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Assessing the Availability of H. Pylori Testing

Dr. Buch:
"The widespread availability of H. pylori testing now renders empiric therapy obsolete." These are the words of our guest today. Welcome to *GI Insights* on ReachMD. I'm your host, Dr. Peter Buch. Joining us today is Dr. David Graham, who is Professor of Medicine and Gastroenterology at the Baylor College of Medicine. Dr. Graham is the lead author of "Antimicrobial Susceptibility Testing for Helicobacter pylori Is Now Widely Available: When, How, Why" published in the American Journal of Gastroenterology April 2022.

Welcome to the program, Dr. Graham.

Dr. Graham:
Thank you. Thank you.

Dr. Buch:
Let's begin with some background. Dr. Graham, have there been studies comparing susceptibility testing for gastric biopsies versus stool samples?

Dr. Graham:
Yes. Yes. We recently submitted—actually, it's in press now in Gastroenterology—a paper that showed that taking a stool sample and sending it for a next-generation sequencing or taking a gastric biopsy and measuring the effectiveness of the same technique as next-generation sequencing gave you the same data, and so that suggests that the stool is going to be our future for susceptibility testing for Helicobacter pylori.

Dr. Buch:
So our primary care colleagues should feel pretty confident that stools are going to be the way to go.

Dr. Graham:
Yes, sir. I think that is—the answer to that is a little bit more complicated because there are 2 people, 2 groups that now do this. One is the Mayo Clinic, and others will rapidly follow, do stool PCR, and that will give you results for clarithromycin only, where the next-generation sequencing will give you results for all 6 antibiotics we commonly use.

Dr. Buch:
Great. And we're going to get to that question a little bit later. And can you compare the accuracy of direct gastric culture with formalin-fixed gastric biopsies?

Dr. Graham:
That study has also been done and published in Gastroenterology, and the answer was yes. The results were very comparable between, the two methods, suggesting that culture or next-generation sequencing will give you approximately the same answer and makes it very easy to choose what therapy.

Dr. Buch:
And that should be a wonderful key for our gastroenterology colleagues out there, who want to get some more information from those fixed gastric biopsies. So, let's move on to this if you can discuss the importance of patient engagement in H. pylori therapy.

Dr. Graham:
Patients are actually the key because the medicines or the therapies are somewhat complicated, and if the patients don't take them, it won't work. And particularly with drugs like combinations like the bismuth quadruple therapy, which is going to have side effects in

significant proportion of the patients, it's really important that they take those drugs. And we find that compliance or adherence has been a problem, but it can be improved simply by telling the patient beforehand what the problems might be, giving them written information, giving them a number to call when they have problems, and they can get through this, and their willingness to finish the whole protocol is going to give you a lot better cure rates.

Dr. Buch:
And part of that thing is pill burden. We always talk about that with my medical students, the pill burden, that's out there, which is significant, and also the factor that if they only complete part of the therapy, there's going to be resistance.

Dr. Graham:
Absolutely. And the resistance is our problem, and it's an increasingly significant problem. Besides that, resistance issue you know is responsible now for antibiotic resistance—Bugs are resistant. Antibiotic-resistant organisms are now responsible for increasing number of deaths when patients are treated for other diseases.

Dr. Buch:
So, Dr. Graham, how will the future use of vonoprazan, a potassium-competitive acid blocker, change your proposed treatment algorithm?

Dr. Graham:
Well, vonoprazan has some significant advantages. It really has no advantage over PPIs for the traditional therapies. Where it has its big advantage is it allows one to get the pH up in the stomach and allows one to use amoxicillin dual therapy. The current approved therapy, they didn't achieve that. It got relatively pure cure rates. And so the problem is, is not that the therapy is bad but has not yet been optimized, so it's not a current therapy even though it's approved. It's a future therapy.

Dr. Buch:
Thank you very much for that one. For those just tuning in, you're listening to *GI Insights* on ReachMD. I'm Dr. Peter Buch, and I'm speaking with Dr. David Graham about antimicrobial testing for Helicobacter pylori.

So there are lots of audience members there wondering how they can obtain this testing for their patients. So, what do you suggest?

Dr. Graham:
Well, it's not terribly difficult nowadays because you can expect that the laboratory, the major laboratory—for example, Mayo Clinic or Quest, etc.—that you normally use to send off your unusual specimens now does culture, so you could query that laboratory and ask them, do they do culture and get—if they do, get the details and follow those details. The other way is to use American Molecular Laboratory, which does the next-generation sequencing, and they do a stool or fresh biopsies or even formalin-mixed biopsies, with good results for the 6 antibiotics, and provide you same service.

Dr. Buch:
And the elephant in the room, of course, is do third-party payers cover susceptibility testing?

Dr. Graham:
The answer is generally yes, but not always, but they will soon because all of the laboratories are now offering it, and therefore, patients and doctors are starting to demand it, and so they will be covering it. The advantage of the stool testing—and it's really only now currently available in 2 places, and that's American Molecular Laboratories and the Mayo Clinic, Mayo Clinic only offering it for clarithromycin, and that's offered as a, what's called a reflexive testing. So, if you send your stool specimen and it's negative, they just do a stool antigen and the patient only gets charged for the stool antigen, but if it's positive, they reflexively send it over and do susceptibility testing. So, now, when you get back your initial diagnosis or your test of cure, you also get back susceptibility data if the patient failed therapy or was infected.

Dr. Buch:
Very important information for all of our audience members to understand. So, before we conclude, are there any other thoughts you would like to share with your audience today?

Dr. Graham:
Well, this is really a major change in our thinking, and we're going to find that all the clarithromycin-containing therapies are obsolete, and our attempts to use multiple drugs like concomitant therapy, etc., were just failures, and with this susceptibility-based approach, we will be able to cure almost everyone. Now, really, it's in 2 groups because we can still use either the bismuth quadruple therapy or the rifabutin, triple therapy as empiric therapy because currently, resistance is very, very low, and you don't gain much by susceptibility testing, but if you want to use clarithromycin or metronidazole or levofloxacin, you need to have susceptibility testing, and that's—the

exception would be metronidazole as part of 14-day bismuth quadruple therapy. Ten-day therapy is less effective, and you really need 14-day therapy if there's any evidence of metronidazole resistance, which is becoming increasingly prevalent in our population.

Dr. Buch:
This discussion represents a tectonic change in our approach to H. pylori. I want to thank my guest, Dr. David Graham, for this noteworthy podcast.

Dr. Graham, it was a pleasure having you on the program.

Dr. Graham:
Thank you.

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.