

Medical Mystery Case: The Over Exposure



PODCAST 47

Narrator: Welcome to Medical Mystery Cases. Short tales to ponder, puzzling histories, confounding symptoms and strange findings lead to diagnosis bewilderment. Tune in for a few minutes to test your skills.

This case is accredited for 0.5 hours of continuing education credit for physicians, nurses, and laboratory professionals. This program was planned and developed by Medavera and sponsored by QuidelOrtho.

Announcement over plane PA: Ladies and gentlemen, this is your captain speaking. I'd like to welcome you to Atlanta. The local time is 9:42 PM and the temperature is a balmy 81 degrees. For your safety and the safety of others, please remain seated with your seatbelt fastened until we have come to a complete stop at the gate and the seatbelt sign is turned off. You may now use your electronic devices.

Andre Bennett (AB): Hi Hon, just touched down. Hmmm mmmm. The flight wasn't too bad after that layover fiasco at Charles de Gaulle. Long trip but photographing these UNESCO sites was unbelievable... many threatened species. My editor will be super pleased.... Yeah, I'm tired. I thought it was just jet lag, but now I've got a throbbing head and my throat feels raw. I think I might have picked up COVID. There were people coughing all over the place when I got back to Kinshasa on Sunday. I'll grab an Uber and be home soon, but I don't want you to catch anything, so I'll keep to myself in the spare room tonight. I'll go see the doctor tomorrow, but I'll poke my head in and say hi when I get home. Love you too. Bye.

Receptionist: Please follow the nurse down the hall, second door to the left.

Nurse Sam (NS): Hello Mr. Bennett. I'm Sam. Please state your date of birth.

AB: Eleven ten of sixty-six.

NS: Great. Now let me get your vitals and tell me what brought you here today.

AB: I've got a sore throat, runny nose, my head hurts. Felt chilled last night. You need to know I just got back from a 6-week trip. I was on a photo assignment in the Democratic Republic of Congo. Do you know the Okapi Wildlife Reserve? I'm collaborating on a book series—taking photos of UNESCO sites.

NS: Wow that's cool. Hmmm. Your blood pressure is a little bit high. Maybe you're dehydrated from your long flight. Here, let's take your temperature. Any other symptoms?

AB: Yeah, I've got a rash and some sore spots.

NS: And a slight fever. How many spots and where?

AB: Ah, they're.... down there, for two days now. I'm not sure how many. It's hard to see, but I can feel them, and they hurt. The flight home was uncomfortable.

NS: Uh Huh. We'll have Dr. Johnson examine them. Here is a paper gown to put on. She'll be here shortly.

Dr. Johnson (DJ): So it's the world traveler. How was your trip Mr. Bennett?

AB: Very successful. The DRC is totally worth visiting. The wildlife is amazing, and I love the street food.

DJ: That's good to know. I've looked at your chart and it sounds like you have a couple of things going on. Can you tell me how you're feeling now?

AB: I've had a headache since I was on the plane yesterday, and my throat has been scratchy, I've got a mild cough...and I have this rash...and it hurts.

DJ: Okay, well, other than your blood pressure being a little high and a low-grade fever. I'd like to check your throat first and then we'll take a look at those lesions. Can you open your mouth and stick out your tongue please?

AB: Aahhhh.

DJ: Hmm...quite red. Depending on how that rash looks, we might want to test for strep. They have different strains in West Africa than they do here. And I'd like to check for COVID too since you've been traveling. Can you show me the lesions?

DJ: And you say they hurt?

AB: Yeah, they do. Itchy too.

DJ: Because the lesions are in your genital area, I have to ask, did you have any new sexual partners here or on your trip?

AB: Well....yes...one in Kinshasa. I was hoping that wasn't what caused this.

DJ: It's really just one possibility. You know there have been reports of a new mpox outbreak in the Congo.

AB: Yeah, that's pretty scary. The ah.... person I had sex with was a woman and she looked healthy to me. I mean...she was very clean.

DJ: I have to ask you some very personal questions.

AB: Okay, I'm ready.

DJ: Did you pay this woman for sex.

AB: Well no, but I bought her several drinks at the bar and later dinner.

DJ: Did you have oral or anal sex?

AB: Ah ...yeah.

DJ: So... both?

AB: No, just oral andregular.... you know.

DJ: Did you use a condom or any other type of protection?

AB: No... I didn't have any condoms with me. I realize now how stupid that sounds.

DJ: Have you ever had a sexually transmitted infection?

AB: No...not that I know of.

DJ: Is your spouse your only other sexual partner?

