

## Original Paper

# The degree of agreement of quantiferon TB gold test and tuberculin skin test in nurses

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## Abstract

**Background and Objective:** Tuberculin skin test (TST) is the standard method for diagnosis of latent tuberculous infection. Positive results of TST (significant induration) may be seen in persons with latent M.tuberculosis infection and negative results of this test may be seen in patients with active tuberculosis. After performing TST false positive reactions may be seen with nontuberculous mycobacterial infections or false negative results may be encountered in anergic patients with tuberculosis disease. Quantiferon TB Gold test (QFT) is a new diagnostic test which assays the amount of released interferon gamma from peripheral blood lymphocytes in response to M.tuberculosis antigens. The purpose of this study was to determine the degree TST and QFT correlation.

**Materials and Methods:** This descriptive study carried out on 72 nurses of two internal medicine and infectious diseases wards of Imam Reza and Imam Khomeini hospitals in Kermanshah located in West of Iran, during 2009. 58 of nurses were vaccinated with BCG vaccine and none of them had any immune compromising condition. TST was performed by intradermal injection of 0.1 ml of standard tuberculin test (5 TU) and QFT was performed 48 hours then after using peripheral whole blood. The amount of released interferon gamma from lymphocytes in response to antigens were measured by ELISA method.

**Results:** Three of nurses excluded and this study was done on 69 nurses. Overall the degree of agreement of TST and QFT was 63.7% (P=0.69 and Kappa=0.139). The degree of discordance between these tests in PPD negative but QFT positive persons was 15.94% and in PPD positive but QFT negative persons was 20.3%. The sensitivity and specificity of QFT was 41.67% and 75.56% respectively. The degree of agreement of TST and QFT in vaccinated and unvaccinated nurses was 63.8% (Kappa=0.143) and 66.67% (Kappa=0.54) respectively.

**Conclusion:** There was no significant difference between QFT and TST in diagnosing latent tuberculous infection.

**Keywords:** Latent tubeculous infection, Quantiferon TB gold test, Tuberculin skin test

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