

Preliminary Study on the Diagnostic Performance of T-spot. TB Assay for Tuberculosis

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Tuberculosis (TB) is a prevalent infectious disease in Sri Lanka with an estimated incidence of 65/100,000 new cases every year. Early and accurate diagnosis is critical for the care of TB patients and for controlling transmission. Interferon- γ release assays (IGRAs) have emerged as an immunodiagnostic tool to detect TB infection. T-spot.TB blood test is a commercially available IGRA which measures the number of IFN- γ -secreting T cells via an enzyme-linked immunoSpot (ELISPOT) assay. This study was conducted, recruiting 24 patients with suspected pulmonary TB to evaluate diagnostic performance of T-spot assay against TB infection. Microbiological examinations of three sputum smears, one sputum culture and TB PCR were performed for each patient. Of the 24 patients, 14 confirmed TB, 3 non-TB and 7 were indeterminate from the T-SPOT.TB test. Out of the indeterminate test results (ITRs) 71.43% were above 50 years, indicating a declining immune response with age. When excluding ITRs, the sensitivity & specificity of the T-SPOT.TB was 93.33% and 100% respectively, considering the culture results as the gold standard. Moreover, there were 50% of Diabetes patients among T-SPOT.TB positive group. Diabetes is a known cofactor for TB infection. In conclusion, T-SPOT.TB test is faster than the conventional culture results even though it is less sensitive and more expensive. Another limitation is the high ITRs for some patients. Therefore, it may not be a suitable diagnostic tool for TB infection, but it is used overseas to identify latent TB infections. Further testing is required for the use of the T-SPOT.TB test in Sri Lanka before adaptation.

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