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APPLICATION OF THE GEN-PROBE AMPLIFIED MTD TEST (*MYCOBACTERIUM TUBERCULOSIS* DIRECT TEST) IN THE DIAGNOSTICS OF TUBERCULOSIS

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SUMMARY

A commercially available set, the Gen-Probe amplified MTD test (*Mycobacterium tuberculosis* Direct Test; Gen-Probe Incorporated, 9080 Campus Point Drive, 92121 California, USA) has been applied for the detection of the *M. tuberculosis* complex in clinical material in parallel to direct microscopy and cultivation in liquid and solid growth media.

The method is based on the amplification of a specific 16 S rRNA segment. Detection of the amplified segment is facilitated by single-strand probes tagged with acridinium ester. Hybridization results are interpreted in RLU (Relative Light Unit) values and readings exceeding 30,000 RLU are considered positive, lower values being negative.

In all, there have been examined 69 samples of clinical material (35 sputums, 29 bronchoalveolar washings or bronchial aspirations, and 5 cerebrospinal fluids). As positive amplification controls served freshly cultured strains of *M. tuberculosis* and *M. bovis* BCG; negative controls were *M. gordonae, M. xenopi, M. kansasii,* and *M. terrae.*

Out of a total of 69 samples examined, *M. tuberculosis* was detected in 28 (40.7 %) cases by the Gen-Probe amplified MTD test, in 10 (14.5 %) cases by direct microscopy, and in 26 (37.7 %) cases by cultivation.

In samples from 8 patients *M. tuberculosis* was detected by just Gen-Probe amplified MTD test the results of cultivation and direct microscopy being negative. Culture-positive samples yielded no Gen-Probe amplified MTD test negative results.

The Gen-Probe amplified MTD test contributes significantly to the speeding up of diagnostics in tuberculosis because the results is obtainable within six hours. Under the conditions of this pilot study the results were termed as preliminary and collaborating physicians were advised to wait for cultivation results and their definite evaluation.

Key words: mycobacteria, *M. tuberculosis* complex, Gen-Probe amplified MTD test (*Mycobacterium tuberculosis* Direct Test)

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