The Role of Blaoxa-Like Carbapenemase and Their Insertinsequences (Iss) in the Induction of Resistanceagainst Carbapenem Antibiotics Amongacinetobacter Baumannii Isolates in Tehran Hospitals

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Background & Objectives: This study aimed to evaluate the occurrence and dissemination of blaOxA-like carbapenemase genes and their insertion sequences among *Acinetobacter baumannii* isolates, taken from different hospitals in Tehran city and also their roles in the induction of resistance to carbapenem drugs.

Methods: A total number of 100 non duplicate *Acinetobacter baumannii* with different origins, were isolated from patients with proved nosocomial infections at eight university hospital in Tehran city. Antimi cro bial susceptibility of these strains was done by e-test against 7 antimicrobial agents according to CLsI gui deline. PCR of blaOxA-51-like, blaOxA-23-like, blaOxA-24-like, blaOxA-58-like, ISABA-1, IS1133 was carried out by specia lized primers and then these strains were typed by ReP-fingerprinting.

Results: Colistin, imipenem and mero penem were the most sensitive antibiotics against Acinetobacter baumannii isolates with 96%, 51% and 51% sensiti vity respectively. All the isolates had a blaOxA-51-like intrinsic to these species. The rates of blaOxA-23, 23 and 58-like were 38%, 32% and1% respectively.Coexistence of blaOxA-51/23/24-like was observed among 16% of these isolates. All blaOxA-23-like carbapenemase genes had only one ISABA1. ReP fingerprin ting showed 5 genotypes among carbapenem resistant isolates, 16 of them being genotype A. This study emphasized on the major role of blaOxA-like carbapenemase, particularly blaOxA-23-like carbapenemase and their ISABA1, in the dissemination of carbapenem resistant *Acinetobacter baumannii*.

Conclusion: This study con firmed a presumptive role of IS element neighbo ring the carbapenemase gene in the elevation of resistance to carbapenem drug among Acinetobacter baumannii isolatesfor the first time in Iran..

Keywords: *A. Baumannii*; BlaOxA Genes; Is Element;Carbapenem Drugs