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ReachMD
www.reachmd.com
info@reachmd.com
(866) 423-7849

Managing Motility Disorders: How Can We Improve Our Approach?

Dr. Buch:
GI motility issues are commonly encountered, but the evaluation and treatment of these illnesses can often be extremely complex. So how do we approve our approach?

This is *GI Insights* on ReachMD, and I'm Dr. Peter Buch. Joining me in this discussion is Dr. Nicole Hanley-Williams, a clinical assistant professor at Tufts University School of Medicine. She's also a clinician specializing in motility and functional disorders at Beth Israel Lahey Health. Dr. Hanley-Williams, I'm so happy to have you join us here today.

Dr. Hanley-Williams:
Hello, thank you. Happy to be with you.

Dr. Buch:
So let's get right down into it. Let's start with achalasia. We all know that esophageal manometry is a mainstay in evaluating this problem, but how do you approach a suspected achalasia patient who has undergone an endoscopy and whose manometry is equivocal?

Dr. Hanley-Williams:
Sure, that's a great question. Thankfully, this does not represent most of the patients that we see, but it does come up from time to time. With the evolutions of Chicago classification, which is the criteria that we use to evaluate manometry studies, it has helped a lot in teasing out achalasia in general, but also to help differentiate the subtypes that we may see. And as far as Chicago classification criteria is concerned, the pressure that is garnered at the GE junction is very important in terms of making the achalasia diagnosis. Specifically, this pressure should be elevated. But we now understand that there are some patients who may not have the GE junction pressure elevated or as we call it, integrated relaxation pressure, and for these patients, a diagnosis can be a little bit more challenging. So for these patients, bringing in other pieces of diagnostic criteria can be helpful. You know, barium studies have been around for a long time, but they are still quite useful, and what we can find a lot of times is that there is usually agreement between results that we would get on a esophageal manometry study and a barium study. Specifically, a timed barium esophagram can be very helpful to really see what may happen as food or liquid passes through that distal area of the esophagus. So I will often have a barium study done to help cross reference with the data that I'm getting from a manometry study. But what has also become an important part of the tools that we have is endoscopic functional lumen imaging of that GE junction area. That is even more specialized testing that allows us to get more detailed information about how that GE junction area is dispensable as material passes through there. And it has helped to tease out those more difficult cases where the peristalsis appears to be compromised and the story otherwise fits for achalasia. But we're not really seeing maybe what we might expect on either the barium study or the high-resolution esophageal manometry study.

Dr. Buch:
That's great. So let's move on to pharyngeal acid exposure and laryngeal disease. Tough area for us gastroenterologists. Does manometry and impedance have a role to play in evaluating patients who do not have reflux symptoms.

Dr. Hanley-Williams:
I believe that is absolutely important. Teasing out the cause for symptoms such as cough, for example, can be quite challenging, and this is an area where oftentimes, there's a lot of coordination of care or discussion that can occur between the gastroenterologist and the otolaryngologist. They will oftentimes do a laryngoscopic exam, where they may see evidence in the laryngeal area, which is suggestive of reflux impacting that area. However, on the gastroenterology side of things, it becomes a little bit more difficult. Yes, the patient may have reflux, but is the reflux really coming that high into the esophagus and/or pharyngeal area to really contribute to the symptoms? So

on the manometry study and the impedance study, we're able to understand anatomically whether or not there are any contributions, as far as with we're able to understand if there are any contributions in the esophageal function that can cause a similar set of symptoms. Perhaps the patient might have reflux seen as well, which is also helpful. But on the impedance portion of this study, this is where it becomes very helpful, because a patient there has the ability to hit that button to say when they have symptoms, and that allows us to be able to look for correlation between what we're measuring, as far as reflux events or events that actually don't have correlation to true reflux occurring. So it helps very much, I think, to guide management because we're having more awareness about patients remaining on proton pump inhibitors who may be better served with other medications.

Dr. Buch:
Thank you for that. Would you comment on what to do for a patient who, despite a laparoscopic Nissen fundoplication, still has heartburn?

Dr. Hanley-Williams:
In this particular patient, I would probably take a step back and look at what were their symptoms before they actually had the operation and what preoperative testing they had, because unfortunately, some patients may not have had true reflux before they had the fundoplication, which obviously would explain why they may be having ongoing issues after. But let's presume that the diagnosis was correct. The patient had the appropriate preoperative testing, and now is returning with symptoms that feel very much like heartburn. In that particular patient, we know that a very real percentage of patients will have this occur to them, several years out from having a fundoplication performed. And a subset of these patients will be able to undergo testing, such as manometry and pH testing, the pH testing demonstrating the presence of true recurrence of acid reflux. But some patients may have this come back as negative, so this will be able to help differentiate the patients who may now have developed functional symptoms, which will not typically respond as well to anti-acid therapy, and those patients may or may not end up being treated with a neuromodulating agent. We also need to do testing to check for anatomical issues that may come up. Has the hernia recurred? Has there been a slip, as we call it, of the fundoplication? Have they now developed a new hernia? All of these things are possible, and so that's why the net of the workup needs to start pretty broad in these patients.

