Clinical Practice Assessment  
Tuberculosis testing

Clinical Question  
How do interferon-γ release assays (IGRAs) compare with the tuberculin skin test (TST) for the diagnosis of active and latent Mycobacterium tuberculosis infection?

Bottom Line  
Neither IGRAs nor TSTs should be used to diagnose active (symptomatic) infection where direct microbiological testing is the appropriate strategy.

For diagnosis of latent (asymptomatic) M. tuberculosis infection (LTBI) both tests are recommended depending on the guideline and the specific clinical scenario encountered.

- For screening high risk individuals the Madison Public Health Department uses an IGRA test.
- For low risk individuals a “dual strategy” (an IGRA only after a positive TST) has been reported to be more cost effective than an IGRA.
- For patients before initiation of biologic therapy screen with either IGRA or TST
- For patients on biologic therapy retest only if there are additional risk factors for TB exposure e.g. travel to endemic areas, personal contact etc.

If retesting is indicated IGRA may be the more sensitive test.  
(Strength of Recommendation-Grade C)

Synopsis  
Diagnostic sensitivities of IGRAs (QuantiFERON-TB Gold In-Tube - QFT-G-IT - and the T-SPOT TB assay) are higher than that of TSTs, but they are still not high enough to rule out TB in symptomatic patients and they are not recommended for diagnosing active TB.

For screening of individuals who have previously received the BCG vaccine (false positive TSTs), and/or may be anergic (false negative TSTs) IGRAs are more accurate than TSTs.

Both the QFT-G-IT and the T-SPOT have high negative predictive values for progression to active TB within 2 years (99.8% and 97.8%, respectively). In the US the CDC recommends that IGRAs can replace TST in all settings whereas in the UK, National Institute for Health and Clinical Excellence (NICE) recommends the use of IGRAs using a dual testing strategy, where IGRA is only performed on individuals who have a positive TST result or prior BCG vaccination. The dual screening strategy has been reported as the more cost-effective approach.
For complicated situations, NICE guidelines (http://www.nice.org.uk/nicemedia/live/13422/53642/53642.pdf) recommend referral to an infectious disease specialist.²

Sources


5. Pooran A et al. Different screening strategies (single or dual) for the diagnosis of suspected latent tuberculosis: a cost effectiveness analysis. BMCX Pulmonary Medicine 2010; 10:7 http://www.biomedcentral.com/1471-2466/10/7


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