

SPEAKER 1: With our awareness of nontuberculous mycobacterial disease, have come a number of questions about the epidemiology of the disease. And that is, where do we have to think about NTM more than we think about tuberculosis? And that, again, is a matter of history over time.

So when I started out in my career as a pulmonologist, TB was a major issue. And I started, in fact, a multidisciplinary TB clinic at UCSD to bring together infectious disease, and pulmonary disease, infection control, nursing, and all the various elements, to focus on TB. However, it very quickly turned out that we had a lot of NTM patients showing up.

A lot of people showing up to say, OK, I've got a positive AFB smear, but do I have tuberculosis? And the answer commonly has become, no, you don't, you've got NTM disease. Which is a completely different problem to deal with, and the approach-- the clinical, and epidemiologic, and contact evaluation is completely different.

Because with TB, we focus on contacts of the patient to see, have you spread TB. With nontuberculous mycobacterial disease, it's not typically spread from person-to-person, certainly MAC disease is not. But epidemiology is very important. So we have to reflect on the epidemiology of the disease.

As I mentioned a few minutes ago, I started out with TB control and CDC, and focused on NTM as a problem, causing false-positive tuberculin skin tests. The epidemiology of that focused on the southeastern part of the United States where it was very common that the soil was contaminated with NTM organisms. And NTM infection was very common in the southeastern United States, causing a false-positive tuberculin skin test.

However, as our awareness of NTM increased, so did our awareness of the epidemiology of the disease. For example, I started my career in New York. I went to medical school in Buffalo. And one of the very early studies was done on the Hudson River. And they found that one teaspoon of water from the Hudson River had 100,000 organisms of nontuberculous mycobacterial, MAC, in just one teaspoon. So it was pretty unsurprising to find that NTM disease was common in New York.

I came to San Diego. My boss Ken Moser did a tuberculin skin test survey of San Diego and found that 20% of the people in San Diego had a bigger reaction to nontuberculous mycobacterial skin test reagents than they did to TB, indicating that infection with NTM was common in San Diego. When you think about the environment of San Diego versus New York, it's pretty dramatically different. And San Diego versus the southeastern United States, it's pretty dramatically different.

And it really opened up the awareness, for me, and for much of the medical community, that this disease is by no means confined to southeastern United States. It's a disease which is present all over the United States. And in fact, as we've increased our vision globally, it's common all over the world. It's common in Europe. It's common in Japan. It's common in Korea.

And I think what we've learned is that as TB control gets better and TB disease decreases, awareness of NTM rises. And I don't know if it's just the awareness, or the actual disease becoming more common, but there's clearly an interaction between TB and nontuberculous mycobacterial. As TB control gets better, as disease due to TB decreases, it seems that disease due to NTM increases.

It's a fascinating problem. It's epidemiology at work across the United States and in our clinics. But all I can tell you is that we're seeing a lot more NTM today than we did when I started my career and it's been a steady increase. As I said earlier, increased, kind of, exponentially, by the common uses of CT.