THE USE OF A NEW *IN VITRO* LABORATORY TEST FOR THE DIAGNOSIS OF LATENT TUBERCULOSIS

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Indroduction

The need for laboratory tests to diagnose latent tucerculosis (tbc) has increased in the present age of biological therapies. The serological QuantiFERON-TB Gold (USA) and the traditional Mantoux dermal tests are used now for this purpose. Both tests are based upon the release of interferon gamma induced by tbc peptides.

Aim: to study the diagnostic value of a new *in vitro* test for latent tbc based upon the release of tumor necrosis α (TNFα) induced by a suspension of 10 peptides specific for pathogenic tbc bacteria In parallel, this test was compared to the values of QuantiFERON (QF) and Mantoux (M) tests.

Patients

15 health care workers dealing with patients with tbc; 7 pateints with active treated tbc; 13 healthy controls.

Methods: a.) in the culture supernatants IL-1β, IL-6, IL-10, ***TNFα*** ELISA

b.) cell culturing: 1 ml heparinized blood
activators: LPS, PPD, tbc peptides
37^{o}C, 5% CO_2 20 hours

Positive result: tbc peptid induced TNFα pg/ml > 1.5x PPD TNFα pg/ml

Results

The values of coincidence were found as follows:
„TNFα –QuantiFeron": health care workers: 76.88; active patients: 85.7 %,
„TNFα – Mantoux" : health care workers: 66.66; active patients: 71.4 %
QuantiFERON –Mantoux: health care workers: 88.46; active patients:85.7%

Conclusions

1. 6 of the 15 heath care workers could be regarded to have latent tbc.
2. 4 of the 7 active treated tbc patients were positive by the TNFα test.
3. The TNFα measurements show a greater sensitivity to demonstrate a increased risk of active disease both in patients with latent and active tbc than the QuantiFERON and Mantoux tests.