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Bacterial Vaginosis & VVC: How Can We Improve Current Diagnosis Methods?

Announcer:
Welcome to Women's Health Update on ReachMD. This medical industry feature, titled "Bacterial Vaginosis & VVC: How Can We Improve Current Diagnosis Methods?" is sponsored by Hologic.

Moderator:
I'd like to introduce Dr. Goje from the Cleveland Clinic. She is going to be discussing today a little bit about how we may be able to improve upon the current clinical criteria for bacterial vaginosis and VVC by incorporating some molecular methods, and then hopefully we'll have a nice discussion about where this can take us clinically. Dr. Goje?

Dr. Goje:
So we know more than 20 million women are seen annually for bacterial vaginosis alone, and if you go to the feminine product aisle in any pharmaceutical store, or even now online, you see how much money women are spending on vulvovaginitis, so it's a problem that affects not just their health but their psychological, social, sexual and emotional being.

We've already talked about lifetime. Like, when women ask me, "Why me?" I say, "Why not you? One of us is going to have either BV or yeast during our reproductive life. I don't want you to think it's something you have done wrong," because as women, it's always, "Oh, what did I do wrong? What did I sit on? What bathroom did I use?" Women will always come back with recurrent vaginitis, and some papers we see up to 30% of women will come back with recurrent BV. Some papers will document 3 to 5% of women will come back with recurrent yeast infection, so it's something that we know we have to take care of.

But for this presentation, we're going to talk about trichomoniasis, bacterial vaginosis and yeast infection.

So sometimes we have patients that have multiple infections, multiple symptoms, and it's not always easy in a very, very busy clinic to say, "Hey, it's cervicitis, it's vaginitis or urethritis," especially when your patient has every symptom. Just taking a look and saying, "Hey, you have this or you have that" might be a bit difficult, and that's one of the reasons why I think in 2019 we can do better than just take a look and say, "Hey, you have this," and talk about molecular testing.

We know that the prevalence of BV is about 75% in reproductive-age women at one time or the other. The prevalence, of course, we know it varies from population to population, 15 to 19% in gynecologic clinics, up to 30% in pregnant patients and 24 to 40% in STD clinics.

We know BV is not G. vaginalis, and we know BV is not just 1 organism, but most of the time it's an alteration of the vaginal microbiome. We have Atopobium, Prevotella. We have all the BV-associated bacteria, and also, we have the Lactobacilli, which I'm very excited that more and more research is being conducted and more and more people are getting to know that it's not just the presence or absence of the microorganisms but also the presence or the absence of Lactobacilli that makes patients symptomatic.

We talked about 75% of BV patients being asymptomatic, and the question now is: What do we do? I know with patients that have symptoms, they're going to call you and say, "Hey, I think I have BV again." But what happens to that asymptomatic group? Do we need to screen that patient that comes for an annual GYN care and you think she has BV because her pH is 6 and you can perceive the scent, or do you just let her be?

But as we talk about BV in asymptomatic patients, it's important we know that BV is a risk factor for other infections. It's a risk factor for acquisition of HIV, HSV, gonorrhea and chlamydia, so do we look at the risk factors to screen them, or do we just let them be?

Now, before we talk about diagnostic methods of screening for bacterial vaginosis, we must always talk about Amsel's criteria and the Nugent criteria. We all know about Amsel's criteria. In most clinics that I know in the Midwest, where I practice in Cleveland, most patients don't get a microscopy done. And when I ask the providers, they tell me, "It's a busy clinic; I have 35 patients; I can't stop to do a microscopy;" The other reason that providers give me for not doing microscopy is that they need to be recertified for microscopy, and many people don't want to be recertified. They don't want to go through another checklist to use the microscope. And, of course, the Nugent's criteria is the gold standard. Everybody uses it for research.

And, of course, we know this, symptoms of BV—I'm not going to be belabor it—talking about the pH greater than 4.5, positive whiff test, presence of clue cells, having this malodorous discharge. And some people will talk about 3 out of 4 for Amsel's criteria, but as I go through papers, some people actually advocate for 2 out of 3, excluding the vaginal discharge in making the diagnosis, and that's another thing we can talk about here.

And then, of course, we now talk about molecular testing. I mean, for molecular testing we have 2 main groups. We have the direct probe that most of us know about, and then we have the amplified probe. Apart from having the direct probe and the amplified probe, we know that the amplified probe most of the time is a multiplex, and many times what we're looking for with the multiplex or the amplified probe is not just the organisms but now the relationship of the organisms to each other, the relationship of the microorganisms, not just in quantity or quality but to the Lactobacilli.

