Best Practices in Management of Coccidioidomycosis (Valley Fever): Primary Care Perspective

Introduction: Thank you for participating in this course, *Best Practices in the Management of Fungal Pneumonias: Primary Care and Emergency Medicine Perspectives*. In this section, we talk with Dr Mike Tushla, a family practitioner from Santa Paula, California, about the management of coccidioidomycosis (Valley Fever).

Q: Please tell us about your background in primary care.

Dr Tushla: Thank you for involving me in this project. I am a family doctor and have been practicing in Santa Paula, California for 30 years. I have seen several patients with Valley Fever and have managed many of them. I'm currently treating 3 patients who have active disease, and they're directly under my care at this time.

Q: How did you get involved with coccidioidomycosis management?

Dr Tushla: My interest in this disease started after I was involved in a very sad case. A good friend of mine and his wife, who are members of our community, had nine children. Peter's wife Jackie contracted coccidioidomycosis while she was pregnant with her ninth child. She was afraid to take antifungal medication because of the risk of harming her unborn baby, and she ultimately died from coccidioidomycosis. This happened shortly after a major wildfire in our area, which sparked my curiosity about the illness. It piqued my awareness and has led me to seek out patients, try to diagnose the disease earlier, and ensure they receive appropriate treatment.

Q: I'm sorry to hear that. That sounds like a very sad story, but it did propel you to develop a keen interest in this area. How did you learn about fungal pneumonia in general?

Dr Tushla: I first learned about fungal pneumonia during my residency from 1992 to 1995 at Phoenix Baptist Hospital. We saw several patients with coccidioidomycosis, and we studied it on our rotations. I've subsequently seen many more cases living in Santa Paula, California, a small rural community in Ventura County.

Q: In your view, why is it important to take a proactive approach to managing these infections?

Dr Tushla: To prevent complications and severe disease, it’s important to have an awareness and to try to diagnose sooner and treat appropriately. Oftentimes, these cases are unrecognized for long periods of time, when appropriate treatment could have been provided.

Q: How closely do you follow the CDC testing algorithms for fungal pneumonia?

Dr Tushla: Sadly, the guidelines are often not thought of in a busy day. As a frontline family practice physician, I only think of such algorithms when we have a patient with an unexpected outcome or

symptoms that are not going away with appropriate empiric treatment. I know I have patients who are potentially affected and should look at them and follow them more closely.

Q: Tell me more about your diagnostic process.

My diagnostic process includes chest x-ray and laboratory studies including a CBC, sedimentation rate, *Coccidioides* serologic testing, and QuantiFERON gold.

Q: Do you have access to testing locally, or do you have to send these out?

Dr Tushla: Most of our patients have labs performed at Quest Diagnostics, and we have many imaging centers around. Oftentimes, the tests are sent to a reference lab away from the community, and there's frequently a delay in getting the results.

Q: So you definitely do some diagnostic process. Do you manage any of these cases yourself?

Dr Tushla: I manage some of them. Most recently, I had a patient with *Coccidioides* meningitis whom I no longer manage, and I have another one with chronic coccidioidomycosis who is not getting any better after several months of treatment. I am utilizing infectious diseases consults to help with his management.

Q: For the run-of-the-mill pulmonary Valley Fever, do you feel more comfortable with that management?

Dr Tushla: That is correct.

Q: You mentioned that you do refer some cases, so what would you say are the criteria for when to refer, and to whom do you refer cases?

Dr Tushla: Many factors are at work here. Anybody with meningitis or anybody with disseminated disease, I will certainly use my consultants to manage. If it's an industrial exposure and a confirmed workman's compensation case, because of liability, I often will consult infectious diseases. Oftentimes, patient expectations are such that I need to have specialists involved in their care as well.

Q: Have you been involved with the fungal outbreak? You mentioned some of the wildfires that have plagued Southern California.

Dr Tushla: Right before I came to Santa Paula, there was a major earthquake in Northridge in 1994 that caused a Valley Fever outbreak, and there were journal articles written about it. I saw one or two patients who came in as a result of that earthquake. Subsequently, we've had a few wildfires that have caused case rates to go up, and I've seen several patients each time. The mountain that is two miles from my home has burned through wildfires, so this hits close to home.

Q: So these infections are often overlooked and underdiagnosed, as you mentioned. What can you tell your fellow primary care providers about best practices to assure early diagnosis and effective management of fungal pneumonia?

Dr Tushla: I would advise them not to forget to think of alternate diagnoses. Not everybody who comes in has a simple bronchitis or a viral upper respiratory infection. I think that in a busy day, it's easy to placate a patient and provide an antibiotic and cough medication and tell them that they're going to be okay. But I think if we keep our eyes and ears open, communicate effectively with our patients to come back if they're not better, and consider diagnostic studies sooner rather than later, we will provide appropriate care.

Q: Are there any special clues that you can think of when you're looking at a patient and starting to think about Valley Fever?

Dr Tushla: Well, erythema nodosum is one thing. Patients not getting any better on appropriate treatment or having infiltrates on chest x-ray that cannot be explained by another diagnosis are other clues. Those are things that I look for. And obviously, environmental exposure or an immune impairment are factors we consider.