

European Respiratory Society Annual Congress 2012

Abstract Number: 4859

Publication Number: 1875

Abstract Group: 10.2. Tuberculosis

Keyword 1: Biomarkers **Keyword 2:** Tuberculosis - diagnosis **Keyword 3:** Immunosuppression

Title: Evaluation of the QuantiFERON-TB Gold in tube cut-off for diagnosing tuberculosis in HIV-infected and non-HIV infected individuals

Ms. Line Lindebo 30265 Holm lineholm@hotmail.com¹, Ms. Martine G. 30266 Aabye maabye@gmail.com MD¹, Ms. Pernille 30267 Ravn pravn@gmail.com MD² and Mr. Morten 30268 Ruhwald mruhwald@gmail.com MD¹. ¹ Clinical Research Centre, Hvidovre Hospital, Hvidovre, Denmark, 2650 and ² Dept. of Infectious Medicine, Odense University Hospital, Odense, Denmark, 5000 .

Body: Background The QuantiFERON-TB Gold In tube (QFT) is used for diagnosing tuberculosis (TB) infection. But the test has compromised sensitivity in HIV infected patients. This study assesses if the diagnostic accuracy of the QFT test can be improved by adjustment of the cut-off for a positive test in HIV-positive individuals. Materials and methods: This case-control study pools data from three cohorts from Tanzania and Denmark. Cases were 72 HIV-positive and 94 HIV-negative Tanzanian patients with confirmed TB. The control-groups comprised 389 HIV-positive patients and 305 healthy Danish high-school students with no known risk factors for TB. Potential cut-offs were determined by ROC curve analysis. Results HIV infected TB patients had lower responses to M.tuberculosis antigens compared to non-HIV infected TB patients, median 0.9IU/ml (IQR 0.1-0.9) vs. 1.5IU/ml (IQR 0.6-1.5) ($p < 0.04$). In the groups of HIV non-infected; ROC curve analysis suggested that by reducing the cut-off from 0.35 to 0.135 IU/ml sensitivity could be increased from 79.8% (CI: 70.3-87.4) to 87.2% (CI: 78.8-93.2) without a major loss of specificity (specificity= 98.0% (CI: 95.8-99.3)). We were not able to demonstrate a similar effect among the HIV-infected as the increase in sensitivity occurred at a high compromise in specificity (from 98.1 to 94.3%). Conclusion In line with previous studies the QFT had poor sensitivity in HIV-infected. The diagnostic sensitivity improved in both HIV-negative and -positive by lowering the cut-off, but specificity was significantly compromised in HIV-positive non-exposed Danish controls compromising the benefit of this approach to improve the QFT test.