

Detection of ANT(2'')-Ia , APH(3')-VI , AAC(6')-Ib Genes in *Acinetobacter baumannii* Isolated from Clinical Specimens of Patients Admitted in High Risk Wards in Tabriz Hospitals and Their Relation to Integrons

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Background& Objectives: *Acinetobacter baumannii*, is one of the common etiological agents causing wide range of nosocomial and community acquired infections. Last decade has witnessed this organism to emerge as multidrug resistant worldwide and integrons have been largely responsible for the dissemination of resistance among them. To survey amikacin and gentamicin resistance mechanism in *Acinetobacter baumannii* collected from patients admitted to high risk wards in Sina and Imam hospitals and its relation to various class of integrons.

Methods: A total of 95 non duplicated clinical isolates of *Acinetobacter baumannii* collected over a period of 11 months were identified by standard phenotypic and genotypic (OXA -51 gene) methods. Antibiotic susceptibility for amikacin and gentamicin was performed by disk agar diffusion methods according to CLSI recommendations. PCR was performed for the detection of aminoglycoside resistance using primers towards ANT(2'')-Ia, APH(3')-VI, AAC(6')-Ib genes and class 1,2 and 3 integrons .

Results: On genotypic identification, 77 strains harbored both blaOXA-51-like and blaOXA23like genes, while 18 of them revealed only blaOXA-51-like. All isolates that were found resistant to at least 3 antibiotics. Around 90.5% and 87.4% of them showed resistance pattern toward amikacin and gentamicin respectively. Around 43%, 7.4% and 3.2% harbored ANT(2'')-Ia , APH(3')-VI, AAC(6')-Ib respectively. Class 1 integron was found in 47 and 46 strains revealing resistance to amikacin and gentamicin respectively. Interestingly 13 and 10 strains which showed resistance to amikacin and gentamicin, were found to carry integron of class 2, which is first report from our region.

Conclusion: Our study indicates that *Acinetobacter baumannii* isolated in our geographical region are highly resistant towards amikacin and gentamicin. According to a survey conducted arbitrary use of antibiotics should be avoided.

Keywords: *Acinetobacter baumannii*; Multidrug Resistant; Aminoglycoside; Integron; PCR