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Mycoplasma Genitalium: Get to Know the Hidden STI

Narrator:
Welcome to ReachMD. This is a special edition of Advances in Women's Health sponsored by Hologic. Here is your host, Dr. Renee Allen.

Dr. Allen:
There has been a lot of discussion about a sexually transmitted infection called mycoplasma genitalium or MGen. Chances are that most clinicians have not yet tested for, or have even heard of, this sexually transmitted infection, and yet, it is more prevalent than gonorrhea and has been associated with both asymptomatic and symptomatic infections of male and female genital tracts. My guest today is here to talk about this STI and share a case study illustrating how difficult MGen is to diagnose and the challenges clinicians face regarding treatment.

I am your host, Dr. Renee Allen, and I would like to welcome Dr. Maria Trent to the program. Dr. Trent is a Professor of Pediatrics in the Division of General Pediatrics and Adolescent Medicine at Johns Hopkins School of Medicine in Baltimore, Maryland. Dr. Trent, thank you for being with us today.

Dr. Trent:
Thank you for having me.

Dr. Allen:
So, Dr. Trent, to start, can you tell me a bit about the overall epidemiology of this disease, and how did clinicians first become aware of it?

Dr. Trent:
The mycoplasma genitalium is an infection that has been around since it was discovered in the 1980s, and then, I think, we had more information about its epidemiology and the kinds of presentations that it has in the 1990s with work from a researcher, Dr. Lisa Manhart, out of the University of Washington. I think the prevalence is hard to pin down because we have not had any form of routine testing available within the general population. I think, but from what we know about it from the research that has been done to date, is that the global estimates range between 1 to 6% with some differences by gender and, I think, by region of the world. The other issue is that in some populations that see individuals that are somewhat at higher risk for a sexually transmitted infection, such as STD clinics, the rates can range between 15 to 20%. And so, it is a relatively common infection often times much more common than things we usually think about such as neisseria gonorrhea as you previously mentioned.

Dr. Allen:
So, what kind of signs or symptoms are you seeing in clinical practice pertaining to this disease?

Dr. Trent:
So, what's interesting, is that most patients, similar to what we see with chlamydia trachomatis, are actually asymptomatic when they are having these infections, but we often see, when they do have symptoms, signs of urethritis, or cervicitis which can often manifest as discharge or some dysuria in patients. And we also see patients who have complicated sexually transmitted infections such as pelvic inflammatory disease in women, and many of those women have been—in some situations—have been diagnosed with the disease. The PEACH trial, one of the seminal studies around pelvic inflammatory disease amongst American women, really demonstrated that the infection PID was associated with mycoplasma genitalium infections.

Dr. Allen:
And if MGen is undetected and left untreated, what complications can develop for the patients?

Dr. Trent:
So, for men, which have primarily moved this discussion around mycoplasma genitalium as a sexually transmitted infection, they have persistent urethritis symptoms, so they have non-gonococcal, non-chlamydial. So, no diagnosis of chlamydia, no diagnosis of gonorrhea infections, but they have persistent discharge, persistent dysuria, those kinds of symptoms that don't clear with typical antibiotics. So, that might be one way you diagnose a male patient.

In female patients, I think, we really do worry about pelvic inflammatory disease. What I've seen of those patients is they don't appear to be as ill appearing as, for example, patients who have had gonococcal infections, and we also see that with chlamydia people don't appear quite as ill unless they have had the infection for a long time. But I think we are certainly covering it as an organism from those patients. I think I've been fortunate, in that we have access to the laboratory tests through our research laboratory here at Hopkins, and I have conducted some research with patients who have pelvic inflammatory disease, and so, it's just very interesting that those patients are often infected with mycoplasma but also co-infected with other sexually transmitted infections as well.

Dr. Allen:
What are the current diagnostic and treatment recommendations for this disease?

Dr. Trent:
There are only certain, large, STD research laboratories around the world that can actually do that kind of testing. And so, the provider, to some degree, is limited in their access to testing. The optimal way to really test for it is not through culture, which can take as much as six months, but really, nucleic acid amplification testing is the optimal way to diagnose and the wonderful thing about nucleic acid amplification test or NAAT testing, is that you can use multiple types of specimens, and so, once we have that test commercially available, I think that that will be optimal for diagnosing people we suspect of having mycoplasma genitalium. Currently, the CDC guidelines do not necessarily recommend routine screening of patients, though, but there is guidance on how to manage a person that you think may be infected with mycoplasma. Now, I would say that, universally, the recommendations are for syndromic management rather than using a STI diagnostics for precision-based treatment. And so, I think, our goal is to try to get there in the future. I think that there are three levels of care. It can start with doxycycline, but their studies have suggested that there are higher levels of resistance to doxycycline in certain communities. The next layer up would be a single dosing of azithromycin, and if the patient's symptoms persisted, perhaps a longer course of treatment like in macrolide resistance, which is, the macrolides are the class of drugs that azithromycin belongs to, is not uncommon. And so, then there is a third layer of treatment and that would be treatment with moxifloxacin, which is another antibiotic, but it is a little bit more expensive than either of the other two. I think the key is that we need to have commercial testing available if we are really to understand how it is affecting patients in clinical practice, and to do any type of really surveillance studies in the general population based on the outcomes of testing across regions.

