Transcript Details
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TB Reactivation & Immune-Mediated Inflammatory Diseases

Announcero:
You're listening to *Tackling TB* on ReachMD. On this episode, we'll hear from Dr. Jeffrey Cirillo, Professor in the Department of Microbial and Molecular Pathogenesis at the Texas A&M College of Medicine. Dr. Cirillo shares insights on reducing the risk of TB reactivation in patients with immune-mediated inflammatory diseases.

Dr. Cirillo:
Nearly one-third of the world's population has tuberculosis latently in their bodies, and everyone seems healthy that has it. The immune response keeps the bacteria at a very, very low level. And with that immune response still present, you'd get continuous removal of the bacteria and maintenance of latency. The risk of reactivation and the absence of any immunocompromised state is as high as five to fifteen percent, and that's over the course of their entire lifetime. But in the presence of an immunocompromised state, as occurs when we're trying to interfere with immune-mediated inflammatory diseases and particularly the anti-TNF pathway inhibitors, the numbers right now seem to be as much as twenty-fold higher over the course of the time that the person is on the inhibitor. So you can see that would make it very likely that anybody on these inhibitors would reactivate and get TB.

The frequency of mortality is relatively low for tuberculosis itself, say as low as 10% or even lower, for those individuals that have drug-susceptible form of disease. But many of those individuals that have latent infections, they actually have a resistant form of tuberculosis that is very, very difficult to treat. And in drug resistance, as many as 60% of those individuals that get active TB with those organisms can die. Not only that, TB itself is highly infectious. One to ten bacteria is sufficient to infect another individual, so one person that reactivates in the population can infect many, many individuals, and it's an aerosol infection, so there's no way of completely preventing getting an infection from somebody who has active TB. It makes it very, very difficult to control the incident, particularly in a country where we don't see TB very often, like the U.S. So, it's critical that we understand whether or not somebody has latent TB prior to starting these types of inhibitory therapies, that would impact reactivation frequencies and make it very likely that a person would have complications, as well as likely that they would infect other individuals.

There are two main tests that are used to look at latent tuberculosis in individuals. Those are called the interferon gamma release test, and the tuberculin test, or the PPD test, which is the skin test. The combination of those two tests are very, very good for identifying latent TB, and if an individual has latent TB – and if identified prior to them starting inhibitors of the TNF pathways – then we can start them on prophylaxis. And prophylaxis normally in these cases of latent TB would either be isoniazid or rifampin. The drugs have very, very low frequencies of complications. It's about four to six months of treatment with one or the other of those drugs, and has a very good efficacy to prevent reactivation, once the individual goes on to TNF inhibitors.

And so that's usually the plan, and – and it makes a big difference in the possibilities of having public health problems down the road, as well as health problems for individuals who might have a latent infection with a drug-resistant strain of TB.

Announcer:
That was Dr. Jeffrey Cirillo from the Texas A&M College of Medicine. To access this and other episodes from this series, visit ReachMD.com/TacklingTB. Thanks for listening.