

Rates of Latent Tuberculosis Infection Using Different Diagnostic Tests.

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Background. The interferon- γ -release assays (IGRA) are emerging as an attractive alternative to the tuberculin skin test (TST) for the diagnosis of latent tuberculosis infection (LTBI). The absence of a gold standard for LTBI hampers the assessment of any diagnostic test.

Methods. In a prospective study, 229 patients (mean age 35.5±24.6 y) from different ward of the Hospital (Respiratory Diseases, Dermatology, Rheumatology, Pediatrics, Infectious Diseases, Hematology and Transplant Unit) were simultaneously tested for a suspect of either LTBI or active tuberculosis using all commercially available diagnostics: TST, QuantiFERON-TB Gold (QFT-2G), QuantiFERON-TB Gold In-Tube (QFT-3G) and T-SPOT.TB (TS.TB).

Results. 42 (18.3%), 37 (16.2%), 59 (25.8%) and 79 (34.5%) patients were positive with TST, QFT-2G, QFT-3G and TS.TB, respectively. TS.TB ($p < 0.001$) and QFT-3G ($p = 0.016$) provided more positive results than TST, while no difference was found for TST and QFT-2G ($p = 0.53$). All IGRA showed a good overall agreement (TS.TB vs QFT-2G, $k = 0.55$; TS.TB vs QFT-3G, $k = 0.72$; QFT-2G vs QFT-3G, $k = 0.62$). In 22 subjects (9.6%) QFT-3G was positive and QFT-2G negative. Indeterminate results were more frequent with QFT-2G (18.3%) and QFT-3G (12.7%) than with TS.TB (1.3%, $p < 0.0001$).

Conclusion. Rates of LTBI as detected by different diagnostic tests may have significant variations. Performances of various IGRA formats were variable in this population.

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