

COMPARISON OF TUBERCULIN SKIN TEST AND INTERFERON- γ RELEASE ASSAYS FOR DIAGNOSIS OF LATENT TB INFECTION AMONG HIV+ PERSONS.

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AIMS: There are limited data on the use of interferon- γ release assays (IGRAs) for diagnosing LTBI among HIV + individuals.

METHODS: We carried out a cross-sectional study to assess the use of two IGRA assays [QuantiFERON-TB Gold in Tube (QFT-G) and T-SPOT.TB (TSPOT)] and compared them to the tuberculin skin test (TST) for diagnosing LTBI at two urban HIV clinics in Atlanta.

RESULTS: 706 HIV+ patients were enrolled. All had blood drawn for QFT-G and a TST placed; 338 patients also had a TSPOT performed. 69% of patients were male, 80% African American; 9% born outside the US, 7% BCG vaccinated. Mean age was 41 years, and mean CD4 count was 350/ μ l. 20 (2.8%) of 706 patients had a positive TST and 32 (4.5%) had a positive QFT-G (4 patients had positive results for both tests). Among the 338 patients in whom all 3 tests were performed, 29 patients (8.7%) had at least one positive test and 3 patients had more than 1 positive test. 6 [2%] had a positive TST; 10 [3%] a positive QFT-G and 17 [5%] had a positive TSPOT by Elispot reader (31 by visual reading). Agreement, beyond chance, between the three tests was poor [QFT-G and TST κ = 0.16 (95%CI 0.018-0.32), TSPOT and TST κ =0.08 (95% CI -0.1-0.3), and QFT-G and TSPOT κ =0.07 (95% CI -0.02-0.17)]. 33 (4.6%) of 706 patients had an indeterminate QFT-G test, and 27 (9.3%) of 338 patients had an indeterminate TSPOT. In multivariate analysis, patients with a CD4 count <200/ μ l were more likely to have an indeterminate test result [TSPOT: OR=3.4 (95%CI 1.5- 7.4); QFT-G: OR 3.92 (95% CI 1.8-8.6)].

DISCUSSION: There was poor concordance between the three diagnostic tests for LTBI in HIV+ individuals with few patients testing positive for more than one test. Indeterminate IGRA results were more likely to occur among persons with increased immunosuppression (CD4<200).