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Distinguishing Digestive Disorders: How to ID Non-Celiac Gluten Sensitivity

Dr. Buch:
Welcome to *GI Insights* on ReachMD. I'm your host, Dr. Peter Buch, and today we're joined by Dr. Marianna Arvanitakis, who will be discussing non-celiac gluten sensitivity, or NCGS for short. Dr. Arvanitakis is an Associate Clinical Professor in the Department of Gastroenterology, Hepatopancreatology, and Digestive Oncology from the HUB Erasme Hospital in Brussels, Belgium.

Dr. Arvanitakis, welcome back to the program.

Dr. Arvanitakis:
Hi, good to be back.

Dr. Buch:
To start us off, Dr. Arvanitakis, what is non-celiac gluten sensitivity?

Dr. Arvanitakis:
So NCGS is a clinical condition characterized by intestinal and extraintestinal symptoms that occur after the ingestion of gluten-containing foods in patients that do not have celiac disease, so this is important to distinguish from celiac disease, which is a chronic immune-mediated disease of the small bowel which is also caused by exposure to dietary gluten in genetically predisposed individuals. But celiac disease will lead to mucosal changes with atrophy and complications, and long-term nutritional deficiencies are a risk in these patients, so it's very important to distinguish between the two.

Dr. Buch:
Is there some theory, Dr. Arvanitakis, that the source may be something other than gluten for when we're talking about NCGS?

Dr. Arvanitakis:
Well, we know that there can be an overlap with irritable bowel syndrome. In this case, there can be other types of foods that give the symptoms, and so this is sometimes how we have to understand and interrogate the patients to really understand what kind of foods causes symptoms, to try to differentiate between the two because with IBS, many different foods can be culprits and related to the symptoms. In NCGS, it's usually related to gluten foods.

Dr. Buch:
And as a quick follow-up to that, what are some extraintestinal manifestations of NCGS?

Dr. Arvanitakis:
So patients will usually come with gastrointestinal symptoms, which is pain, bloating, and altered bowel habits. Those are the classics. But sometimes they can also report that they have fatigue, they have headache, they have bone or joint pain and mood disorders, skin manifestation, even depression, and they find that these symptoms really improve after following a gluten-free diet. So sometimes it can be very tricky really to understand the full clinical presentation in these patients.

Dr. Buch:
And correct me if I'm wrong, but it sounds like many of these extraintestinal manifestations are the extraintestinal manifestations of celiac disease as well.

Dr. Arvanitakis:
Exactly. So that's why it's very important to distinguish NCGS from celiac disease by having the serological testing, which is very easy to do, and sometimes we need to do biopsies; but the biggest challenge we have in these patients is that once they are off gluten and they

feel really better, they are very reluctant to introduce gluten, which is a prerequisite to have a test which is not going to be falsely negative, so this is really the challenge that we have with these patients, to do a gluten reintroduction to see if the test will be positive for celiac disease, but it's very important to do this test.

Dr. Buch:
And how do we distinguish NCGS from irritable bowel syndrome?

Dr. Arvanitakis:
So this is also a challenge. So the NCGS is a diagnosis of exclusion, as I explained about celiac disease. For most of the studies, the gold standard is a really very complex double-stepped approach where after excluding celiac disease, patients have to have a six-week gluten-containing diet and then a gluten-free diet really to see a difference between the two, an objective difference; and then there's also a rechallenge with gluten, or a placebo, which is followed by a second week with a second challenge. It's really very complicated as you see, so it's rarely done in clinics. But compared to IBS, for example, it's really interrogating the patient and asking about the different foods, the food diary that he keeps, and what kind of symptoms are related to what kinds of foods he ingests, and usually, in NCGS, really gluten has a central part in the symptoms, which is not the case with IBS.

Dr. Buch:
And with that in mind, Dr. Arvanitakis, might patients have both NCGS and irritable bowel syndrome?

Dr. Arvanitakis:
Yes, there's probably a lot of patients that overlap, but as the symptoms are similar, it's different really to have a clear percentage; but another good example and an argument that probably this overlaps with is the use of the FODMAP diet. That can also be useful in patients with NCGS. So, what is the FODMAPs? FODMAPs are different types of foods, which is mostly saccharides, so fermentable oligosaccharides, disaccharides, monosaccharides, and polyols, and these foods are fermented and they cause the production of gas inside the bowel, and they are osmotically active as well, so they can lead to increased water content in the intestinal lumen leading to diarrhea, bloating, etc., so the IBS symptoms. Gluten also is part of a FODMAP, so we can understand why gluten can cause IBS-like symptoms as it is also a type of FODMAP. So in patients with probable NCGS who do not respond completely to gluten-free diets, which is the first-line therapy, would maybe benefit from trying a more global FODMAP diet, and this is very important to have a very good dietary consultation and follow-up.

Dr. Buch:
For those just tuning in, you're listening to *GI Insights* on ReachMD. I'm Dr. Peter Buch, and I'm speaking with Dr. Marianna Arvanitakis about non-celiac gluten sensitivity.

So moving ahead with this, what questions still need to be answered regarding NCGS?

Dr. Arvanitakis:
Well, there's still a lot of explorations, I think, and it's a very interesting scientific subject. As I said, diagnosis is still a challenge because patients are very reluctant to introduce gluten, and we don't have another test except the gold standard, which is very complex, so probably diagnosis should be more investigated. It will be interesting to see if there's any changes in the mucosa, but at the microscopic level, we know that when we do an endoscopy on these patients, we will not have the same changes as in celiac disease, and the mucosa is microscopically and histologically when you take biopsies is normal, but maybe more dynamic changes take place that can be detected with electronical microscopy, so it will be interesting to see a bit more in detail what happens there.

Dr. Buch:
So in the last few moments of our discussion, are there any additional thoughts you would like to share with our audience?

Dr. Arvanitakis:
So as all these diseases relate to motility disorders, nocebo/placebo effect is very important so this also underlines the challenges; we have to design trials and to interpret the results of the trials because in these studies, even the placebo group will have 30 percent response rate, so we already have to have a more important difference than that, so this is really where you need very good quality studies. And of course when you hear celebrities and known sportsmen embracing gluten-free regimens and diets, sometimes this also can be very challenging when you want to manage these patients because there's a lot of trends going on, and sometimes they will just stick to gluten-free diets even if it's not necessary, even if the symptoms seem to be decreased; but long-term this might have some nutritional consequences, so this is important really to explain it out to the patients.

Dr. Buch:
Thank you so much. This was an excellent discussion of non-celiac gluten sensitivity, and I want to thank my guest, Dr. Marianna Arvanitakis, for sharing her insights. Dr. Arvanitakis, thanks so very much for joining us today.

Dr. Arvanitakis:
Thank you very much for having me. It's always a pleasure.

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.