THE OBERSCHLEISSHEIM MODEL: INTERFERON-γ RELEASE ASSAY VERSUS TUBERCULIN SKIN TESTING DURING CONTACT INVESTIGATION

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Purpose of the Study: Until recently tuberculin skin testing was the only method for the diagnosis of latent *Mycobacterium tuberculosis* infection. However, false positive and false negative results are common, i.e. due to previous BCG vaccination or immunodeficiency, respectively. Recently, novel in vitro assays have become available which measure cell mediated interferon γ release after stimulation with mycobacterial protein antigens like ESAT-6, CFP-10 und TB7.7(p4), which are absent in all BCG strains and in the majority of non-tuberculous mycobacteria. The aim of this study was to evaluate a interferon γ release assay in patients with suspected latent tuberculosis identified during contact investigation.

Materials and Methods: Blood samples from patients with positive Mendel - Mantoux tuberculin skin tests taken during contact investigation were analysed using the QuantiFERON TB Gold in Tube kit (Cellestis Inc., Carnegie, Australia). BCG vaccination, immigration history and travel status as well as the presence or absence of immunosuppression were recorded using a standardized questionnaire.

Results: In 2007 we analysed 202 blood samples from patients with positive tuberculin skin tests performed during contact investigation. 146 of these had a history of BCG vaccination, 48 showed positive interferon γ release tests.

Conclusion: Only 24 % of the patients with positive tuberculin skin tests showed interferon γ release. Due to its higher specificity the investigated assay has the potential to avoid unnecessary diagnostic workup and unnecessary chemoprophylaxis. A preliminary cost benefit analysis showed that the costs of applying this test in contact investigations are outweighed by the benefit due to reduction of patient visits, of the number of chest x-rays and of the prevented costs of chemoprophylaxis.