

SPEAKER: The definition of NTM lung disease is quite simply a lung disease that can be attributed to an infection by mycobacterium. The guidelines that we have published from the American Thoracic Society and the Infectious Disease Society of America have described conditions that best define NTM lung disease. And what they consist of is that the, number one, the patient should have symptoms that would be typical of a person with a mycobacterial infection. These could be respiratory symptoms, or typically cough, sputum production, perhaps hemoptysis. But the others, they may have constitutional symptoms-- fevers, night sweats, weight loss, fatigue, myalgias, arthralgias, nonspecific symptoms almost like having chronic flu-like symptoms.

The second criterion is that there's radiographic evidence to suggest there could be NTM lung disease. And so CT scanning, usually with a high-resolution CT scan, is recommended. And you can see a broad range of disease beginning with, very frank-- just mild nodules, bronchiectasis, nodular bronchiectasis, all the way up into cavitary disease, all of which would be possibly related to NTM lung disease.

And the third is microbiologic evidence. You obviously have to grow a mycobacterium. And so getting respiratory specimens is terribly important to making the diagnosis. Most commonly that will be through sputum cultures. In some patients, you'll need to do a procedure to obtain specimens from the lower airways to send to the laboratory to grow in mycobacterium.

Now, when we do bronchoscopy, we are reasonably confident that if we grow a mycobacterium that it came from the lower airways. Because microbacteria are present in the water supply, we are a little bit skeptical of a single sputum culture. And so we tend to like to see more than one positive sputum culture to be confident that that infection is in the lower airways. So in general, if your patient has typical symptoms, radiographic features, and microbiologic evidence, that would fit the diagnosis of NTM lung disease.

However, there is a caveat in the guidelines, and that is that the cause of the symptoms or their X-ray changes are not attributable to something else. So for example, a patient with cystic fibrosis typically has other bacteria infecting the airways, such as pseudomonas or staph. They have bronchiectasis. They have increased airway secretions. And so it's not easy to tease out how much is attributed to the bronchiectasis, to the bacterial infection, and what might be attributable to the mycobacteria.

Similarly, you may have a patient who does not have cystic fibrosis but has chronic aspiration causing nodular findings on the X-ray, bronchiectasis, and certainly cough. And so the caveat is that we try to make sure that we've addressed every other and potential underlying cause before we finally decide this is, in fact, NTM lung disease. So we try to be as careful as we can in terms of establishing that diagnosis before we begin the conversation of whether to treat.