ADVANCES IN IBD

Current Developments in the Treatment of Inflammatory Bowel Disease

Section Editor: Stephen B. Hanauer, MD

Endoscopic Approaches to Crohn's Disease Strictures

Gursimran Singh Kochhar, MD
Division Chief
Assistant Professor of Medicine, Drexel University
Division of Gastroenterology, Hepatology & Nutrition
Allegheny Health Network
Pittsburgh, Pennsylvania

G&H Prior to endoscopic intervention, which imaging modalities should be used for the evaluation of Crohn's disease strictures?

GK In 2020, the Global Interventional Inflammatory Bowel Disease Group published its first consensus guidelines in *The Lancet Gastroenterology & Hepatology*. We recommended that prior to any endoscopic intervention for strictures in patients with inflammatory bowel disease (IBD), either computed tomography enterography (CTE) or magnetic resonance enterography (MRE) should be performed. It is important to determine the length of the stricture, whether there is significant prestenotic dilation, and whether there are associated fistulas or abscesses (as these can affect whether an endotherapy should be attempted). CTE or MRE can also provide an idea of the severity of the inflammation or whether there are other potential areas of strictures or other complications that were not seen on prior colonoscopy or imaging. Thus, preprocedural imaging is recommended and very helpful in guiding treatment.

In terms of comparing modalities, CTE and MRE are slightly better than using just computed tomography or magnetic resonance imaging. CTE is performed with neutral contrast in the small intestine, which provides very fine details in regard to inflammation and inflammatory disease activity in patients with IBD. In addition, enterography studies enable very good visualization of strictures and fistulas. MRE is slightly better than CTE; however, MRE access can be challenging. CTE may be preferred, although it involves exposure to radiation. Therefore, providers need to weigh the pros and cons of each modality carefully.

G&H Should biologics and corticosteroids be stopped in patients who need to undergo endoscopic intervention for Crohn's disease strictures?

GK These issues are also addressed in our guideline document. We have not seen evidence yet of increased adverse events pertaining to the performance of endoscopic interventions when patients are taking biologics. We recommend not stopping biologics for a procedure and instead continuing them. In contrast, it is preferred if patients are not on corticosteroids when undergoing endoscopic intervention. However, if corticosteroids are needed, low doses should be used, as these agents can increase bleeding. This can make endoscopic treatment such as needle-knife therapy more prone to complications associated with bleeding. Therefore, our group recommended that patients should preferably be off corticosteroids.

G&H What are the main short- and long-term goals of endoscopic treatment of strictures in patients with Crohn's disease?

GK It has been challenging to define these goals over the years. In my view, a good short-term goal is immediate relief of symptoms after an intervention. For example, if a patient has obstructive symptoms that an intervention is able to eliminate, I think it can be considered a short-term success. Long-term success, in my opinion, involves avoidance of surgery, especially in the case of anastomotic strictures. Currently, if a patient does not require surgery for 1 year after an intervention, it is considered a good long-term success.

G&H Should asymptomatic Crohn's disease strictures that are found incidentally be treated?

GK This is difficult to answer because patients with Crohn's disease may have poor symptom correlation with disease activity, meaning that they may have a stricture but may not feel any symptoms. If a stricture is discovered incidentally, the question of whether or not it should be treated can be a dilemma. The benefit of treatment is that it will prevent further downstream consequences such as the formation of fistulas or abscesses, and it will prevent patients from developing symptoms related to strictures or obstruction in the future. The downside is that treatment can be associated with complications (eg, perforation) in a patient who was feeling fine and was not experiencing any symptoms in the first place. Therefore, I think this question should be answered on a case-by-case basis. In my practice, the answer depends on how well I know the patient, for example, whether I have a longstanding relationship with them. I tell my patients when I perform colonoscopies that I might intervene if I think it is necessary, and I discuss the risks and benefits of such interventions with them.

For anastomotic strictures, quite a few studies and meta-analyses have shown greater than 60% surgery-free survival at the end of 1 year in patients undergoing endoscopic balloon dilation.

G&H How effective and safe is endoscopic balloon dilation for the treatment of primary and anastomotic Crohn's disease strictures?

