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Multidisciplinary Viewpoints in STI Testing: Clinical Revelations & Best Diagnostic Practices in Women's Health

Announcer:

Welcome to ReachMD. This episode of *Women's Health Update* is sponsored by Cepheid.
Here's your host, Dr. Charles Turck.

Dr. Turck:

Diagnosing vaginal infections early and accurately is a key component to getting patients on the right treatment. But are current testing methods for vaginal infections facilitating early diagnosis?

This is Women's Health Update on ReachMD. I'm Dr. Charles Turck and joining me to share their multi-disciplinary viewpoints on vaginal infections and diagnostic practices in women's health are Dr. Christina Muzny and Dr. Paul Nyirjesy. Dr. Muzny is an Associate Professor in the Division of Infectious Diseases at the University of Alabama at Birmingham. She's also an Associate Scientist for the Center for A.I.D.S. Research. Dr. Muzny, thanks for being here today.

Dr. Muzny:

It's wonderful to be here and I'm excited to be part of this discussion.

Dr. Turck:

And Dr. Nyirjesy is a Professor of Obstetrics and Gynecology at Sidney Kimmel Medical College at Thomas Jefferson University and Co-Director of the Jefferson Vulvovaginal Health Center. Dr. Nyirjesy, it's great to have you with us.

Dr. Nyirjesy:

Thanks for having me. I'm really looking forward to this as well.

Dr. Turck:

Well, Dr. Nyirjesy, let's start with you. Would you give us an overview of the diagnostic practices used for vaginal infections in women, such as bacterial vaginosis, candida vaginitis, and trichomoniasis?

Dr. Nyirjesy:

The briefest way to say it is it's a real mess. I think we need to recognize first and foremost that many women don't even come into the office to get diagnosed; they're self-treating, even though it's very clear and it's been very clear for a long time that a woman's ability to self-diagnose herself is very inaccurate. They may call into a provider's office and get treated over the phone, even though there are studies that show that treatment over the phone is equivalent essentially to flipping a coin. And then when they do come in, there are office criteria that can be really helpful to diagnose all three infections, but there are questions of how often they're used, and it leads to half of the patients who come in for an office evaluation aren't getting even a basic workup. And then if the basic workup is being done, whether that basic workup is being done correctly. The current diagnostic practices when a patient comes in is to do vaginal pH testing, look at a wet mount to look for cell or trichomonads, look at a KOH to look for yeast, and for bacterial vaginosis, the combination of exam pH with test and wet mount are pretty accurate. For candida and trichomonas, the office tests are actually fairly insensitive, and then depending on the provider, there may be a fair number of false positives as well.

Dr. Turck:

Well staying with you for just another moment, Dr. Nyirjesy, what are some of the unmet needs with respect to testing for these vaginal infections?

Dr. Nyirjesy:

I think one of the unmet needs is just education. There's this perception that it's just vaginal infections, you know, who cares, what's the big deal? It's just vaginitis. These are real issues that affect women's lives in very negative ways and may have other health implications. So I think the first unmet need is really letting providers understand that doing correct testing is the right thing to do.

It's very difficult to really train people to do microscopy correctly. And so I think the other unmet need is finding standard tests that can be done that are reproducible and easy to obtain no matter what the level of provider training.

Dr. Turck:

Well, turning to you, now, Dr. Muzny, would you share some of the challenges with current in-clinic methods for diagnosing women with vaginal infections? And would you also address how new diagnostic methods might help address those challenges?

Dr. Muzny:

Sure. I think Dr. Nyirjesy sort of just started this topic by mentioning that the wet mount for trichomonas and the KOH for yeast detection are pretty inaccurate. The Amsel criteria used in clinic for BV are fairly accurate but still not the best. And these are the most common tests that, when providers do use them, are used in clinic. There are multiple levels of issues with these tests, just as Dr. Nyirjesy mentioned, you have to have providers that are well-trained and qualified to perform these tests. You also have to have availability of the equipment to do the test, particularly a microscope. And despite even with provider training, availability of equipment, doing an exam on a patient still like for wet mount for trichomonas, it's only 60 to 70% sensitive in the best of hands and so you're missing a lot of potential cases of women just with that one vaginal infection if you're only doing a wet mount test.

