic agents or glucocorticoids, but those treatments would involve off-label use of the medications. If the inflammation ultimately persists and is impacting the patient's quality of life, then it may be necessary to remove that small section of the remaining mucosa and advance the pouch down to the dentate line.

G&H What are the risk factors associated with the development of neoplasia in the anal transitional zone?

SS The patients who are at greatest risk for developing neoplasia in that strip of mucosa are the ones who have had prior dysplasia or cancer, as well as those individuals who have had sclerosing cholangitis or type C histologic changes of the ileal pouch.

G&H How effective are the treatment options for neoplasia in this area?

SS It depends on the type of neoplasia, which can include indefinite, low-grade, and high-grade dysplasia that can be either unifocal or multifocal. In addition, the neoplasia can be invasive cancer. If a patient has indefinite dysplasia or unifocal low-grade dysplasia, the treatment entails attempts to minimize the inflammation in that area with topical therapies and then repeat biopsies in 3 to 6 months. If there is no evidence of dysplasia at that time, then the patient can be entered into a frequent surveillance program. However, if the dysplasia persists, then the patient is usually managed much like any other patient with multifocal low-grade or high-grade dysplasia. An operation would be performed in which that strip of mucosa is removed and the ileal pouch is advanced down to the dentate line. However, if there is invasive cancer, then the patient will usually require excision of the anal canal with a permanent stoma.

G&H What is an out-of-circuit rectum, and how should it be treated?

SS An out-of-circuit rectum results from an operation in which the stool is bypassed such that it no longer enters the rectum. Thus, that procedure usually entails the creation of either an ileostomy or colostomy.

An out-of-circuit rectum is at risk for developing inflammatory changes, which can either be diversion proctitis or de novo inflammatory bowel disease. With diversion proctitis, reintroducing stool into that area by closing the stoma would cause the diversion proctitis to disappear. Alternatively, some physicians prescribe short-chain fatty acids, as these primary nutrients of the colonocyte will reverse the proctitis. However, if the proctitis is due to inflammatory bowel disease, a trial of topical therapy is usually attempted, and if that fails, the patient should consider trying systemic therapy. If that fails as well, then the patient often needs to undergo removal of that segment of bowel, with or without reconstitution of the alimentary tract.

G&H What can cause neoplasia to arise in this area, and how should it be treated?

SS Similar to any area of intestine affected by chronic inflammation, neoplasia can develop in an out-of-circuit rectum, as it is chronically inflamed. Therefore, the area needs to be surveyed just like patients with large bowel inflammatory bowel disease undergo surveillance. This means an endoscopy every year or two with targeted, as well as random, biopsies. If there is any evidence of neoplasia or obvious malignancy, operative intervention is required.

Sometimes, these areas will stricture down such that surveillance is no longer possible. If that is the case, it is usually recommended that the rectum be removed. The rectum should not be left for much longer than 5 years if it cannot be surveyed. If the patient is undergoing an operation for a different reason, then the surgeon can excise the rectum at the same time.

G&H What are the causes of postoperative short-bowel syndrome, and what is the likelihood of patients with this syndrome resuming an oral diet?

SS Short-bowel syndrome is caused by inadequate length of functional small bowel. It can occur for a variety of reasons. One reason is if much of the small bowel is diseased. More commonly, this syndrome occurs because the patient has had a disease process in which a large amount of the small bowel has been removed.

The likelihood of patients with short-bowel syndrome being able to resume an oral diet is contingent upon multiple variables, including the length of the remaining small bowel, which segments are left, the health of the remaining bowel, whether the colon and/or ileocecal valve remain, and how well the remaining bowel is adapting.

G&H How should short-bowel syndrome be managed?

SS A variety of factors are involved, so the preference is to try to prevent short-bowel syndrome in the first place. It falls on the surgeon to use good judgment and to do whatever he or she can to safely use bowel-conserving measures when operating on a patient with, for example, Crohn's disease. If the condition cannot be prevented, there are several antidiarrheal drugs that can be used, such as loperamide, diphenoxylate and atropine, codeine, paregoric, or cholestyramine. Medications can also be used to try to influence the amount of secretion from the intestinal tract; such agents include H2 blockers, proton pump inhibitors, and octreotide. Some patients develop bacterial overgrowth, for which they can take antibiotics such as metronidazole, ciprofloxacin, or rifaximin (Xifaxan, Salix); alternatively, probiotics have also been used.

Diet is also important in these patients because it can influence the number of stools that they experience.

If their colon has been removed, patients usually eat 4 to 6 meals each day, with 40% to 50% of their calories coming from complex carbohydrates, and fat as tolerated. However, if their colon is still present, patients should go on a low-fat and -lactulose diet, and oxalate should be restricted.

Finally, an analogue to glucagon-like peptide 2 can also be used in these patients, as it helps to improve the likelihood of post-resection adaptation. However, this drug is very expensive, and patients often receive it for more than a year at a time.

G&H How common is a parastomal hernia following surgery for inflammatory bowel disease, and how should it be treated?

