

**RESISTANCE OF *MYCOBACTERIUM TUBERCULOSIS* ISOLATES
ON THE ISLAND OF CRETE, GREECE**

I. K. Neonakis¹, Z. Gitti¹, M. Baritaki¹, I. S. Kourbeti², E. Petinaki³, S. Maraki¹, K. Dimoulas¹, E. Tsamis¹, S. Bazigos, E. Krambovitis⁴, D. A. Spandidos¹

1. Mycobacteriology Laboratory, Department of Clinical Bacteriology, Parasitology, Zoonoses and Geographical Medicine, University Hospital of Heraklion, 71201 Heraklion, Greece
2. Department of Internal Medicine, University Hospital of Heraklion, 71201 Heraklion, Greece
3. Department of Microbiology, School of Medicine, University of Thessaly, 41222 Larissa, Greece.
4. Microbiology and Parasitology Laboratory, Department of Veterinary Medicine, School of Health Sciences, University of Thessaly, 43100 Karditsa, Greece

Purpose: To assess resistance of *Mycobacterium tuberculosis* isolates on the island of Crete.

Methods: The resistance rates of 155 *M. tuberculosis* isolates from different patients, obtained over a 7-year period (2000-2006) on the island of Crete, to a panel of anti-tuberculosis drugs (ATD), were determined with the proportions method. The ATD tested were: isoniazid (0.2 µg/ml; INH), rifampicin (40 µg/ml; RMP), streptomycin (10 µg/ml; SM), ethambutol (3 µg/ml; EMB), and para-aminosalicylic acid (1 µg/ml; PAS). Statistical analysis was performed with the Pearson Chi-square test using the SPSS 11.5 software.

Results: Among the 155 patients, one hundred and twenty two were Greeks (78.7%) and 33 were immigrants (21.3%). A total of 137 patients (88.39%) were susceptible to all ATDs tested. The overall resistance rates were: INH: 5.81%, RMP: 0.64%, SM: 9.03%, EMB: 0.64% and PAS: 0.64%. There was only one Multi-Drug Resistant strain (0.64%). The resistance rates separately for the Greek and non-Greek patients were: INH: 4.09% vs 12.12%, RMP: 0.0% vs 3.03%, SM: 5.74% vs 21.21%, EMB: 0.82% vs 0.0% and PAS: 0.0% vs 3.03%. A statistical significant difference between the rates of SM for Greeks and immigrants was noticed ($p=0.006$). Based on isolation date, the isolates were divided into two groups: group A included the initial 78 isolates and group B included the remaining 77 isolates. A statistically significant increase of the resistance ratios was noticed for both INH [from 3.85% (3/78) to 7.79% (6/77), $p=0.046$] and SM [from 6.41% (5/78) to 11.68% (9/77), $p=0.036$].

Conclusion: similar resistance rates were found compared with those reported by major Western European countries. The level of resistance to SM among the immigrants was significantly higher than that of the indigenous population. A significant increase in the overall resistance ratios to INH and SM was found over time.