GK For primary strictures, endoscopic balloon dilation is not very effective and surgery may be more beneficial, along with medical treatment. For anastomotic strictures, quite a few studies and meta-analyses have shown greater than 60% surgery-free survival at the end of 1 year in patients undergoing endoscopic balloon dilation. Thus, this approach is very effective and safe for anastomotic strictures, and patient selection is key. It is very important for providers to go through their preprocedural checklist carefully and select only appropriate patients for this therapy. If strictures are long (>5-6 cm) on preprocedural CTE/MRE or show significant prestenotic dilation, endoscopic balloon dilation may not be as effective. That is when surgical colleagues should become involved with discussions with patients; endoscopic balloon dilation may be performed as a temporizing measure for patients to undergo surgery. If strictures are short (1-2 cm), they will respond better to endoscopic balloon dilation than longer strictures will.

G&H What is the current role of electroincision in the management of patients with primary or anastomotic Crohn's disease strictures?

GK Electroincision has a larger role to play in anastomotic strictures vs primary strictures. In my practice, I prefer using electroincision over endoscopic balloon dilation for anastomotic strictures, especially when they are short (1-3 cm) and very fibrotic. Early data, mainly in the form of retrospective case series or case-controlled studies, have shown that electroincision knife therapy is more effective than endoscopic balloon dilation. My team and I presented an abstract at this year's Digestive Disease Week on our single-center study looking at endoscopic balloon dilation vs needle-knife therapy. We found that for anastomotic strictures, needle-knife therapy had more durable results. Thus, in an appropriately selected patient with anastomotic strictures, needle-knife therapy can play a role, especially for strictures refractory to endoscopic balloon dilation.

G&H What is the long-term efficacy and safety of using endoscopic stents to treat Crohn's disease strictures?

GK Stents have not been studied very extensively in patients with Crohn's disease. Only a few studies have looked at the safety of fully covered or partially covered self-expanding metal stents in these patients. My team and I performed a meta-analysis looking at all of the studies that have used stents for the management of strictures. A total of 9 studies with 163 patients were included. Partially covered and fully covered self-expanding metal stents were used in 7 studies, whereas 2 studies used biodegradable stents. The pooled rates of clinical success and technical success were 60.9% and 93%, respectively. Approximately 10% of the patients required repeat stenting, and spontaneous stent migration occurred in almost 44% of patients. The rate of significant adverse events such as perforation was low (2.7%), and such events were reported mainly in earlier studies. Therefore, this

technique is safe and a therapeutic option for Crohn's disease patients with strictures. However, good long-term (3-5 year) data are not yet available to determine whether this method can replace endoscopic balloon dilation, which is currently the standard of care.

G&H What are the main challenges associated with stenting in this setting?

GK One of the biggest challenges is the lack of dedicated stents for benign diseases such as Crohn's disease. Most of the stents that have been used in studies are repurposed stents from the esophagus. Different sizes and types of stents are needed in Crohn's disease patients for use in the small intestine. Another challenge is that stents tend to migrate. Some stents have antimigratory designs, but they have not been fully studied yet in patients with Crohn's disease. Hopefully in the future, dedicated stents for Crohn's disease patients can be developed and studied, and then can be compared with other modalities to determine which is the best approach.

G&H Has there been any research yet comparing endoscopic stenting with endoscopic balloon dilation?

GK Dr Carme Loras, who is part of the Global Interventional Inflammatory Bowel Disease Group, and colleagues conducted a multicenter, open-label, randomized trial in Spain that was published last year in *The Lancet Gastroenterology & Hepatology*. The trial included patients with Crohn's disease who had obstructive symptoms and strictures less than 10 cm in length that were mainly fibrotic. Patients were randomly assigned 1:1 to receive either endoscopic balloon dilation or a fully covered self-expanding metal stent. A total of 99 patients were eligible, but in the end only 80 patients were randomly assigned to treatment: 39 patients to fully covered self-expanding metal stents and 41 patients to endoscopic balloon dilation. The 2 groups were fairly comparable in terms of demographics and IBD phenotype. Approximately 80% of patients in the balloon group were free of any intervention at the end of 1 year, compared with 51% in the stent group. A similar number of adverse events was seen in both groups. The investigators of this trial concluded that endoscopic balloon dilation was more effective than fully covered self-expanding metal stents, although both treatments had good safety profiles. Thus, based on the stents currently available, endoscopic balloon dilation is more effective at the end of 1 year; however, it will be interesting to see how this space evolves in the future if dedicated Crohn's disease stents can be developed.

