

Molecular Detection of Mycobacterium Other Than Tuberculosis among Patients with Pulmonary Infection

Mogahid M Elhassan, PhD* Al Wadah Y Eltikeina, BSc, MSc** Ramia M Saleh, BSc, MSc** Miskelyemen A Elmekki, PhD* Mohamed E Hamid, PhD***

Objective: Isolation of Mycobacterium other than tuberculosis (MOTTs) among patients with pulmonary infection and evaluation of the usefulness of polymerase chain reaction (PCR) as a confirmatory test.

Design: Descriptive laboratory based study.

Setting: National Health Laboratory (Stack), Elasha'ab Teaching Hospital, Abo Anga Hospital, Ebrahim Malek Hospital and Academy Charity Hospital.

Method: One hundred and seventy-one sputum samples were collected from suspected pulmonary tuberculosis patients, males and females with different ages. Informed consent was taken.

Sputum samples were inoculated on LJ medium and organisms were identified according to their Ziehl-Neelsen stain, cultural characteristics and biochemical proprieties. The rapidly growing isolates were subjected to PCR.

Result: In this study, males were found to be more affected than females 125 (73.1%). The patients between 21-50 years were the most affected with TB and NTM. On LJ medium, 40 (23.4%) of the isolates gave characteristic growth of *Mycobacterium tuberculosis* and were identified according to their Ziehl-Neelsen stain and cultural characteristic. Ten (5.8%) isolates were identified as rapid growers, 6 out of which were identified as MOTTs according to their indirect Ziehl-Neelsen stain, cultural characteristics and biochemical proprieties. On PCR, six of the ten rapid growers showed a band typical in size (136 bp) to target *rpoB* gene as indicated by the standard DNA marker.

Conclusion: The results revealed clearly the importance of conventional methods including Z.N stain and culture techniques in the diagnosis of TB and NTM. As well as it proved the effectiveness of PCR as a sensitive, specific and rapid diagnostic and confirmatory test.

1. *Bahrain Med Bull* 2011; 33(2):

