

**Discordant QuantiFERON®-TB Gold In-Tube and tuberculin skin test results in various high-risk groups**

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**Objective:** To retrospectively evaluate QuantiFERON®-TB Gold In-Tube (QFT-GIT) for the diagnosis of latent tuberculosis infection (LTBI) comparing with tuberculin skin test (TST) in a low endemicity tuberculosis area. **Methods.** To determine QFT-GIT, 1751 whole blood samples were collected from 778 men (44.4%) and 973 women (55.6%), mean age  $45.7 \pm 17.7$  years (range, 1-94), belonging to following categories: A. Patients with active microbiology tuberculosis (TB) (2% of total); B. Close contacts (11.4%); C. Patients with suspicious clinical and/or chest X ray (15.2%); D. Human immunodeficiency virus (VIH) patients or those receiving immunosuppressive therapy (49.3%); E. Healthcare workers (22%). QFT-GIT was performed according to the manufacturer specifications. TST was performed in 458 patients and positive PPD was defined as indurations larger than 5 mm. Agreement between QFT-GIT and TST was assessed by the kappa index in the same samples (N=458). **Results.** Globally, QFT positive results were 141/458 (30.8%) cases, being 75%, 45.2%, 41.4%, 29.3% and 18.2% by category (A, B, C, D and E, respectively). TST were positive in 151/458 (32.7%), being 50% (A), 34.4% (B), 41.4% (C), 25.7% (D) and 38% (E). In a logistic regression model, the following variables were independently associated with a QFT-GIT positive result: Age  $\geq 51$  years (OR 2.0, 95%CI 1.2-3.4,  $p=0.001$ ), Group A (OR 22.7, 95%CI 3.4-150.0,  $p=0.001$ ), Group B (OR 6.6, 95%CI 3.0-14.1,  $p<0.001$ ), Group C (OR 3.0, 95%CI 1.1-8.9,  $p=0.037$ ), Group D (OR 3.0, 95%CI 1.5-6.0,  $p=0.002$ ) and TST positive result (OR 11.0, 95%CI 6.4-19.0,  $p<0.001$ ). Table 1 shows the concordance by categories. **Conclusions.** QFT-GIT is a highly useful method for diagnosing TB in contrast to TST. With our data, the higher agreement between methods was observed in clinical or X-chest tuberculosis suspicious patients, being moderate in HIV-infected persons and those receiving immunosuppressive therapy. In contrast, a poor agreement was observed in health workers. Thus, QFT-GIT reduces over diagnosis of LTB avoiding unnecessary chemoprophylaxis.

<b>Category</b>	<b>N</b>	<b>Q+ T-</b>	<b>Q- T+</b>	<b>kappa</b>	<b>IC 95%</b>	<b>Sig</b>
<b>Global</b>	460	49 (10.7%)	56 (12.2%)	0.47	0.39 – 0.56	<0.001
▪ A	8	2 (25.0%)	0 (0.0%)	0.50	-0.02 – 1.00	NS
▪ B	96	20 (22.0%)	9 (9.9%)	0.35	0.16 – 0.53	0.001
▪ C	29	1 (3.4%)	1 (3.4%)	0.86	0.67 – 1.00	<0.001
▪ D	191	21 (11.0%)	14 (7.3%)	0.54	0.41 – 0.67	<0.001
▪ E	137	5 (3.6%)	32 (23.4%)	0.36	0.21 – 0.51	<0.001

**Table 1**