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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