Dr. Buch:
And what are the pros and cons of utilizing gastroduodenal manometry over a four-hour nuclear gastric emptying study in diagnosing gastroparesis?

Dr. Hanley-Williams:
A four-hour gastric emptying study and antroduodenal manometry measure two different things, as far as it pertains to working up symptoms such as nausea and vomiting, for example, which are common in gastroparesis. The trouble clinically is that many centers or sites do not offer antroduodenal manometry, which makes it difficult for both the patient and the clinician to find a place to have this study. But this study can be very helpful to tease out various segments of the stomach and the proximal small intestine, which could potentially be contributing to symptoms. The challenge with this study though as well, is that it is a long study. It is uncomfortable at times, to have the catheter in place for several hours. Fasting phase is required and then there's often provocative testing. For example administering an agent that can stimulate motility, so that you can see what happens with the stomach and the beginning part of the small intestine. This contrasts with a gastric emptying study, where we are looking at the stomach, but really get no information about the small intestine, and with the information we're getting about the stomach, we're looking at two phases, essentially: what happens in the accommodative phase, where food is accepted into the stomach, and then the second phase, where the food is then passed out of the antrum and into the small intestine. So if you have a patient who is not following an expected course with their gastroparesis, an antroduodenal manometry study can be helpful to better characterize or define what their issue is.

Dr. Buch:
For those of you just joining us, this is *GI Insights* on ReachMD. I'm Dr. Peter Buch, and joining me today is Dr. Nicole Hanley-Williams from Beth Israel Lahey Health to discuss GI motility disorders. Getting right back into our discussion, Dr. Hanley-Williams, how does colonic manometry aid the clinician in deciding who are good surgical candidates for constipation?

Dr. Hanley-Williams:
Colonic manometry can be quite helpful. One of the challenges, though, with colonic manometry is that it is a type of manometry which can be hard to find. Historically, that type of manometry has been extensively performed in the pediatric population, but nowadays we're seeing it performed more in the adult population. Now the benefit of colonic manometry is that you can look at the colon from a top-to-bottom approach, so to speak, and if there are instances where there is dysmotility, that perhaps is more isolated in one part of the colon versus another, you can pick that up. The challenge though, is that the data looking at how patients do if they were to have some sort of segmental resection of the colon suggests that in constipation, these patients don't do better. So I don't really know that that information

is as helpful outright, to be able to isolate whether this motility occurs in the colon for this particular issue. However, because of how burdensome it can be to perform colonic manometry, what I think has been a helpful, adjunctive, additional diagnostic tool is the wireless motility capsule study, which has the ability as well to determine whether or not someone has slow transit constipation, for example, because they will have delayed passage of that pill through their colon. But the wireless motility capsule study also has the ability to measure gastric emptying time as well as small bowel transit time, which are additional pieces of information that you would want to have before considering having resection of the colon done or a colectomy for treatment of refractory constipation.

Dr. Buch:
And how does anorectal manometry help us with the diagnosis of fecal incontinence?

Dr. Hanley-Williams:
Fecal incontinence, unfortunately, is a very common issue. It's estimated that in the U.S., greater than 8% of the population suffers with fecal incontinence, and that number only increases when we look at patients who are elderly and perhaps in an assisted living or nursing home type of living situation. It can cause a lot of distress for patients, and so recognizing and appropriately treating this can greatly improve the quality of a patient's life. When we get anorectal manometry testing, we're able to look at the internal and external anal sphincters, as well as the rectum, because not all patients who have fecal incontinence will have an issue that's isolated to the sphincters, and so this will help to tease out what is the nature of why this person is experiencing fecal incontinence. Perhaps we might find that the patient has weakening of their control of the sphincter, or weakening of the sphincter, and might benefit from pelvic floor therapy. Or perhaps there is actually a structural defect that has impacted their ability for continence. And so that defect, for example, could be picked up on anorectal manometry study, and then further be better characterized with imaging of that area. So it really can be quite helpful to diagnose the cause and also help guide management.

Dr. Buch:
Thank you, and before we conclude today, Dr. Hanley-Williams, is there anything else you would like to share with our audience?

Dr. Hanley-Williams:
So I think that motility disorders can certainly be very complex. I am pleased to see the developments that have occurred over, you know, the last several years, with not only a greater understanding so that we can help these patients, but also the tools that we have at our disposal. And so we definitely have a much better framework with which to treat these patients, because although these disorders may not affect a person's longevity in the traditional sense, they do have great ability to affect a person's quality of life.

Dr. Buch:
Thank you so much. That brings us to the end of our discussion today. I want to thank Dr. Nicole Hanley-Williams for sharing her insights with us today. It was great speaking with you, Dr. Hanley-Williams.

Dr. Hanley-Williams:
Thank you very much.

Dr. Buch:
For ReachMD, this is Dr. Peter Buch. To access this episode, as well as others from our series, visit reachmd.com/giinsights, where you can Be Part of the Knowledge. I can't wait to join you again soon!