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Tackling Treatment for Achalasia: FLIP, POEM, & Heller Myotomy

Dr. Buch:
There several treatment options for achalasia. Which ones are the best? You're listening to *GI Insights* on ReachMD. I'm your host, Dr. Peter Buch. Today we are joined by returning guest Dr. John Pandolfino. Dr. Pandolfino is a Professor of Medicine and Chief of the Division of Gastroenterology and Hepatology at the Feinberg School of Medicine at Northwestern University. He's also a coauthor of the ACG Clinical Guidelines: Diagnosis and Management of Achalasia published in the 2020 American Journal of Gastroenterology.

Welcome back to the program, Dr. Pandolfino.

Dr. Pandolfino:
Well, thank you for having me.

Dr. Buch:
To start us off, Dr. Pandolfino, can you give us some background on the clinical presentation and the various forms of achalasia?

Dr. Pandolfino:
Yes. So, achalasia is a very difficult thing to diagnose sometimes because it can present with a myriad of symptoms. In fact, one of the most common scenarios is that patients come in with maybe some chest pain, a feeling of discomfort in their chest, and they typically get a diagnosis of GERD. And they're on PPIs for a year sometimes, and then finally, someone says, 'Hmm, maybe this is something else,' or they actually evolve where their symptoms change, and then it becomes more dominant on dysphagia, trouble swallowing, bland regurgitation of food, having trouble with sleep because of regurgitation. And then it kind of takes a path away from that GERD presentation and then, and then typically, people do the right thing, get an endoscopy with, with some type of motility testing.

Dr. Buch:
Now, if we take a look at treatment, what do we need to know about functional lumen imaging probe, also called FLIP? And how might this measurement tool help personalize treatment?

Dr. Pandolfino:
Yes. So, what we found was that achalasia, you know, was very different. There was a heterogeneous presentation of achalasia where it could be EGJ outflow obstruction where there was some peristalsis, and it was evolving to that first stage, which was actually type 2 achalasia, which is where they actually get like a water balloon phenomenon of the esophagus. The body fills with liquid and it holds it and it pressurizes, and then they tend to empty based purely on pressure. Eventually, sometimes that esophagus will dilate, and then they become type 1 achalasia, which is the classic achalasia with esophageal dilatation, sort of a bird beaking at the lower esophageal sphincter and obstruction. And then there's a spastic achalasia, a type 3 achalasia, where patients actually have spasm, distal esophageal spasm, where they have these simultaneous premature contractions, and these actually slam the, the liquid against the walls, and it almost looks like a corkscrew in the esophagus. So there's not just an obstruction at the LES. There's an obstruction in the body.

And what manometry and high-resolution manometry with impedance and now the functional lumen imaging probe allow us to do is really figure out the dynamics between that body function and the opening of the esophagogastric junction, and using this we can personalize treatment. In fact, one of the things that we actually use the EndoFLIP for is during surgery, we place it through the sphincter, and actually, when we're going through and we're cutting this muscle, the LES during a POEM, we can stop when it opens up and it's visualized on the functional lumen imaging probe, which is FLIP. We call it FLIP for short. So, it really helps us guide that tailored therapy if we want to shorten that myotomy. In addition, it will tell us whether or not there are distinct, spastic contractions very

similar to manometry in the body of the esophagus, and we need to think well maybe we need to address that with either an extension of that surgical myotomy or endoscopic myotomy or even some smooth muscle relaxants.

Dr. Buch:
So, can you just please describe what FLIP is for those members of the audience who are not familiar with that technique, please?

Dr. Pandolfino:
Yes. So, FLIP is a very simple procedure. It's done during your endoscopy. So, say a patient comes in with esophageal symptoms. You scope them. They don't have anything mechanical or anything inflammatory that suggests the diagnosis, and you're thinking this may be, you know, a subtle obstruction at the sphincter or even achalasia or motility disorder. And you place this while the patient is sleeping. It's completely painless, and it's done in about five minutes. And it's essentially a catheter with a sandwich bag that's filled with saline of a specific concentration. There's an electrical current, and there's a pressure sensor in the bag. And by monitoring pressure and also the diameters, and we can measure diameters by that electrical current using Ohm's law, we see this beautiful three-dimensional rendering of the esophagus and the pressure. So, what we're able to do is actually see the changes in contraction and how that opens the esophageal gastric junction.

And it's a very nice tool to use in patients, even before they get manometry because you can actually say whether or not they're normal or whether you have a high suspicion for achalasia. High-resolution manometry is a great test, but it's very uncomfortable. Patients don't like it. I've had nine of them now, you know, for research studies, and you know, you're awake. You have this catheter down your nose. Sometimes the exam can last 30, 40 minutes. So, this has really been a nice tool to make the patients' lives easier and also expedite the workup.

Dr. Buch:
So, with further thought about that, is it ever possible to use a FLIP without a high-resolution manometry and get a reasonable diagnosis?

Dr. Pandolfino:
Yes. I say about 40 to 50 percent of the time you make the diagnosis with the FLIP during that index endoscopy, and depending on, you know, your pretest probability, when you combine the FLIP results with that endoscopy, you know, you can pretty much say, 'Yeah, this is achalasia. I can, I can just go ahead and treat this. I don't need the manometry.' Or there are beautiful RACs, what we call these repetitive antegrade contractions, which is the normal response in a normal esophagus. If you see those and the EGJ opens, you're pretty much guaranteed that that person is going to have pretty normal function, good bolus clearance. So, yeah, you can avoid manometry in anywhere from 40 to 50 percent of people.

Dr. Buch:
Very, very important to know. So, moving on, which achalasia patients would be best candidates for peroral endoscopic myotomy, also known at POEM?

