

## عنوان مقاله:

Molecular analysis of Exotoxin A Associated with Antimicrobial Resistance of *Pseudomonas aeruginosa* Strains Isolated from Patients in Tehran Hospitals

## محل انتشار:

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## خلاصه مقاله:

**Background and Aim:** *Pseudomonas aeruginosa* is a unique bacteria that in order to survive in different environments by complex adaptation process can make changes in his virulence genes expression and drug resistance. The aim of this research is the investigation of existence of a logical association between *toxA* gene and antibiotic resistance in strains possess the gene. **Materials and Methods:** Antibiogram test by disk diffusion method (Kirby Bauer) was performed according to CLSI protocols. In this study, the existence of *toxA* gene with the help of polymerase chain reaction (PCR) in 102 clinical isolates from blood samples, wound, urine and trachea was examined. Chi-square test was used to investigate the relationship between exotoxin A and antibiotic resistance. **Results:** The 81 strains (79.4%) had *toxA* gene. Frequency of *toxA* genes in isolated strains from different infections were wound (91.4%), blood (85.7%), trachea (72.7%), and urine (42.1%). Multiple resistance index in strains possess the *toxA* gene was calculated 75%. Chi 2 test to determine the relationship between drug resistance and gene *toxA* was significant ( $P < 0.05$ ). **Conclusions:** The significant chi-square test and an increase in multi-resistant strains possessing the *toxA* gene, can represent a considerable genetic switch between exotoxin A activity and resistance to antibiotics in the blood, urine, tracheal, wound infections Respectively, which lead to turn genes on of drug resistance regulating in bacteria. The results of this study will be verified by southern blot, analysis of the expression of *toxA* gene and determine the mechanism of resistance in resistant strains **Methods**

## کلمات کلیدی:

*Pseudomonas aeruginosa*, Exotoxin A, Antibiotic resistance

## لینک ثابت مقاله در پایگاه سیویلیکا:

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