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First-line anti-tuberculosis drug resistance rates of *Mycobacterium tuberculosis* complex strains isolated from various samples: Two years retrospective study

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Introduction: Tuberculosis is still a threat to public health. Multi drug resistant (MDR: combined resistance to at least isoniazid and rifampicin) *Mycobacterium tuberculosis* complex (MTBC) strains are an emerging problem. The aim of this study is obtaining first-line anti-tuberculosis drug resistance rates of MTBC strains isolated from various samples from January 2013 to December 2014.

Methods: 3539 samples from 2021 patients were evaluated. 1845 (52.1%) of samples were sputum and the other samples were gastric lavage, urine, spinal fluid, tissue, other sterile body fluids and other respiratory samples. Decontamination procedure with N-acetyl-L-cysteine - sodium hydroxide method and culture with Löwenstein-Jensen media and BACTEC MGIT 960 system were applied. Separation between MTBC and Mycobacteria other than Tuberculosis was maintained by p-nitro-α-acetyl-amino-β-hydroxy propiophenone test and immune chromotographic test.

Results: 92 MTBC strains were isolated. 68(74%) strains were susceptible to all first-line anti-tuberculosis drugs, 24(26%) were resistant to at least one first-line drug. Isoniazid, rifampicin, ethambutol and streptomycin resistance rates were 20.6% (19), 3.2% (3), 5.4% (5) and 10.8% (10) respectively. MDR-MTBC rate was 3.26% (26) and one strain (1%) was resistant to all first-line drugs. 5 strains (5.4%) (Except MDR-MTBC) were resistant at least two drugs.

Conclusion: World Health Organization (WHO) 2014 Tuberculosis report notified that Turkey is in the segment of % 0-2.9 for MDR-MTBC. Although our results were a little high, lack of detailed patient information, methodology or hospital location of serving might be an explanation. By evaluating our previous reports from 2002-2014, the MDR-MTBC rate was 2.5%; which is compatible with WHO report.

Biography

Mustafa Guney has completed his specialty in Microbiology in Gulhane Military Medical Academy (GATA) in 2006. He has been Assistant Professor in department of Microbiology in the same academy since 2010. He is a Member of KLIMUD (Clinical Microbiology and Expertise Association in Turkey) and Turkish Microbiology Community (TMC). He is also studying on hospital infections, bio-security and bio-safety and is a Member of GATA infection control committee.

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