Dr. Pandolfino:
Yes. So now with all of this beautiful evolution of diagnostics and then in the same frame of these really nice treatments that are evolving like POEM, we're seeing this ability now to personalize achalasia treatment. Now, the POEM procedure is really nice because it's kind of a best of both worlds. It's less invasive than Heller myotomy, and it's a more precise disruption of the lower esophageal sphincter than in pneumatic dilation. So, you know, pretty much any type of achalasia, type 1, 2, 3, any EGJ outflow obstruction can be treated with POEM.

What I tend to do I think is more important is how you tailor the myotomy in those particular instances. So, for someone who has type 2 or EGJ outflow obstruction in particular, you really just want to focus that myotomy at the lower esophageal sphincter, similar in type 1. You really want it to just cut that muscle because you don't want to weaken the wall of the esophagus because that's actually helping you empty. Now, type 3 achalasia, that's a patient that has spasm and a sphincter problem, so you not only have to cut the sphincter, you have to extend that myotomy all the way up to the proximal aspect of that spastic contraction in order to resolve that body obstruction that occurs with the premature contractions.

Dr. Buch:
So, how many centimeters might that be in an average patient with type 3?

Dr. Pandolfino:
Yeah, so it can be anywhere from 10 to 14 centimeters. It definitely adds a little bit of time to the operation, but it's really become the standard of care. Now, when patients have a true type 3 pattern, they're almost exclusively referred for an extended POEM. Now, if the spastic segment is short, like 8 centimeters, there is the possibility that you could address that during the surgical myotomy approach,

but once again, you know, it is a lot easier on the patient and for the, physician who's caring for the patient to do that POEM.

Dr. Buch:
Thank you. For those just tuning in, you're listening to *GI Insights* on ReachMD. I'm Dr. Peter Buch, and I'm speaking with Dr. John Pandolfino about achalasia.

So, Dr. Pandolfino, if we dive deeper into POEM, how does this procedure compare with pneumatic dilation, something from our distant past, and Heller myotomy?

Dr. Pandolfino:
Yes. So, you know, POEM is an endoscopic procedure, like pneumatic dilation, but it's a lot more surgical—in quotations—because it's precise. You can actually see the sphincter muscles and cut it. Pneumatic dilation we're literally just stretching that muscle hoping that it either distorts the muscle fibers or tears the muscle, so it's a very blunt approach. I have to say though that I still do a number of pneumatic dilations, and it's still a reasonable approach for people who don't want an invasive procedure or less invasive procedure and they want to go home that next day and have a quicker recovery. So certainly, I will offer that.

As I mentioned, Heller myotomy does require a laparoscopic procedure. So, it's not endoscopic. It actually does require, you know, a few entry ports within the abdominal wall. There's a little bit of scarring, a little bit more recovery. They have to arrange the anatomy a little bit. But the pluses of the Heller myotomy is that, say, for instance, you identify a hernia, you can actually treat that hernia and then perform an anti- reflux procedure, because the biggest side effect of POEM is really gastroesophageal reflux disease, and with Heller myotomy and an anti-reflux procedure, you can cut that risk of reflux in half. You know, in the old days it was, it was important to try to reduce reflux, but now that we have PPIs and there are safe, effective medicines for GERD, we feel pretty comfortable doing the POEM and just treating these patients and titrating their PPI.

Dr. Buch:
Now, as a quick follow-up to that, which of our patients are the best candidates for a Heller myotomy?

Dr. Pandolfino:
Yes. So for my practice right now, I refer patients for Heller myotomy when they fail POEM. So, if they fail POEM, I'm typically sending those patients for a Heller myotomy. Now, when I say fail POEM, this is typically they have gone through the process where they have had two POEMs, and then they really need something as a last resort. And it is a surgical procedure, so those are the patients, and also the patients that I do appreciate that they have a hiatal hernia because then I can address the hiatal hernia, and I can talk to my surgeon and say, 'Listen, it looks like there's a hernia here. This patient is probably going to be at high risk for reflux. I think a Heller myotomy is a better approach here. If we did a POEM, they'd have bad reflux. Let's do a Heller myotomy with an anti-reflux procedure.' And we've got great surgeons at Northwestern, and, you know, we always come to a mutual plan, and it's really great to work with our team.

Dr. Buch:
And finally, Dr. Pandolfino, are there any other thoughts you'd like to share with our audience today?

Dr. Pandolfino:
Yes. I think one of the important things that we recognized over the years is that, you know, you have to be very careful with this brain-gut or gut-brain interaction. I think that it's important when you deal with patients who have esophageal problems, you know, they have a lot of anxiety. They have visceral anxiety and hypervigilance. They can feel things. And they are very nervous because they are scared of choking. And there are many patients who have a very effective outcome from either pneumatic dilation, a POEM or Heller myotomy, but they still suffer because we don't address those issues where they are still scared to eat, because no matter what, we can make achalasia better. We don't make it normal, and patients are still going to feel some things, and we have to work with the patients, and we do that with, you know, either hypnosis or cognitive behavioral therapy. So, you know, once again, we have to treat the whole patient, not just the esophagus but also the brain.

Dr. Buch:
Thank you for giving our listeners a better understanding of achalasia. Now, as we come to a close, I want to thank my guest, Dr. John Pandolfino, for sharing his insights.

Dr. Pandolfino, thanks so much for joining us today.

Dr. Pandolfino:
It was my pleasure. Thank you very much.

Dr. Buch:
For ReachMD, I'm Dr. Peter Buch. To access this and other episodes in this series, visit ReachMD.com/GIInsights where you can be

Part of the Knowledge. Thanks for listening, and see you next time.