SS Parastomal hernias occur in more than one-third of individuals with a colostomy and approximately half as many patients with an ileostomy. Most of the time, the patient should be reassured that the hernia is not a problem as long as it is not causing discomfort or difficulties with pouching. Often, by using a hernia belt and avoiding straining, the patient does fine without any type of adverse impact on his or her quality of life.

However, in approximately one-quarter of patients, operative repair is required. This repair can occur in multiple ways, including an open or laparoscopic approach using mesh material. Typically, mesh is used to help decrease the likelihood of the hernia recurring.

G&H When does stoma prolapse occur following surgery for inflammatory bowel disease, and how can it be treated?

SS Stoma prolapse is usually seen after a loop ileostomy has been created, where the nonfunctioning limb is the limb that prolapses, but it is also seen in patients who have a parastomal hernia. If the prolapse is problematic for the patient, a surgeon can revise the stoma in the operating room without resecting too much of the bowel and then repair any associated hernia that is encountered. If there is a loop stoma, then the surgeon often just closes the stoma or converts it to an end stoma.

G&H How should a parastomal ulcer be managed?

SS The first option is to close the stoma, if possible. However, if the stoma is permanent, then often the surgeon has to gently debride any overhanging edges while trying not to traumatize the area, which can worsen the ulceration. Then, active disease elsewhere should be excluded, and the patient should undergo topical therapy. The doctor should be quick to use systemic therapy in addition to local measures with the assistance of an enterostomal therapist as to how the stoma is pouched.

G&H How common is Crohn's disease recurrence following surgery?

SS The answer depends on how recurrence is defined. We know that among patients who undergo an ileocecectomy for terminal ileal Crohn's disease, more than three-quarters will have endoscopic evidence of disease within 1 year of the operation. In terms of symptomatic disease recurring, we know that approximately 20% of ileocecectomy patients will have symptomatic recurrence within 2 years and up to 80% will have symptomatic recurrence within 20 years of the initial operation.

G&H What are the risk factors of symptomatic disease recurrence?

SS There are some risk factors that are inherent to the disease itself and thus cannot be altered. As long as the operation is done following the usual operative tenets, the likelihood of disease recurrence will not be affected by the type of operation performed. However, one factor that can be managed and is unquestionably associated with increased recurrence is tobacco usage. Thus, trying to help patients with smoking cessation is paramount to trying to avoid or delay recurrence.

G&H Should prophylactic or surveillance-guided therapy be used to prevent recurrence?

SS Depending upon the patient's individual risk, the use of oral antibiotics, immunomodulators (such as 6-mercaptopurine), or biologic agents may help delay the onset of recurrence. These agents can be given beginning within the first few weeks of the postoperative period; alternatively, patients can undergo a colonoscopy or imaging within 6 to 12 months of the operation, and if there is any evidence of disease at that time, then therapy should be initiated to prevent progression to symptomatic disease.

G&H Are there any other common postoperative complications that gastroenterologists should be particularly aware of?

SS It is important to bear in mind that infertility may be an issue. In men who undergo a pelvic dissection, the autonomic nerves can be damaged, as they are close to the area of operation. This damage can cause impotency or ejaculation dysfunction. However, these conditions can often be overcome through the assistance of a urologist and medical therapy. In women, performing an open

pelvic dissection significantly increases the incidence of infertility, but if the surgery avoids the pelvic area or if a minimally invasive approach is used for the pelvic dissection, the risk of infertility is minimally altered.

G&H Do you have any advice for gastroenterologists managing patients who have undergone surgery for inflammatory bowel disease or who are presenting with postoperative complications?

SS It is important to involve the surgeon, as he or she can probably give some background or information that may not be readily distilled from reviewing the patient's records. In addition, it is important to keep in mind that operative intervention is not an indication that the gastroenterologist or the patient has somehow failed. In most instances, operative intervention is needed because the disease is not responding to appropriate medical therapy and the best efforts of those involved. Some of these complications are inherent to the disease itself, as opposed to something that can be prevented. This is especially true with Crohn's disease, which cannot be cured. All that can be done is to manage the symptoms and provide the patient with as good a quality of life as safely possible.

G&H When should gastroenterologists consult with surgeons regarding surgical complications?

SS Any time a patient presents within 3 months of the initial operation, it would probably be well advised to reach out to the surgeon to obtain his or her perspective, as well as any time that the gastroenterologist thinks that any type of surgical intervention might be necessary in order to address the patient's problem.

G&H What are the most important remaining research needs in this area?

SS It would be helpful to know how to more adequately prevent recurrence of Crohn's disease. For patients with ulcerative colitis, the pouch operation is not a cure, but it is a fairly reasonable solution that most treated patients would recommend to others. However, some individuals who undergo the pouch operation for ulcerative colitis do not do well, so better understanding of the factors that influence a poor outcome following the operation would be helpful.

Dr Strong has no relevant conflicts of interest to disclose.

Suggested Reading

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