LETTERS TO THE EDITOR

QuantiFERON-TB Test for Annual Screening of Healthcare Workers: Not Yet Ready for Prime Time in Low-Prevalence Countries

To the Editor—We read with great interest the recently published article by Gandra et al[1] that questions the effectiveness of the QuantiFERON-TB Gold In-Tube (QFT-GIT) test (Cellestis) as a screening tool to detect latent tuberculosis infection (LTBI) for healthcare workers (HCWs). We agree with their conclusion that QFT-GIT is not yet completely ready to replace the tuberculin skin test (TST) for screening HCWs in low tuberculosis-incidence countries, considering the high number of positive test results and high reversion rates on repeat testing.

Our practical experience[2] with the QFT-GIT test showed similar results and presented challenges very similar to those mentioned in the study by Gandra et al.[1] Annual screening of HCWs for LTBI with TST was the standard infection control practice in our institution (Central Arkansas Veterans Healthcare System, Little Rock, AR) for many years. In November 2008, our hospital replaced the TST with the QFT-GIT test for employee testing as well as for screening patients for tuberculosis infection and/or disease. We were confronted with an unexpectedly high number of new converters (more than 20-fold higher than baseline), which led to the dilemma in clinical decision making of whether to offer LTBI treatment since all of these new QFT-GIT converters had a negative TST history. In addition, we encountered high reversion rates (40%) on repeat QFT-GIT testing, similar to the study by Gandra et al,[1] and support the concern about poor short-term reproducibility of QFT-GIT results in serial testing.

Gandra et al[1] raised in their discussion the question of using a higher cutoff value for a positive QFT-GIT test result, given the low prevalence of tuberculosis in the United States. We disagree, however, with raising the cutoff values for a positive test result, for many reasons. There is an overlap among the initial interferon-γ values in HCWs who reverted to negative status and those who retained positive status in our study as well as in the study by Gandra et al.[1] Without a gold standard for the diagnosis of LTBI, it is difficult to differentiate false positive QFT-GIT results from true positive results. To address this problem we suggest adopting a borderline zone between IFN-γ values of 0.35 and 2.0 IU/mL and cautious clinical interpretation of values in this range. Repeat testing with QFT-GIT should be considered for HCWs whose IFN-γ values are in the "borderline" range and whose TST status is negative.

However, we do agree completely with Gandra et al[1] that there is a major clinical learning curve ahead to fully understand the QFT-GIT test characteristics in low tuberculosis-prevalence populations. More studies need to be performed to know and understand characteristics of QFT-GIT as a screening tool in this population with a low prevalence of tuberculosis.

We hope that our large study and practical experience with QFT-GIT in the real world, along with the study by Gandra et al,[1] will help many healthcare organizations that are facing the same challenges that we encountered when TST was replaced by QFT-GIT for annual screening for LTBI. It will also guide the institutions who are in the process of implementing QFT-GIT testing.

ACKNOWLEDGMENTS

Potential conflicts of interest. All authors report no conflicts of interest relevant to this article.

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Infect Control Hosp Epidemiol 2011;32(5):518-518

 0899-823X/2011/3205-0018$15.00. DOI: 10.1086/659956

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2. Joshi M, Monson T, Woods G. Practical experience with the QFT-GIT assay for LTBI annual testing among US health-care workers in a large tertiary setting. *Chest* 2010;138:746A.

Reply to Joshi et al

To the Editor—We are pleased that Joshi et al[1] report similar outcomes in their recent study[2] validating our findings.[3] This strengthens the evidence that the QuantiFERON Gold In-Tube test (QFT-GIT; Cellestis) is not yet ready for screening healthcare workers (HCWs) for latent tuberculosis infection (LTBI) in the United States.

Coming to the proposal of the borderline zone, we are in

agreement with Joshi et al.[1] In our article[3] we did not mention our clinical decision making for positive values near the cutoff value. Many of our clinical decisions were treated with caution when interpreting interferon-γ values in the range of 0.35 and 1.0 IU/mL. At our center, we suggested repeating the testing with QFT-GIT if the result was between 0.35 and 1.0 IU/mL.

The next question would be, What is the upper limit for the borderline zone? Herrera et al[4] did a study looking at the probability of a positive result if the QFT-GIT test is repeated. The data showed that if the interferon-γ value is between 0.35 and 0.7, the probability is 60%; if 0.7 to 1, it is 75%; if 1 to 2, it is 80%; and if greater than 2, it is 99%. With this data we agree to have a borderline zone between 0.35 and 2 IU/mL.

Our concept for proposing to raise the cutoff value for low-risk groups is similar to tuberculin skin test cutoff values for different risk populations. This possibility should be determined by future studies. At the present time we agree that a borderline zone of 0.35 to 2 IU/mL can be considered with cautious clinical interpretation when QFT-GIT is used for screening HCWs in low tuberculosis-prevalence areas.

ACKNOWLEDGMENTS

Potential conflicts of interest. All authors report no conflicts of interest relevant to this article.

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Infect Control Hosp Epidemiol 2011;32(5):518-519
 0899-823X/2011/3205-0019$15.00. DOI: 10.1086/659957

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Consistency versus Accuracy in Reporting Central Line–Associated Bloodstream Infections

To the Editor—The commentary by Sexton et al[1] reflects the sentiment of our infection prevention department. We believe that accuracy, based on sound clinical judgment, is important. Consistency that results in inaccurate data is counterproductive.

The goal of absolute consistency in reporting central line–associated bloodstream infections (CLABSIs) may well be unattainable. Some subjective judgment is inevitable, but it may often result in a judgment that is more clinically accurate.

In our institution, when a patient has (1) obvious signs or symptoms of infection at a site other than the blood but no positive culture result and (2) one or more culture-positive blood samples and (3) a central line, then we designate the blood infection as secondary to the infected site. This approach has been approved by our hospital epidemiologist and our infection prevention committee. We also acknowledge instances of probable translocation.

With respect to skin contaminants, we have often had a culture-positive blood sample, not only with *Enterococcus* but also with a variety of other organisms that are known pathogens, without any concomitant signs or symptoms of sepsis. Consequently, we believe that essentially any organism could be a skin contaminant.

Credibility increases if clinicians perceive that data are based on sound clinical judgment. The designation of "indeterminate source" as proposed by Sexton et al[1] would result in CLABSI data that are both more consistent and more accurate. In addition to improving the quality of CLABSI data, adding an "indeterminate source" category would also allow better epidemiologic studies of these indeterminate patients, including determining who is at risk, thereby enabling us to legitimately broaden our understanding of what constitutes a potential contaminant.

ACKNOWLEDGMENTS

Potential conflicts of interest. Both authors report no conflicts of interest relevant to this article.

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