I think, the biggest issue, though, is that it's new in the STD guidelines. And so, I think a part of the reason that we are even talking about it and thinking about it in patients was because there were these cases that came to the forefront and then there was new research that pushed it out there as an issue

amongst patients. But now that it's classified as an STD, I think it will actually get more attention, and we will have better information about the clinical correlates that we see in care. But, for now, we are really using syndromic management, so based on how the patients present, recurrent disease, or severity of symptoms that are not responding to current antibiotics for other sexually transmitted infections that the patient may have.

Dr. Allen:
You are listening to ReachMD, and I am your host, Dr. Renee Allen. Speaking with me today, it is my pleasure to have Dr. Maria Trent, a physician with Johns Hopkins School of Medicine, and we are discussing a little known, but widely persistent, sexually transmitted infection known as mycoplasma genitalium or MGen.

So, Dr. Trent, you have your own case study to share with our audience today about how a patient with MGen may present and what you did to ultimately diagnose and treat this disease.

Dr. Trent:
Well, my area of research is in thinking about complicated sexually transmitted infections and developing strategies to improve patient outcome. So, we actually had a patient who presented to one of the practices where we recruited patients. She was a 19-year old, who was diagnosed with PID and treated per the guidelines. But she continued to have persistent discharge and then, what appeared to be, development of some chronic pain with multiple rounds of coming in for pelvic exams and seeking treatment, and actually receiving multiple rounds of antibiotics, and it turns out, that her partner also had this persistent penile discharge and we also had him come in for testing, and he had non-gonococcal urethritis despite being negative for both chlamydia and gonorrhea and after treatment for chlamydia infection as a first pass. And so, they continued to have intercourse, because their results were negative, and then, finally, the woman was diagnosed with the PID and enrolled in our research study and we diagnosed her with mycoplasma genitalium. And through further testing, we realized that she had resistance to macrolides, and so, azithromycin, and so, we then had to really transition her to the higher level antibiotics such as moxifloxacin. So, we had an opportunity to really follow this patient very closely over time because with PID treatment, you know you see the patient at baseline; you see the patient at 72 hours; and then we really encourage patients to come back for care when they are not seeing improvement or they are getting worse, as a part of our counseling with them. And I think that because she was a part of that, sort of, practice with close followup, and we could also treat her partner in our practice, because we had some federal resources to provide care to the partner as well, then, I think, that this case wrapped up very nicely and we were able to get them both the care they needed, but, I think that we were fortunate that we had testing available for them so that we could really diagnose her, and, I think, that is the level of precision that we are aiming for in terms of hoping that

there would be testing available to us in sort of the real world clinical setting.

Well, it may be interesting for listeners for this program, maybe to know, that there is going to be an issue focused on mycoplasma genitalium in Contemporary OB-GYN that is forthcoming, and I think it will nicely lay out some of the issues that we discussed today, and hopefully, be really very useful to sorting out some of the things they may be seeing in practice.

Dr. Allen:
Based on our discussion today, what are the top three things that our listening audience should remember when dealing with MGen?

Dr. Trent:
So, I think, that providers have to have a high suspicion for the potential infection amongst patients who have recurrent issues and, then, if they have access to the test, they should test patients to see whether or not this is an organism that the patient is infected with. I think the second thing is that we have to use antibiotics judiciously in patients who are having clinical symptoms such as discharge, abdominal pain, if it could be associated with this infection, and to really think about them in a leveled approach, which is, I think, what the CDC recommends very clearly in the 2015 Guidelines. I think the final thing is that, I think, clinicians have to be very thoughtful about following the literature and to really look at the updates from the Centers for Disease Control and Prevention. So, even after the guidelines are published, if there is new information before they publish the whole guideline, they will publish a separate piece on emerging issues or they will give an update to the STD Guidelines, and I think that we have to be very thoughtful about following those. As an example, there is a piece that's written on emerging issues and one of those focuses on mycoplasma, and I think it does a very nice job. I think providers can download now the guidelines onto their phone or to their tablets. And so, I think, that having access to those guidelines is really very easy for us to have in real time and in practice.

Dr. Allen:
Well, with that, I want to thank Dr. Trent for joining me and our ReachMD audience today. Dr. Trent, it has been a pleasure to have you on the program. Thank you so much.

Dr. Trent:
Thank you for having me.

Narrator:
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