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QuantiFERON-TB Testing for Latent Tuberculosis Infection in Low-Prevalence Countries: Making the Most of an Imperfect Process

To the Editor—The commentaries of Gandra et al[1,2] and Joshi et al[3,4] reflect the experiences that we have also had with QuantiFERON-TB Gold (QFT-G)[5] and then with QuantiFERON-TB Gold In Tube (QFT-GIT).[6] During initial testing of selected new hospital employees as well as subsequent annual testing for tuberculosis, conversions and reversions have occurred with surprising frequency among those employees with high negative values and those with low positive values. Because of our concerns about broadly replacing the time-tested, if itself imperfect, tuberculin skin test (TST), we have restricted the use of interferon gamma release assay (IGRA) testing to hospital employees who are TST-positive, BCG vaccine recipients. This itself eliminates one of the concerns cited by Joshi et al,[4] that of deciding what to do about those with positive IGRA and negative TST results.

Initially using QFT-G, we found that only 13.5% (29/215) of our TST-positive, BCG recipient new employees tested positive.[7] This increased to 30.2% (38/126)[6] when we introduced QFT-GIT and now hovers between 23% and 24% (70/302), as would be anticipated with a reportedly more sensitive test.[8] However, it is important to recognize that by virtue of adding IGRA testing to the TST, we have reduced the percentage of those to whom we offered treatment for latent tuberculosis infection (LTBI) by more than 70%. This is important in addressing a multinational and urban employee population such as ours, with nearly one-quarter of our new employees testing tuberculin positive.

In addition to or in place of repeat testing,[3] one can also emphasize clinical judgment more decisively in determining whether to propose treatment for those with borderline positive IGRA results. Thus, factors such as suggestive chest x-ray findings, relative youth, recent immigration from a tuberculosis-endemic area, and coincident illnesses or treatment programs wherein TB is either more frequent or more threatening serve as inducements, while advanced age and slight liver function abnormalities act as constraints. Additionally, a decisively positive IGRA test result or a confirmed more modest response can reinforce both the practitioner and the patient in advancing LTBI treatment plans. Thus, this test process, while still imperfect in the context that we use it, offers distinct advantages over TST testing alone.

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