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Improving Patient Safety Prior to Initiating Biologic Therapy

Announcer:
You're listening to *Tackling TB*, sponsored by Qiagen. Here's your host, Dr. Charles Turck.

Dr. Turck:
This is *Tackling TB* and I'm Dr. Charles Turck. Joining me today to share tactics to improve patient safety prior to initiating biologic therapy is Dr. Laila Woc-Colburn, Associate Professor at the Emory University School of Medicine and Attending Physician on the Infectious Diseases Consultation Service at Emory University Hospital. Dr. Woc-Colburn, thanks for joining us, today.

Dr. Woc-Colburn:
It's a pleasure to be here and to talk about latent TB before starting biologicals.

Dr. Turck:
Well let's begin with an overview of patient safety in the context of testing for latent tuberculosis. In general, which patient populations do you typically screen for latent TB and what tools do you use?

Dr. Woc-Colburn:
So when we look at the risk factors or the risk populations, we think about five of them. The first one is kind of the one that everybody has on top of their mind, which are our HIV/AIDS patients. They have about 26 to 31% times greater among those without HIV of reactivating TB.

After that, the other group that we think about are those patients who are on immunosuppressive therapy. So immunosuppressive therapy is prednisone above 20 mg/day or starting a biological therapy like an anti-TNF alpha. They have about 25 times more than someone who's not on them.

The other two are patients who are in special populations, our transplant patients, solid organ, as well as stem cell. The stem cells only have 2 times greater because their immunosuppression is less time compared to the solid organs that is comparable to our HIV between 20 to 70% can reactivate.

And then the other one, the last group, the fifth group, is one that we don't often think of as immunosuppressed, but it's our end-stage kidney disease patients. They have about 6 to 25 times more to reactivate their latent TB than someone who doesn't have kidney disease.

Dr. Turck:
Let's touch on the medication classes of TNF inhibitors versus non-TNF inhibitors, respectively. How do these two types of agents compare regarding the risk of latent TB activation?

Dr. Woc-Colburn:
So the anti-TNF incubators or anti-TNF alpha like infliximab, etanercept, adalimumab, certolizumab, and golimumab have about 1.6 to 25 times higher risk of developing tuberculosis than those who are not on those agents; and depending on which of the TNF-alphas, there's some more than others. So for example, if you have infliximab that's only 3 times more, but if you have etanercept, that actually has the lowest risk of developing tuberculosis. And the reason has to do how the anti-TNF alpha works. It works on inhibiting the TNF alpha which helps recognize the receptor, recruit the cells, and then actually makes the formation of the granuloma and its maintenance. And when you block that maintenance, the granuloma dissolves and lets the microbacterium come out. So that's why those patients have a greater risk.

Then we have other patients that have other immunological so they either affect the t-cells or the b-cells. So for example, if you have t-cells, which are mostly the monoclonals like axilomaf, abatacept, which is a CTL4, they act more on how the granuloma is formed and how active the anti-TNF is produced. And then our b-cell lymphocytes, where we have rituximab and alemtuzumab as part of our monoclonal, they decrease the part of detection. So depending where it acts on your immune system, it might be more. But definitely the anti-TNF acts highly on the formation of that granuloma and that maintenance of that granuloma.

Dr. Turck:
For those just tuning in, you're listening to *Tackling TB* on ReachMD. I'm Dr. Charles Turck, and today I'm joined by Dr. Laila Woc-Colburn to discuss safety priorities for patients initiating biologic therapies.

So now that we have a greater perspective on screening for latent TB, let's consider other safety concerns that you keep top-of-mind for patients who are immunosuppressed or going on immune suppressive regimens. What's on your priority list to screen or actively monitor for?

Dr. Woc-Colburn:
So besides screening for latent TB, I actually screen for hepatitis B and hepatitis C, especially on those patients with b-cell inmuno-biologicals, because of the reactivation of hepatitis B. Of course, an HIV test is always a priority and then depending on what part of the countries I screen for endemic mycosis. So for example, if I live in Arizona and I have someone that I'm gonna start on an anti-TNF, I will screen for coccidiomycosis because I know that they can reactivate or enhance the disease. That's the one that we have the most data. Now histoplasma and cryptococcus also in endemic areas and has a geographic distribution are things that I screen yearly for them, but I wanna have a baseline serology to know where we start.

Dr. Turck:
Let's come back to TB screening and a kind of circular problem that may come up, which is where patients getting tested may be at risk for or worried about getting exposed to TB, or patients with active TB at the testing sites themselves. Does that pose a significant risk from your experience? And how do you balance patient safety with ensuring those patients get screened?

Dr. Woc-Colburn:
So first of all is if I'm screening someone for latent TB, I can do that at my at my clinic right? One reason is because we have now a test that we can do in the blood. So the interferon-gamma release assays can be done in the blood and can show us a positive or negative.

The other TB test that people might know is the PPD or the tuberculin skin test or the Mantoux, and that one has to be read after 72 hours and then that means coming back to the clinic. But we are actually trying to move more towards the IGRAs.

Let's say the patient goes to a TB clinic where they're going to be screened. The way the TB clinics are made here in the United States, so there is UV light that kills the microbacterium, they have special HEPA filters so you're not gonna acquire the TB at the TB clinic.

Dr. Turck:
Before we close, Dr. Woc-Colburn, do you have any added thoughts or takeaways that you'd like to share on this topic?

Dr. Woc-Colburn:
Any patient starting a biological should have a screen for latent TB, preferably with an interferon-gamma release assay, second part having the baseline serology for mycosis, having a hepatitis B and C panel and an HIV test.

If the latent TB the IGRA come back positive, send them to your infectious disease specialist so we can start treatment. And we want to at least have one month of treatment before starting the biological because that's where we know that is the least that is gonna reactivate while being on that biological.

Dr. Turck:
Well that's a great way to end our discussion. I want to thank Dr. Laila Woc-Colburn for sharing her perspective on TB testing in patients initiating biologic therapies. Dr. Woc-Colburn, it was great speaking with you today.

Dr. Woc-Colburn:
Thank you for having me.

Announcer:
This was *Tackling TB,* sponsored by Qiagen. To access this episode and others from *Tackling TB,* visit ReachMD.com/tackling-tb, where you can Be Part of the Knowledge. Thanks for listening!