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Expert Interviews

National STD Curriculum Podcast

Ocular and Otic Syphilis: Diagnosis and Management

January 9, 2023

Season 3, Episode 8

Dr. Khalil Ghanem, a Johns Hopkins University Professor of Medicine and a syphilis expert, discusses how to diagnose and manage ocular and otic syphilis in an interview with the National STD Curriculum Podcast Editor Dr. Meena Ramchandani.

Topics:

- Syphilis
- ocular syphilis
- CSF
- otic syphilis
- tinnitus
- STI guidelines

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Disclosures

Disclosures for Khalil G. Ghanem, MD, PhD
None

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Consulting Fee: Innoviva Specialty Therapeutics

Transcript

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introduction**[00:00] Introduction**

Hello everyone. My name is Meena Ramchandani. I'm an infectious disease physician at the University of Washington in Seattle. This podcast is dedicated to an STD [sexually transmitted disease] literature review for health care professionals who are interested in remaining up-to-date on the diagnosis, management, and prevention of STDs.

For this episode, we welcome Dr. Khalil Ghanem. Dr. Ghanem is a Professor of Medicine in the Division of Infectious Diseases at Johns Hopkins University and is an expert in the field of HIV and STIs. In this interview, we are going to focus on ocular and otic syphilis. To listen to other Dr. Ghanem interviews, check out the November 2022 episode on neurosyphilis and the September 2022 episode on monitoring and interpretation of syphilis serologic tests. Hello, Khalil, and welcome.

Dr. Ghanem
Hi, Meena. I'm so happy to be here. Thanks so much for inviting me.

2021-cdc-sti-treatment-guidelines-changes**[00:55] 2021 CDC STI Treatment Guidelines Changes**

Dr. Ramchandani
So, Khalil, let's start by having you highlight some of the key changes for the management of ocular and otic syphilis in the 2021 CDC STI Treatment guidelines.

Dr. Ghanem
I think the biggest change related to otic syphilis and ocular syphilis is that you don't need a CSF [cerebrospinal fluid] exam to make a diagnosis of otic syphilis and/or ocular syphilis if the patient has no other neurological signs or symptoms. So if it's only otic signs and symptoms or only ocular signs and symptoms, you don't need a CSF examination. Mainly because up to 40% of patients with ocular syphilis and up to 90% of patients with otic syphilis will have a normal CSF examination, and yet they still have ocular and otic syphilis, and so they will need treatment despite the normal CSF exam. So the CDC essentially said, if it's ocular only or otic only signs and symptoms, you do not need to perform a CSF examination.

ocular-syphilis-diagnosis-management**[01:56] Ocular Syphilis: Diagnosis and Management**

Dr. Ramchandani
Can you give us an idea how patients might clinically present and how we should go about making the diagnosis of ocular syphilis?

Dr. Ghanem
Absolutely. So ocular syphilis is fascinating because it can present during any stage of the infection of syphilis, right? Just like neurosyphilis, it can actually present even before primary syphilis, and it can also present late in the course of the infection. So it can present during *any* stage of syphilis infection, and it can involve *any* portion of the eye, which is fascinating. It can go from anteriorly; they can present with conjunctivitis. You can go towards the back, iritis. You can go all the way to the back with optic neuritis. Any portion of the eye, certainly uveitis, anterior uveitis, posterior uveitis, both anterior and posterior panuveitis. It's fascinating. Any portion of the eye can be involved.

And so, usually, patients will either present with pain or increasing tearing. They can present with visual losses. They can present with floaters, with other types of visual changes, photophobia. They can see halos

around. Again, none of these symptoms are pathognomonic for ocular syphilis. They can occur in many other conditions. But keep in mind that any ocular sign or symptom technically could be due to ocular syphilis.

Dr. Ramchandani
Thank you. And how does the management approach of ocular syphilis differ or compare with the recommended approach with neurosyphilis?

Dr. Ghanem
Sure. So from the diagnostic standpoint, we said it's different, right? Because neurosyphilis, you *always* want to do a lumbar puncture. With ocular only symptoms, you don't need to do a lumbar puncture because up to 40% of persons with ocular syphilis may have a normal CSF examination. And so you're still going to treat them with IV penicillin, and that's not going to change management.

So with ocular syphilis, you don't need to have a CSF examination to make the diagnosis of ocular syphilis. When I see a patient with ocular signs or symptoms, I will essentially refer them to ophthalmology immediately. If the ophthalmologist can't see them literally that day, I will send them to the closest emergency room, and I will call the emergency room doctor and say, "I am sending you somebody that I suspect has ocular syphilis. Please consult ophthalmology. Please keep in mind that you don't need to do a lumbar puncture because up to 40% of patients with ocular syphilis will have a normal lumbar puncture. *Please* don't send the patient home if they have a normal lumbar puncture." I can't tell you the number of times patients have been sent home because they had a normal lumbar puncture, even though they had ocular abnormalities.

And so, having an ophthalmologist do an exam immediately will help you make the diagnosis because, if there are any abnormalities on exam in the right setting, barring another reasonable alternative diagnosis, then the patient essentially has ocular syphilis and IV penicillin should be started. The treatment of ocular syphilis is really the same as neurosyphilis. It's IV penicillin. And, in rare cases, IV ceftriaxone if you can't use penicillin.

The bigger question comes up is, what do you do with steroids, right? Should I use steroids in those patients, or should I not use steroids in those patients? And, usually, topical steroids are absolutely fine. If an ophthalmologist says, "Listen, let's use topical steroids," I have no problems. Systemic steroids certainly can be used as well. We don't know if they make a difference. We don't have good data to show us either way whether steroids make a difference or not.