G&H In your own practice, what algorithmic approach do you use to decide whether a stricture should be treated endoscopically as opposed to medically or surgically?

GK My approach to strictures and endotherapy choice depends on various factors. The first is preprocedural imaging. If a lot of inflammation is revealed, I recommend using medications to bring down the inflammation. The length of the stricture is another factor. If a stricture is longer than 5 or 6 cm, it may not respond to endoscopic therapy, so a discussion is needed with the patient and a surgeon. In such cases, endoscopic therapy may be used as a temporizing measure until the patient can undergo surgical treatment. When a stricture is short (1-3 cm), I tend to favor electroincision stricturotomy over endoscopic balloon dilation. When a stricture is 3 cm to 5 cm, I tend to favor endoscopic balloon dilation. The third factor to keep in mind is prestenotic dilation. Once that reaches a significant level (5-6 cm), surgical consultation is particularly important, as data suggest that these strictures are also likely to respond to endotherapy. This is the algorithmic approach that I follow now.

It is important to have close communication with a surgeon while choosing therapies with the patient because endoscopic approaches will not work in all situations.

I would like to emphasize that surgery is not the last resort in patients with IBD, unlike in some other diseases. It is important to have close communication with a surgeon while choosing therapies with the patient because endoscopic approaches will not work in all situations. I tend to involve surgical colleagues very early in discussions with patients.

G&H What are the biggest challenges of training and educating IBD specialists and endoscopists in the field of interventional IBD?

GK This is an important issue, as technology has evolved a good deal in the field of endoscopy over the past decade,

but training has not evolved as much. Most programs train gastroenterology fellows on endoscopic balloon dilation, but not all fellows go on to use it in their practice. After a basic gastroenterology fellowship, fellows usually end up in 1 of 2 tracks, either an advanced endoscopy fellowship or an IBD fellowship. The former is very heavily geared toward pancreaticobiliary endoscopy as well as third-space endoscopy. These fellows do not receive much exposure to IBD patients to understand the particular types of complications and challenges such patients experience. On the other hand, IBD fellows receive very extensive training in medical and postoperative management of IBD patients, but their curriculum and rotation do not involve advanced endoscopy time. It is a challenge to marry these 2 tracks. What is the right mix of exposure for an IBD fellow in the advanced endoscopy field and vice versa also depends on the respective trainees and exposure the fellows have obtained in their general gastroenterology fellowship.

G&H What are some of the particular challenges of managing endoscopic treatment of patients with IBD?

GK Advanced endoscopists who are very heavily trained in the pancreaticobiliary space do not have a lot of exposure in managing IBD and its various complex phenotypes, so it can be challenging for them to appreciate certain IBD-related issues. For example, patients with fecal diversions can have diversion colitis–associated strictures. Management of those is a little different from, for example, a peptic stricture because of the amount of inflammation involved in the tissue. Similarly, anatomic landmarks in IBD patients are very different from patients without IBD, especially if they have undergone surgeries. The management of complications such as fistulas completely changes in patients with IBD vs those without it because of the inflammation associated with IBD. Having knowledge of IBD and its pathogenesis can be immensely helpful to an endoscopist performing interventions in IBD patients.

G&H What are the priorities of research in this area?

GK There are quite a few, but the biggest one for me is better identifying which patients should undergo endoscopic approaches vs surgical approaches upfront. Providers need to have a better understanding of this issue, which should probably be studied in a randomized clinical trial fashion. Another important area of interest is determining which patients who respond to endoscopic balloon dilation should undergo repeat interventions at set intervals of time vs waiting for the patients to become symptomatic before undergoing another intervention. Also a priority is figuring out how many endoscopic balloon dilations should be performed in a patient to ensure that they do not develop obstructive symptoms.

Disclosures

Dr Kochhar has served on the advisory board of CorEvitas Research, Eli Lilly, and GIE Medical; as a consultant for Boston Scientific Endoscopy, Olympus Endoscopy, and Pentax Endoscopy; as a speaker for Eli Lilly; and has stock options in Digbi Health.

Suggested Reading

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