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Title: Quantiferon-TB Gold in tube assay for detecting latent TB infection in immigrants and TB contacts

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Body: Recently, interferon-gamma release assay are used to discriminate potential infection and prior vaccination with BCG. The aim of this study was to compare the level of agreement between TST and Quantiferon-TB Gold in tube assay (QFT) in exposed contacts of active tuberculosis in a French area with TB low incidence and in immigrants from countries of high incidence. A total of 837 adults (mean age, 36 years) exposed to LTBI by recent contact or recent migrants were enrolled. TST was considered positive with a cut-off of 10mm and QFT test was positive for a cut-off 0.35 IU/ml. In all population (n=837), 413 subjects (49%) had a positive TST result and 251(30%) had a positive QFT result with a kappa concordance test: 0,32. In recent migrants from North or sub-Saharan Africa or ex-USSR (n=451), 137 (43%) participants had a positive TST and 194 (39%) had positive QFT result, with Kappa concordance test of 0,56. In recent TB contact participants, 195 (58%) had a positive TST and 64 (19%) had a positive QFT result with a Kappa concordance test of 0.08. Overall agreement between the TST and QFT was significant only in immigrants from area with high prevalence of TB. In TB contact subjects, the low concordance is explained by prior BCG vaccination in French population. Our study is limited to one-centre recruitment but it is pertinent to compare subjects from low to high incidence area of TB. Published studies are confirmed the advantage of interferon-gamma release assays over the TST to detect latent TB infection. Nevertheless, prior BCG vaccination and patient origin from low or high prevalence countries could be specified.