AB: I am recently remarried so I did have a sexual relationship with my ex-wife and we didn't use protection. I also dated a few other women before I remarried. I'll be honest. I don't like condoms.

DJ: Based on your history, I'd like to take a swab of at least three of your lesions and test them for Herpes Simplex Virus—HSV. This is a genital form of the disease transmitted by sexual contact.

AB: Do you have to send off a test? Can't you just give me a prescription or something?

DJ: Sometimes it's difficult to tell HSV from other types of lesions, and darker skin makes it harder. I don't want to give you medication that you don't need. It's better to prescribe after we have clear test results. This swab will be sent nearby to the hospital lab, and we'll have results back by this afternoon. We'll also go ahead and run strep and COVID while you are here in the office, as well as a rapid test for HIV.

AB: You think I could have HIV?

DJ: I would recommend HIV screening once a year for anyone who has unprotected sex. Especially with the rates of HIV in the DRC.

AB: Great. What do I do if it's positive for herpes or HIV?

DJ: You'll need to notify your sexual partners and take further precautions to prevent spreading it to them. But you will know about the HIV results before you leave the office today and the other results this afternoon.

AB: My wife will not be happy!

DJ: I understand that; depending on the diagnosis, this will be difficult for you both to process. We do encourage anyone with an STI to disclose to their partners. It is important for you to know that while we are testing for HSV first, it could also be other things like mpox or syphilis. You could have been exposed to multiple pathogens. I really don't think it's mpox. The rash is not typical and I'm not seeing bumps on your hands, feet or torso. And there is always a chance it is something non-transmissible, like shingles, insect bites, or another kind of skin infection you picked up in your travels.

DJ: Not mpox is good, I guess. Sounds like I may have really messed this one up.

DJ: I'm just going to swab these lesions now. I see you are up to date on all your vaccinations.

AB: When you travel abroad you have to be. I just recently got a tetanus booster.

DJ: Have you ever had chicken pox?

AB: Sure. When I was a kid, I got it from my brother.

DJ: I don't see a shingles vaccine in your chart. Now that you are over fifty, they recommend the Shingrix series. There, all done with that one. Let's go ahead and get the swabs for the others, open your mouth please.... Good. And now the COVID, both nostrils, I know it tickles.... Okay, I'm done with all the swabs now. If you can hang out for a bit, we will have the results on the strep, COVID, and HIV before you go.

AB: Okay. How will I get my results from the other test?

DJ: We will call you this afternoon when the results are in and go from there.

AB: What do I do in the meantime?

DJ: Take an over-the-counter pain killer, a decongestant if still stuffy, and avoid sexual contact.

AB: I guess that shouldn't be hard, since I'm sick anyway.

DJ: You can go ahead and get dressed and I'll be back in a few minutes with the results of these first tests.

DJ: Hey Sam, I've got a swab that needs to be sent over to central for a same day result. And can you run these rapids? I put the orders in already.

NS: Sure. Let me get this one in the fridge for central first, they should be here to pick up any minute.

NS: Dr. C, here are those rapid results, COVID positive, the rest negative.

DJ: Mr. Bennett? Hi, I have the results of those first tests. Looks like you don't have strep or HIV, but you are positive for COVID. Here is a mask for you. And we have sent that swab out for HSV testing.

AB: Well, at least I don't have HIV. Now what??

DJ: We recommend all the standard COVID precautions—stay home and isolate until you are fever free for at least 24 hours and your symptoms have improved. After that, social distance as much as you can for the next 5 days and mask around anyone who may be immunocompromised. That includes young children and the elderly. And because we suspect that your lesions could be caused by herpes, I would recommend that you avoid sexual contact, even kissing, with any partner until we have those test results back. Do you have any other questions for me today?

AB: Not unless you know how I can explain this to my wife?

DJ: I'm not a psychologist, Mr. Bennett, but I do recommend honesty between sexual partners.

AB: I know. I think I will wait until I get the results back though. I guess having COVID bought me some time to figure out how I'm going to explain all this. I'll talk to you this afternoon.

NS: Hey doc, since I'm starting my NP program next month, can I ask you a diagnosis question about Mr. Bennett?"

DJ: Of course, what's your question?

NS: I'm curious why you don't want to order a VZV test too? Mr. Bennett has had chicken pox and isn't vaccinated. We had that other patient last week that had lesions on her pelvis, a history of chickenpox and no vaccination, and you ordered the VZV and it was positive. What's different about Mr. Bennett? Is it just because of the sexual history?

