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

Getting to Know Gastroparesis: Key Diagnostic Strategies

Dr. Nandi:
The symptoms of early satiety, chronic nausea, and even vomiting can be challenging physically and emotionally for the gastroparesis patient. The journey from diagnosis to treatment is often daunting and frustrating. Joining us to share the latest in gastroparesis diagnosis and management is Dr. Nitin Ahuja of the University of Pennsylvania. Dr. Ahuja is an Assistant Professor of Medicine and an Associate Program Director of the Gastroenterology Fellowship Program at Penn. His unique focus of interest is in the realm of neurogastroenterology and the diagnosis and management of motility disorders. Dr. Ahuja's reputation is that of a compassionate clinician, productive researcher, and a talented educator. In addition, he is a prolific and published author of numerous essays regarding the culture of medicine among other topical interests.

Nitin, we are honored to have you on *GI Insights*. Welcome to the program.

Dr. Ahuja:
Thank you so much, Neil. It's a pleasure.

Dr. Nandi:
Absolutely. Now, we have much to talk about. I think gastroparesis is one of the most challenging conditions that we have to diagnosis and manage for the patient. I want to get your take. What is the current thinking on the etiology of gastroparesis?

Dr. Ahuja:
It's a great question. I think in general, not much has changed in terms of the broad strokes of how the explanation of gastroparesis breaks down. The three main categories are idiopathic, meaning we don't really know what the cause is of gastroparesis, diabetic gastroparesis, and postsurgical gastroparesis. Within that idiopathic category, there's probably a large proportion of patients who are postinfectious, meaning they have had some passing bug, typically a GI bug, that's led to a stunning of the enteric nervous system, which may manifest as gastroparesis. And there's increasing interest in other rarer causes of gastroparesis or at least associations with gastroparesis, like autoimmune disease or connective tissue disorders.

Dr. Nandi:
It's nice to hear a little bit more about idiopathic gastroparesis, because I feel like that fits a lot of patients, and honestly, often times we're not able to give them a more clear insight as to the initial trigger. Is there any new research on to how to diagnose a viral illness or any such treatment?

Dr. Ahuja:
Not really at the level of clinical care. I don't know that etiology can be sussed out in any way other than clinical history. That's typically my approach.

Dr. Nandi:
And I think that makes sense. It's practical, especially if we don't have those insights yet. I guess in terms of diagnosis, we've relied on clinical history taking first to raise our suspicion, and then we may pursue a gastric emptying scan, but I understand that there are several other new technologies in the diagnosis of gastroparesis or at least in qualitatively understanding a patient's upper intestinal motility. Can you maybe review some of those new technologies?

Dr. Ahuja:
I think before talking about those technologies, it's worth talking about what the utility is of a diagnosis of gastroparesis in the first place. To diagnosis a motor abnormality of the stomach can be useful to rule in particular therapies like prokinetics, which we often reach for

first when we're thinking about a slow stomach, but increasingly there's an acknowledgment in the motility community that there's a pretty blurry line between gastroparesis and functional dyspepsia, that latter entity being pretty much all the symptoms of gastroparesis but without, an objectively confirmed transit delay, so they may be two sides of the same coin such that confirmation of an emptying delay may be kind of a red herring insofar as a lot of treatment options for gastroparesis or functional dyspepsia are agnostic to whether the stomach is normal or slow in its emptying.

But that being said, gastric scintigraphy, or gastric emptying test as you mentioned, is the gold standard for diagnosing gastroparesis, with a delay at four hours being the gold standard marker, particularly for solid-phase emptying. Other technologies of interest lately include the wireless motility capsule, also called the smart pill. That measures not only gastric transit but small intestinal transit and colon transit as well by extrapolating from measurements of pH temperature and pressure. There's also interest in even more experimental modalities, like EndoFLIP for example, which is a catheter that can be placed across luminal spaces to measure distensibility or compliance. Particularly with interest to the possibility of pyloric dysfunction as a mediator of gastric emptying delay, EndoFLIP has been studied with some early optimistic data, though plenty of room for quibbling with the sort of basic assumptions of that technology. So, early days for some of these tests, but there is active research ongoing.

Dr. Nandi:
And I found that really interesting what you said there about some blurred lines of of gastroparesis and functional dyspepsia because in both disorders, like you mentioned, everything looks healthy, everything looks normal, but there are symptoms that are not visible to the eye, so it makes me hark back to what you said at the beginning of our conversation about this idiopathic subset of patients in which some may have had a viral trigger. So I wonder if there's a lot more environmental causes that cause these different manifestations that we try to give these concrete, tangible names of gastroparesis or functional dyspepsia.

Dr. Ahuja:
I think that's right, and I think it's interesting in terms of this potential schism between functional dyspepsia and gastroparesis the way that it gets split in the minds of several clinicians and often in patients that the different kinds of stigma that patients carry with each of those diagnoses can lead to very different therapeutic pathways. With functional dyspepsia often being grouped with other functional disorders, as you know, often carry the sort of eye-rolling baggage of "Oh, it's just a functional disorder," versus gastroparesis, is a heart-sink diagnosis of a different kind, typically stigmatized as medically refractory, super debilitating. Certainly, those things can be true for a subsegment of the larger gastroparesis population. But the point of me saying this is to say that that differentiation may be arbitrary in a lot of cases.

