

Distribution of BlaKPC Genes Among *Acinetobacter baumannii* Isolated From Patients in Hospital of Tehran

Reza Mirnejad¹; Maryam Dehghani²; Faramarz Masjedian*²; Shiva Mirkalantari³

1- Medical Bacteriology Research Center and Molecular Biology Research Center, Baqiyatallah University of Medical Science; Tehran, Iran

2-Department of Microbiology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

3-Department of Cell and Molecular Biology, School of Pharmaceutical Sciences, Islamic Azad University, Tehran, Iran

rmirnejadreza@yahoo.com

Background & Objectives: Some strains of *Acinetobacter* which show multiple-drug resistance have produced therapeutic difficulties in worldwide. This is also a new problem in Iran. The purpose of current study was to define the antimicrobial susceptibility patterns and prevalence of blaKPC gene in *Acinetobacter baumannii* isolates which had been isolated from patient in hospital of Tehran.

Methods: This study was performed on 100 isolates of *Acinetobacter* which were isolated from patients. After identification of isolates in species level using cultural and biochemical Methods, the susceptibility tests were carried out on 50 isolates of *A. baumannii* using disk diffusion Methods. Then isolates were considered for presence of blaKPC gene by PCR.

Results: in this study 70 isolates of *A. baumannii* and 30 isolates of others *Acinetobacter* were isolated from patients. More than 50% of isolates showed multiple-drug resistance and also above 45% resistance to imipenem and meropenem was recorded. The PCR results showed that 8 cases (11.5%) of isolates had blaKPC gene which most of them had been isolated from patients who were hospitalized in the ICU.

Conclusion: Carbapenem and multiple-drug resistant *A. baumannii* is expanding in Iran and it is considered as an important hazard for hospitalized patients. Moreover regarding to existence of blaKPC gene in this bacterium and possibility of transformation of these genes to the other bacteria, reconsideration in antibiotics consumption patterns and more attention to nosocomial infections control criteria are inevitable.

Keywords: *Acinetobacter baumannii*; Nosocomial Infections; Multiple-drug Resistance; Carbapenem; BlaKPC; PCR