

Transcript Details

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Exploring Antibiotic Resistant MGen: A Look at Diagnosis & Treatment

Announcer:

You're listening to *Women's Health Update* on Reach MD and this episode is sponsored by Hologic. Here's your host, Dr. Mimi Secor.

Dr. Secor:

Welcome to *Women's Health Update* on ReachMD. I'm Dr. Mimi Secor, Nurse Practitioner, and here to share insights on the diagnosis and treatment of antibiotic resistant mycoplasma genitalium is Dr. Maria Trent. Dr. Trent is a Professor of Pediatrics, Public Health, and Nursing, and Chief of the Division of Adolescent and Young Adult Medicine at Johns Hopkins School of Medicine in Baltimore, Maryland. Dr. Trent, welcome to the program.

Dr. Trent:

Thank you so much for having me.

Dr. Secor:

To start us off, Dr. Trent, can you give us an overview of antibiotic resistance in mycoplasma genitalium, or Mgen for short?

Dr. Trent:

Sure. So when people talk about antibiotic resistance, related to mycoplasma genitalium, they're usually talking about macrolide resistance in part because we so easily are able to use azithromycin for treatment of mycoplasma in the past. I think that what we've seen is that the resistance to that particular type of antibiotic has become a problem. And so, you know, when you look at worldwide data, you see it ranges from, say, mid 40s, to 90 percent of folks who have antimicrobial resistance. And so treatment with azithromycin as a single agent has really become something that we are not able to do. And so when we think about other types of antibiotics, we think about quinolones as another class of drugs, and the resistance markers really are much lower, right? And so we see that patients who we're treating with moxifloxacin really don't have the same degree of resistance. And so using the data that has come out of places like Australia, and more recently in the United States, we see that really starting people with treatment using doxycycline and then transitioning to an effective agent, a more effective agent, tends to result in improvement of symptoms and allows patients to reach clinical cure in almost 90% of cases. And that may change as the landscape shifts as it relates to antimicrobial resistance. But for now, I think that that is the strategy that we're trying to use to manage this evolving notion of resistance for patients who have this particular infection.

Dr. Secor:

So with that being said, Dr. Trent, can you walk us through how you diagnose Mgen and test for antibiotic resistance?

Dr. Trent:

Right. So, the testing is the same as we would do in any other clinical setting. We would collect, urine, vaginal swabs, urethral swabs if necessary, but people tend to use vaginal and urine swabs for women and men, respectively. Women can even self-collect their swabs very effectively in clinical practice, so multiple sites can be used for testing. And we use nucleic acid amplification tests that are now commercially available on the market for testing. And so that is the easy way to test. It's in line with what we're already doing, we just need to send a separate swab so that we can do this testing.

I think for resistance assays, it's not that difficult either. I think that there are some tests that are available in the research lab where we're actually able to use that same swab to do resistance assay testing looking for the mutation for macrolide resistance. But all of that is really done in the lab as a part of testing.

So I think that at this point in time testing is really very easy. We just don't have, in the commercial space for providers, the resistance assay that's readily available. And I think that's the big thing that's impeding our ability to universally say move in a single direction, and that's why we have multiple directions and guidelines.

Dr. Secor:

Yes, very helpful. And how do these testing strategies actually help us target therapy against Mgen?

Dr. Trent:

So I have a research study so I have access to resistance testing for people who are enrolled in our study, but not necessarily available for patients who are not enrolled in that research. And so I think when resistance testing is not available but we have a positive test, then we can go ahead and treat patients with an older drug that is not as effective for mycoplasma but does give some good coverage to initiate treatment. And that we found that once you figure out whether the patient is resistant or not, then you're able to actually put that patient on a drug that works. And so I think there are antibiotics available for us to treat patients and right now the resistance to sort of the end of the line which is moxifloxacin here in the United States we could do quite well.

Dr. Secor:

Good to know. For those just tuning in, you're listening to *Women's Health Update* on ReachMD. I'm Dr. Mimi Secor, Nurse Practitioner, and I'm speaking with Dr. Maria Trent about diagnosing and treating antibiotic resistant mycoplasma genitalium. So Dr. Trent let's take a closer look at therapy if we can't use antibiotics, how is Mgen typically treated?

Dr. Trent:

So I can't think of a circumstance in which we can't use antibiotics. It's just whether or not we have the right combination of antibiotics for the patient's profile. And whether or not those antibodies actually work for them. So it's interesting because there are some circumstances, for example, in which moxifloxacin as a key agent might not be able to be used. And in that circumstance, we have to try some alternative regimens which the CDC does offer us in the new guidelines to try to see if we can cure the patient. So I think we have to think very differently about medications in that setting. But either way, - if it looks like a patient can't have one of the ideal regimens, then we would, in this circumstance, do a test of cure to see whether or not we actually have positive results at 21 days, which is usually when we would be able to test people who had a nucleic acid amplification test for STI testing.

Dr. Secor:

If we focus on organism-specific therapy, what role does this play in our approach?

Dr. Trent:

So I think that we have to become increasingly more precise in how we take care of patients who have sexually transmitted infections. Some people call it precision medicine when we think about other diseases like cancer, but I think we have to have the same kind of dedication to treating patients for what they have. And, I think because of technology, we have moved away from syndromic management, basically trying to put together the pieces like a detective, without any laboratory data to diagnose a patient for what they have. But as our diagnostic tests improve, both in the basic science lab and translating those findings into the clinical arena, I think we're going to be able to be more precise and give people really better care with less exposure to antibiotics, less resistance that will result from it, and better overall outcomes for our patients. So I think that that has to be the goal for us particularly for those of us who are doing the research, but also for those of us taking care of patients in practice. We don't need to throw the kitchen sink at someone if we know what they have and know the best strategy to treat them. And that's the reason I think the resistance assay would be so important to our - to the tools that we have to really diagnose and care for patients.

Dr. Secor:

And before we close, Dr. Trent, do you have any additional advice for clinicians who are diagnosing and treating antibiotic resistant Mgen?

Dr. Trent:

So I think we have to be very mindful for patients who are struggling with resistant infection. Hopefully those patients will be able to use moxifloxacin as an in-choice of treatment. We've had very good results with patients who can take that drug in terms of their outcomes. I think that when we start with the doxycycline, and then move to the moxifloxacin, at least from studies from other countries, really have demonstrated that patients actually have very good results. And so there's really gonna be a small percentage of patients. I would say having a great deal of patients and providing a tremendous amount of support to those patients personalized care is going to be critically important. Being honest with them about the limitations around antibiotic treatment and sources of care can be important, and really talking to them about their willingness to really try alternative regimens in order to move forward with a cure for them.

I will say that it's in those scenarios that enlisting a partner who has some additional expertise on treatment and diagnosis and treatment

of sexually transmitted infections can be important. It can be reassuring to the patient, but it also can allow folks who are really staying on top of what the new science coming out is saying to operationalize the CDC guidelines in the most thoughtful way as it relates to alternative regimens.

Dr. Secor:

Considering the high prevalence of antibiotic resistance and mycoplasma genitalium, I want to thank my guest, Dr. Maria Trent, for joining me to share her insights and how we can better diagnose and treat this infection. Dr. Trent, it was great speaking with you today.

Dr. Trent:

It's great speaking with you as well. Thank you again for having me on the show today.

Announcer:

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