Dr. Nandi:
Absolutely. For those just tuning in, you're listening to *GI insights* on ReachMD. I'm Dr. Neil Nandi, your host, and I've been speaking with Dr. Nitin Ahuja on the latest updates and insights into the management of gastroparesis.

Now, Nitin, we actually had quite an interesting conversation thus far, and as you mentioned, this cultural stigmatization based on what type of label or diagnosis they're given can really impact what types of treatments they get and the patient's perception of their outcome or their prognosis. Let's talk about treatment for a little bit. What are the options that a patient has? Traditionally, many of us are reaching out for metoclopramide, also known commercially as Reglan, and we've heard of the ability to use domperidone, but what else is there for the gastroparesis patient who may have a suboptimal or inadequate response to these medicines?

Dr. Ahuja:
It's a great question. I tend to think of interventions for gastroparesis in a few different categories. Prokinetics are one, and the ones that you mentioned are some of the most longstanding, though there are some newer agents and off-label agents that are more diffusely acting that can be helpful for patients with gastroparesis that occurs in the context of more diffuse or multisegment dysmotility.

Other approaches tend to be symptom-driven. So for example, if someone's gastroparesis manifests primarily as nausea there are several antinauseants that are available to use that are agnostic to gastric transit, so ondansetron, promethazine, prochlorperazine, as well as newer agents like granisetron and aprepitant. All of those may potentially have a role in managing that symptom specifically.

Diet, of course, is a cornerstone of gastroparesis management. With recent trends shifting away from sort of classical guidelines about content of food, fat and fiber being the things to avoid, and more towards consistency, so anything that you can mash to the consistency of a mashed potato is probably going to empty out your stomach reasonably quickly relative to bulkier foods.

Neuromodulating medications or psychotropic medications, while off-label, can also add value to the patients with gastroparesis who are manifesting primarily with abdominal pain or early satiety. Buspirone being an anxiolytic that facilitates fundic accommodation, that can help a lot of patients with early satiety as a predominant symptom. And then some mechanical interventions that remain experimental in terms of their evidence basis, but with particular attention to the pylorus, botulinum toxin injection to the pylorus, as well

as potentially G-POEM, or Gastric Peroral Endoscopic Myotomy, which is an irreversible endoscopic myotomy of the pylorus. Both of those potentially helpful in the appropriately selected patient.

Dr. Nandi:
So that was very nice. You touched upon a lot of different mechanisms and the developing therapies and available therapies so far: pharmacologic, dietary, and interventional. There's so much there that may be not accessible by many clinicians, and they may need to employ the assistance of a subspecialist as yourself. What is the threshold for a GI clinician to refer to a tertiary care center for expert gastroparesis management? I feel like many of our patients languish before they even know that there's that kind of assistance. How can the clinicians help these patients get into the hands of subspecialists like yourself?

Dr. Ahuja:
In my own practice, I've found that the lines or the thresholds for referring parties really vary, and I understand that. I think experience with this particular entity isn't common unless, one's practice is enriched, as mine is, for seeing them routinely. I think the threshold is also individualized to the patient, but probably first and foremost, if patients aren't getting better in terms of either quality of life or hard metrics like weight loss, or malnourishment, those would be lines that I would draw for seeking additional help.

Dr. Nandi:
Yeah, so, constitutional signs and symptoms—right? If they're languishing and losing weight, becoming malnourished or if their quality of life is impaired. I think there's some gastroparesis patients who don't look typically malnourished, but truly their quality of life is impaired, and I think that's a low threshold to refer to a large-volume tertiary care center.

Dr. Ahuja, I think you've touched upon a lot of different facets of gastroparesis, and a lot of thoughtful points. Do you have any last take-home points for our clinicians listening?

Dr. Ahuja:
I think one of the most global shifts in my understanding of gastroparesis has been the diminishing importance of that diagnostic category, again coming back to the idea of the blurred lines between gastroparesis and functional dyspepsia and the fact that prokinetics don't necessarily have to take priority over other modes of intervention. Gastroparesis, like many diagnoses in the realm of neurogastroenterology and motility, is an expedient diagnosis such that it applies insofar as it's helpful to make treatment decisions, but thinking broadly about symptoms can be quite helpful.

Dr. Nandi:
I think those are wise words, and I definitely think you've given us a lot of, pun intended, food for thought on this episode of*GI Insights*. Nitin, thank you so much for joining us and sharing your GI insights with our greater GI community.

Dr. Ahuja:
Thank you so much Neil. It’s a pleasure.

Dr. Nandi:
For ReachMD, I'm Dr. Neil Nandi. To access this episode and others from *GI Insights*, please visit ReachMD.com/GI-Insights where you can Be Part of the Knowledge. As always, thanks for listening.