

Detection of Isoniazid and Rifampin Resistant Strain of *Mycobacterium Tuberculosis* Isolated from patients in Golestan province (North of Iran)

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Abstract

Background and objectives: With almost nine million new cases each year, tuberculosis is still one of the most Life-threatening diseases in the World. Distribution of drug resistant strains of *M.tuberculosis* has a lot of importance. This research was carried out to determine the frequency of drug resistance of *M. tuberculosis* in strains isolated in Golestan province.

Material and Methods: In this cross -sectional study, 104 isolate of *M.tuberculosis* which isolated from patients referred to Gorgan tuberculosis Health Center, in 2008 were studied. DNA was extracted by Boiling Method. By using PCR method, we determine the *M.tuberculosis* strain and resistance to Rifampin (Using IS6110 and Gene *rpoB* primers) and resistance to Isoniazid (Using *InhA* and *KatG* primers). As a Gold Standard, "Proportional method" was performed for 45 Samples.

Results: 87 strains were identified as *M.tuberculosis*. 6.9% of them were resistant to Isoniazid, 4.6% to Rifampin and 2.3% to both (MDR). Sensitivity and Specifity of PCR method in detection of resistant to Isoniazid were 95.3% and 57.1%; and for Rifampin were 94.7% and 33.3%.

Conclusion: We found that in our region, the MDR is not very common. More than 16% of isolated strains from tuberculosis suspected patients were MOTT, for this reason it is necessary to mention that use biochemical or PCR method to determine *M.tuberculosis* is necessary.

Key words: *Mycobacterium tuberculosis*, MDR, PCR, Proportional method , Golestan province.