Similar can go for the KOH for vulvovaginal candidiasis and similar to the Amsel criteria for BV. So I think issues with sensitivity, issues with provider training, issues with equipment availability, all of this plays into current dilemmas facing women trying to get treatment for vaginal infections.

Dr. Turck:

For those just tuning in, you're listening to Women's Health Update on ReachMD. I'm Dr. Charles Turck, and today I'm speaking with Drs. Christina Muzny and Paul Nyirjesy about various challenges and strategies for diagnosing vagina infections in women.

Now, Dr. Muzny, let's focus on some diagnostic tools. What can you tell us about the benefits of molecular tests compared to current in-clinic methods?

Dr. Muzny:

Absolutely. So there are some new molecular tests for vaginitis coming down the pipeline. We have several that have been FDA-approved in the past several years. And these tests have actually shown to have much improved sensitivity and specificity compared to the current in-clinic methods that I was just talking about. So, I think one of the big benefits of these molecular diagnostic tests is that they may be more accurate to diagnose patients. One important thing though to think about is that currently, they're FDA approved for symptomatic women. So women coming into the clinic with a discharge or an odor or some kind of vaginal complaint, those are the types of patients you would want to get a new molecular diagnostic test on. It's not clear right now about their utility in asymptomatic women; that has not been well-studied.

Dr. Turck:

Well, coming back to you, Dr. Nyirjesy, we know that multiplex assays can provide timely differential diagnoses from a single vaginal swab. Would you tell us a little bit more about that? How does this method help us recommend an appropriate therapy for our patients?

Dr. Nyirjesy:

Sure, so for somebody coming in with vaginal infections or a vaginal infection, the three most common causes are going to be bacterial vaginosis, vulvovaginal candidiasis, or trichomonas. With bacterial vaginosis, the clinical criteria often aren't done the laboratory tests that have been recommended in the past are the Affirm tests, which seems to overdiagnose bacterial vaginosis as much as 40% of the time. And then Gram stain is considered the gold standard, but clinical laboratories don't do Gram stains for vaginal infections because it's really more of a research tool. And so where the multiplex assay comes in is that with a very simple swab, a provider, even one with very little training, can figure out what within 24 hours or the turnaround time on the swab, whether a patient has bacterial vaginosis.

Similarly, with trichomoniasis, there the sensitivity is quite low and PCR testing has been the gold standard for quite a while and so you can get an accurate diagnosis of trichomoniasis. And then with VVC, it can also tell you 'yes' or 'no' is yeast there. It'll tell you whether an anti-fungal medication is the right medication. My one concern with some of these multiplex assays for yeast is that it doesn't necessarily tell you the species of yeast, which may make a difference for somebody who has recurrent infections or complicated infections. But for somebody who has some sort of symptoms where you're wondering if it's a yeast infection, I think it'll get you very far along the road in terms of picking the right therapy for her.

Dr. Turck:

And finally, Dr. Muzny, looking to the future, would you share some insight into the upcoming diagnostic developments and how they might impact the field of women's health?

Dr. Muzny:

Yeah, absolutely. I mean, I think several things with this question is that I think providers are going to need education on the use of these new molecular diagnostic tests for vaginitis, the appropriate patients to use them in. And also I think a big thing for the field is to continue to develop these tests to where they can almost be done at the point of care or on-demand to get results in real-time to be able to give patients instead of having to wait 24 hours or longer to get the test results back. As most people know it, sometimes it's hard to get patients back into clinic or to call them on the phone later with test results. And having a patient in clinic and having the availability to get a highly sensitive molecular diagnostic test that you can get results to you on-demand would be optimal for this kind of situation. So, I think moving forward that's sort of the gold standard that everyone is hoping for. And I think we're part of the way there right now with some of these new developments. But we still have a little ways to go.

Dr. Turck:

Well with those forward-looking thoughts in mind, I want to thank my guests for joining me to share their perspectives and best practices for diagnosing vaginal infections in women. Dr. Muzny, Dr. Nyirjesy, it was great having you both on the program.

Dr. Nyirjesy:

Thank you.

Dr. Muzny:

Thank you.

Announcer:

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