

EVALUATION OF FOUR DIAGNOSTIC METHODS FOR TUBERCULOSIS IN A FIVE YEAR TIME PERIOD

S. Smilakou, D. Fourkas, A. Pantazatou, E. Tambouratzi, V. Heliadi , A. Avlami
Microbiology Department, Laikon General Hospital, Ag. Thoma 17, Athens , Greece

Aim of the study

Early diagnosis in tuberculosis is critical for the infection control. In order to compare the sensitivity and the time of diagnosis for each method, the Ziehl Nielsen (Z-N) stain, the conventional culture, a vial culture system and a molecular method, were evaluated in respiratory and non respiratory specimens from April 2002 to April 2007.

Methods and results

A total of 5473 specimens were examined (36.63% respiratory and 63.37% non respiratory). In all specimens were performed :1) Z-N stain 2) culture in Lowenstein Jensen (L-J) medium as reference method 3) Bactec 9000 MB vial system (Becton Dickinson, USA) 4) TMA molecular method (AMTB–Gene Probe). The overall positive specimens were 69 (1.26%). *M. tuberculosis* was detected in 64 (92.75%), *M. avium* in 3 (4.35%) , *M. chelonae* in 2 (2.9%). The sensitivity of Z-N was 45%. The conventional culture method (L-J) was positive in a meantime of 29 days in all specimens. The vial system gave positive result in a mean time of 17.15 days earlier than the conventional culture , with a sensitivity of 86% including all MOTT. The TMA molecular method was found positive in all 60 (86.95%) respiratory and gastric fluid specimens identified as *M. tuberculosis*.

Conclusions

1. Sensitivity of Z-N was found high
2. Vial system method gave positive results significantly earlier than culture
3. TMA molecular method used had a high sensitivity and one day results especially in respiratory specimens and only for tuberculosis complex
4. Culture method still remains the good standard of diagnosis