

Susceptibility of *Mycobacterium tuberculosis* and nontuberculous mycobacteria to kanamycin and amikacin

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OBJECTIVES: The evaluation of effectiveness of second line agents against mycobacterial isolates has become more important in the past few years predominantly due to the appearance of multi drug – resistant tuberculosis. The aim of this study was to investigate the in vitro susceptibility of resistant *M. tuberculosis* (MT) and nontuberculous mycobacteria (NTM) to some second line anti – mycobacterial agents. **Methods:** In this study, in-vitro activity of kanamycin and amikacin against 90 MT and 10 NTM strains were investigated by proportional method. **Results:** Of 90 MT strains, 40 isolates were found to be resistant and 50 isolates were susceptible to first line drugs. All of 10 NTM strains were found to be resistant to first line drugs. H37RV MT (susceptible to all drugs) was used as a control. Of 90 *M. tuberculosis* isolates, %13 of strains were found to be resistant to kanamycin and %5 of strains were resistant to amikacin. Of 90 MT isolates, 29 strains were resistant to streptomycin, 8 strains to kanamycin and 3 strains were found to be resistant to amikacin. Of 10 NTM isolates, 8 strains were resistant to kanamycin and amikacin. **Conclusion:** These findings show the usefulness of amikacin and kanamycin in the treatment of resistant tuberculosis in MT strains. Studies such as this investigation should be conducted regularly in order to help effectively TB control efforts.

Key words: *Mycobacterium tuberculosis*, nontuberculous mycobacteria, drug resistance, kanamycin, amikacin.

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($\mu\text{g/ml}$)

(Non Tuberculous Mycobacteria: NTM)

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AMK (μg/ml)		KAN (μg/ml)			
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I: Isoniazid, R: Rifampin, E: Ethambutol, S: Streptomycin, KAN: kanamycin, AMK: Amikacin, MT: Mycobacterium tuberculosis, NTM: Nontuberculous mycobacteria.

				NTM MT	
AMK (μg/ml)		KAN (μg/ml)			
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I: Isoniazid, R: Rifampin, E: Ethambutol, S: Streptomycin, KAN: kanamycin,
 AMK: Amikacin, MT: Mycobacterium tuberculosis, NTM: Nontuberculous mycobacteria, MDR: Multi Drug Resistant,

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7- References:

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