This is a very, in my opinion, powerful slide. It's just like a distillation of everything we've been talking about. It talks about the regular or the standard Amsel's criteria we have and molecular testing. From multiple recent publications, we can see that in particular the sensitivity of molecular tests for BV is often higher than that of Amsel's criteria. Looking at vaginal discharge, pH clue cells and the whiff test, the sensitivity and specificity, I think adding the molecular testing as another tool in our diagnostic platform will help, especially patients with recurrent vaginitis, whether it's bacteria or candidal vaginitis.

And now to my patients, to something very interesting:

We'll talk about this lady. She is a 38-year-old patient with recurrent malodorous discharge. Usually, it was after menses and sex. She's had it for 2 years. So her frustration is, "For 2 years I've been on 1 medication or the other," and as I said, it's affected her emotional, psychosocial, sexual life. And you know what, I'm like, "Let's see what's going on,"—thinking nothing, she's just on medication, but truly she had a normal female genitalia, but she had the gray homogeneous discharge. Microscopy had a pH of 6. She had clue cells more than 50%. She had a positive whiff test, and she had almost no Lactobacilli. And then I was like, "Okay, this might be the reason why she feels she's taken all the medications and she doesn't feel better.

For this case, I think this is one patient that might benefit from a molecular testing, and maybe that will help her with counseling. Molecular testing using amplified probes that can simultaneously detect more than one bacterial species could help understand the imbalance of the vaginal microbiome that may be causing the patient's symptoms. So my question is: Why? Why do you think this patient keeps having recurring bacterial vaginosis?

And this is courtesy of my mentor, David Soper. He always reminds me G. vaginalis is not equal to BV. For those of you who have seen this slide before, I'll give him the props and the shout out.

So, in conclusion about BV, we know bacterial vaginosis is not 1 organism. It's an imbalance of the vaginal microbiome. And then we all should think about molecular testing to improve our clinical diagnosis, especially in patients who everything you have tried has failed or who keep having reoccurring BV no matter best treatment or best intention.

And then we switch over to yeast infection, vulvovaginal candidiasis. As we all know, it's not an STD. About 75% of women will have at least 1 episode during their childbearing years. And we know that yeast infection is just not candida albicans, although 90% of cases will be from albicans. Glabrata accounts for up to 5%, and other non-albicans candida will account for the other 5%. Yeast we know is a disruption in the host vaginal environment, and many times the patients will have burning, itching, erythema, edema, and sometimes they have a lot of pain that may actually slowly progress to vulvodynia.

So, symptoms: We all know what our patients will come with, and there's a need to test for non-albicans species or resistant organisms. And we know the clinical findings. Usually, it's pruritus,soreness, dyspareunia. When we examine them, they have erythema, edema; the discharge may be white or clumpy. And I've seen patients that had no discharge at all. The pH usually is between 4 and 4.5. Amine test is negative. And if we are very good with microscopy, we should see the pseudohyphae or the budding yeast as the case may be.

We have candida traditionally classified as complicated or uncomplicated—uncomplicated usually the sporadic episodes, mild to moderate symptoms. And the complicated cases are usually the recurrent episodes, severe symptoms, patients that we suspect to have other non-albicans candida, women that are immunosuppressed, whether from transplant, medical reasons, medications, diabetes, and

pregnant patients. Complicated infections will occur in 10 to 20% of women, and some of these women, like I alluded to earlier, might need additional diagnostic or therapeutic consideration so that we're not giving them the same medicine day in and day out.

Molecular diagnosis of vulvovaginal candidiasis I think in 2019 is also helpful if we can find the best way to integrate this testing into our clinical practice. In our practice a fungal culture takes 10 to 12 days, which for some patients is like 1 year to get a result. But with molecular diagnosis, you'll be able to pick up at least, depending on the platform, 4 to 7 or 4 to 10 various candida, so for a very busy practice or for providers who are not trained in microscopy, it might help as an extra diagnostic tool in their offices to help their patients.

This patient of mine is 41. She has recurrent yeast vaginitis, and her complaint is her symptoms come back 1 week after treatment. She gets better. She knows she's better, but exactly 1 week later she needs another round of treatment. Her direct probe was negative for candida, but her fungal culture came back with parapsilosis. With molecular testing using amplified probes that detect multiple types of candida species, we could quickly and easily understand that she had an infection with Candida parapsilosis, which requires different management and different medication than a routine Candida albicans infection.

So in summary here, it affects millions of women annually, and some infections reoccur frequently, like some of my patients, and some will have just 1 or 2 candida vaginitis in a year.

So molecular testing might improve the clinical diagnosis, especially in patients that have a complicated vulvovaginal candidiasis. Also, with how much fluconazole our patients are able to get, I will calmly submit that it would be a good idea to really know what we are treating, because these patients—I'm not sure about where you work—but where I work they get tons of fluconazole. People have standing orders. And I will think if patients are taking a month, 2 months, 3 months of fluconazole, it would be good to know actually what we are treating to be, in my opinion, the best providers offering excellent care to these patients.

Thank you for your time and attention.

Announcer:
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