

## COMPARISON OF TWO IFN- $\gamma$ ASSAYS IN FOLLOW-UP OF THERAPY OF TUBERCULOSIS AND PREVENTIVE TREATMENT

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**Purpose of the study.** Two commercial assays, detecting Interferon- $\gamma$  production by T-cells stimulated with tuberculosis antigens, are available for diagnosing active and latent tuberculosis infection (LTBI): T-SPOT.*TB* (Oxford-Immunitec) and QuantiFERON TB-GOLD In-Tube (Cellestis) (QFT). Both assays give a quantitative result: T-SPOT.*TB* in Spot Forming Cells (SFC), QFT in IU/mL. The aim of this work is to assess their response to anti-tuberculosis therapy and preventive treatment (PT) in a head-to-head comparison.

**Methods.** We enrolled 30 patients: 19 with LTBI taking PT and 11 patients with active disease. Blood samples were taken before the beginning (time 0) and at completion (time 6) of the appropriate treatment.

**Results.** Tests performed on the 11 active tuberculosis patients at time 0 were positive in 8 cases with T-SPOT.*TB* and in 7 for QFT; at time 6, 4 cases turned out negative with both assays (50% and 57.1%, respectively), in 2 cases a clear decreasing of the number of spots and of interferon- $\gamma$  was observed.

In LTBI patients, 17 resulted positive with T-SPOT.*TB* and QFT. The tests performed at time 6 showed a negative result in 41.1% of cases with T-SPOT.*TB* and in 58.8% with QFT; 8 cases showed a decrease in SFC and 6 a lower interferon- $\gamma$  production.

**Conclusion.** The overall rate of negativization was poor (50%), suggesting that the "end of therapy" time point could be too early for demonstrating a clear response to therapy.

In our population, T-SPOT.*TB* and QFT showed a similar rate of negativization in the follow-up sample for patients with active tuberculosis, while there was a slight difference among the two assays in patients under PT.

Interestingly, almost 90% of people treated had a decrease in the evaluated parameter, suggesting their possible use in evaluating the response to therapy and a possible negativization in a sample taken at longer time.