And so, if a patient has an absolute contraindication to steroids, systemic steroids, like somebody who is a brittle diabetic, I will usually say, "Listen, let's not use steroids." Otherwise, if there are no contraindications and the ophthalmologists feel that it's an inflammatory lesion that would benefit from systemic steroids, I have no problems using systemic steroids. I will let them.

But now, the one thing that I've noticed, which is fascinating, and again, it's not data-driven. It's just pure observation. I've noticed that if you're going to use steroids, you should use them for at least three to four weeks. And the reason why I say that is that, in a significant subset of patients who were put on steroids and antibiotics, the antibiotics were stopped at ten days, the steroids were continued maybe for 14 days; I've seen patients relapse with symptoms or have these waxing and waning symptoms once you stop the steroids. And by using it for about three weeks instead of two weeks or four weeks instead of two weeks, I've seen fewer patients do that. Again, it is my own observation. And so now, when I use steroids, I say, "Use it for four weeks and use the antibiotics for ten days," and that's my approach. It is *not* data-based. It is pure observation. I'd be intrigued to hear what other people have observed in terms of the steroid use.

Dr. Ramchandani
Thank you for that great review on ocular syphilis. I think that's really helpful for our audience.

otic-syphilis-diagnosis-management**[06:55] Otic Syphilis: Diagnosis and Management**

Dr. Ramchandani
The last main topic to address is otic syphilis. What are some of the clinical presentations of otic syphilis that you've encountered?

Dr. Ghanem
So, the main symptoms that I've encountered are patients who have tinnitus, patients who experience hearing loss, and patients who have vertigo. And so those are the main manifestations that I've encountered related to otic syphilis. Keep in mind, just like with ocular syphilis, the otic manifestations in about 50% can be unilateral, and another 50% they can present with bilateral manifestations.

Dr. Ramchandani
And, so when would a lumbar puncture with CSF analysis be indicated in a patient with otic syphilis?

Dr. Ghanem
So as we talked about before, up to 90% of patients who have otic syphilis may have a normal CSF examination. It varies. Some studies have shown up to 50, some as high as 90. All of them are case series, so it's limited data, but up to 90% may have a normal CSF examination. And again, a normal CSF examination does *not* rule out otic syphilis. You still have to treat them with IV penicillin or ceftriaxone and plus/minus steroids. So that doesn't change anything.

The only time I think that a CSF examination is warranted is if the diagnosis is questionable, right? If there are potential other causes of these otic manifestations. For example, could this be a vasculitis, or could this be multiple sclerosis, or some other primary neurological condition where a CSF examination may help clarify the diagnosis? In those cases, I think it's perfectly reasonable to do a CSF exam, but if you're dealing with somebody who is coming in, a young person, shouldn't have any other reasons to have otic manifestations, and has, you know, for example, florid evidence of secondary syphilis with a weak history of tinnitus, never had tinnitus before, that's otic syphilis until proven otherwise. And in those situations, I think that a CSF examination is not warranted and that treatment for syphilis, for otic syphilis, would be warranted, certainly in the absence of a CSF examination.

Dr. Ramchandani
Thank you.

tinnitus--otic-syphilis**[09:19] Tinnitus & Otic Syphilis**

Dr. Ramchandani
You mentioned tinnitus. So we had a patient in our clinic, and I'd love to hear your thoughts on this. A patient was evaluated for secondary syphilis and reports tinnitus for the last two weeks. Would you initiate treatment for otic syphilis right away, or would you first refer to the patient to audiology or ENT [ears, nose, and throat; otolaryngology] to evaluate for hearing loss? I'd like to hear your perspective.

Dr. Ghanem
So, I think that, in somebody who's experiencing tinnitus and who has no other reason to have tinnitus, in this case, you present a classic case of secondary syphilis, a young person who doesn't need to have any other causes. I think, in that situation, I would start treatment for presumptive otic syphilis. But having said that though, I think that it doesn't preclude getting an ENT physician to evaluate the patient for hearing loss. I wouldn't delay the initiation of therapy.

dont-delay-treatment**[10:10] Don't Delay Treatment**

Dr. Ghanem
I think very importantly, and this is something that I didn't mention before, that I should now, with neurosyphilis, ocular syphilis, or otic syphilis, if you think the pretest probability is moderate to high that they have this infection, you should not delay treatment. You should refer them *immediately* for treatment. And

you can do everything else while the patient is in the hospital. Delaying, for example, an evaluation in this patient for hearing loss, it would be worthwhile knowing if the patient has concomitant hearing loss. Right? But I don't think I would delay the treatment. I think I would send the patient to the emergency room, start IV antibiotics, get the ENT doctor to come see them the next day to evaluate them for hearing loss. That way, you have a baseline, and you can go from there.

I would do the same thing with ocular syphilis. Again, I don't think I would delay the patient being seen for ocular syphilis—let's say if the ophthalmologist can't see them that day, but they can see them three days later. We have had several patients who have experienced complete visual loss because the diagnosis and treatment were delayed. So I would say, if you suspect it moderate to high, just get them evaluated immediately, and start treatment immediately.

Dr. Ramchandani
Thank you. Those are great words of advice from a clinical perspective and patient management perspective. Dr. Ghanem, thank you so much for joining us today. I have learned so much. It's been an absolute pleasure to speak with you on these important topics.

Dr. Ghanem
Thank you for being so thorough. It's been a real pleasure,

credits**[11:43] Credits**

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PDF created November 10, 2026, 4:27 am

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