DJ: Yes, my first suspicion is HSV because of his history and the location of the lesions. The patient from last week didn't have any new partners and the lesions were in her pelvic region but not where I would normally suspect HSV, but now that you mention it, Mr. Bennett does have the varicella history and has never had the vaccine. We can order a molecular panel test that will do both, so I'll order that instead. I'll call him with the results so I can explain why he's going to see a VZV test on the patient portal.

Narrator: What do you think of Dr. Johnson's decision to change her mind and test Mr. Bennett's lesions for HSV and VZV? Is she over testing? Should she have changed her mind based on the questions of a nurse? Or should she have included more tests, like syphilis, mpox, or other STIs? Or do you think it is just insect bites or a skin infection from hiking in the forests of the DRC? Keep listening for the answer.

AB: Hello?

DJ: Hi is this Mr. Bennett?

AB: Yes, it's me. Hi Dr. Johnson, do you have the results?

DJ: Yes, and I've got some good news and some bad news.

AB: I'm ready. Tell me the good news first. I could use some.

DJ: Your results came back, and you are negative for HSV-1 and HSV-2.

AB: That's good right? Wait, what does that mean?

DJ: It means you don't have genital herpes. However, we also ran your swab for VZV at the same time because you haven't had the shingles vaccine. VZV is varicella zoster virus, the virus which causes chicken pox and, in your case, shingles.

AB: So I don't have an STI?

DJ: Your lesions are not from a sexual encounter. You have shingles.

AB: Thank God, I'm so relieved. Glad we got the results back right away. The wait was killing me. I still hadn't figured out how to tell my wife.

DJ: The quicker we get results the faster we can start treatment. Fortunately for us, we could test for VZV at the same time, so I was able to get those results today too.

AB: How did I get shingles though? I thought I didn't have to worry about that until at least my 60s?

DJ: You are right at the age we start to see it. I mentioned this morning that we are now recommending the vaccine starting at 50. As far as what triggered it, it could have been the COVID, or dehydration from your travels. Shingles can be triggered by anything that decreases your immune system. Fortunately,

you are within 72 hours of the lesions showing up, which means we can treat you with an antiviral and it should improve quickly, and you will have less chance of developing complications. I'm going to send this prescription to your pharmacy. Make sure you take it as prescribed. Shingles can get quite painful, so you can take over-the-counter pain medications if you need them. Call us if it isn't getting better in a week or if the over-the-counter medications aren't managing your pain.

AB: There's no chance the test was wrong, and this is herpes? You're sure it is shingles?

DJ: Are you familiar with PCR tests from the pandemic? This test also uses PCR. And while we can't ever be 1,000% sure, these molecular tests are the best we have. If it was negative for HSV, but positive for VZV, it is my professional opinion that based on these test results, you do not have an STI, mpox, or any other skin infection.

AB: I'll take that. Thank you very much.

DJ: Thank you for coming to see us. I hope you feel better soon. How about no more unprotected sex, just to be on the safe side?

AB: You don't have to worry about that. Lesson learned. Thanks Doc.

DJ: Hey Sam, you were right about Mr. Bennett. Looks like you might be ready for that NP license already. Good catch.

Narrator: Today's Medical Mystery provides examples of challenges associated with assessing HSV and VZV. Did you get it right?

Lesions can be confounding based on presentation and patient circumstances. It is inadvisable to treat without testing to reduce antimicrobial resistance and potential adverse events. New methods of lesion diagnostics are available that are faster and more accurate than previous tests.

In addition to being recommended by the CDC for HSV, molecular tests have improved in recent years, becoming more rapid, and reducing turnaround time, even for clinics who have to send off samples. Several molecular platforms provide multiplex options. Some are large panels that are run in hospital settings and others offer smaller, directed panels. A subset of these platforms can run a sample and hold the data until requested. This prevents extra cost to the patient, reduces hands-on-time in the lab, and eliminates the need for the patient to return for additional samples.

In our case, Dr. Johnson chose the guideline-recommended molecular test for HSV over antigen for increased sensitivity and specificity. And because of the ability to provide same day result and run both HSV and VZV simultaneously, Mr. Bennett was diagnosed within the 72-hour treatment window for herpes zoster. If another swab had to be taken and sent off, he would have been outside the maximum treatment efficacy range, possibly leading to prolonged symptoms and chronic complications such as postherpetic neuralgia.

Multiplex platforms are not without debate. Some studies suggest that large panels provide too much information and lead to overtreatment. However, other recent studies have found that when used in a conservative manner, panels can improve time to diagnosis and antimicrobial stewardship. Institutions

utilizing panel tests should evaluate their specific needs and educate providers on use cases and interpretation to prevent antimicrobial overuse and improve patient outcomes.

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