The Frequency of bla_{PER} ،bla_{VEB} ،bla_{CTX-M} ،tetA and tetB genes among Acinetobacter baumannii strains isolated from hospitalizes patients in Tehran

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Abstract

Background & Aim*:* Infections and outbreaks caused by multidrug-resistant *Acinetobacter baumannii* are prevalent and have been reported worldwide over the past twenty or more years. Beta-lactamase genes including $bla_{PER,}$ bla_{VEB} and bla_{CTX-M} confer resistance to beta-lactam antibiotics and *tetA* and *tetB* are responsible for resistance to tetracycline in such bacteria.

Methods**:** A total of 65 isolates of *A. Baumannii* from clinical samples were collected. Antimicrobial susceptibility testing was performed by the disk diffusion method according to the CLSI guideline and the presence of bla_{OXA-51} *tet*A, *tet*B, bla_{VEB}, bla_{CTX} and bla_{PER} were screened via the polymerase chain reaction (PCR).

Results**:** The isolates were 100% resistant to gentamicin, ciprofloxacin, piperacillin, cefotaxime, ceftazidime and tetracycline. Resistance to minocycline and imipenem stood at 89% and 85%, respectively. All isolates were identified as multi-drug resistant (MDR). The genes *tet*A, *tet*B, bla_{VEB}, bla_{CTX} and bla_{PER} were detected in 75.3%, 43%, 35.3%, 76.9% and 61.5% of isolates, respectively.

Conclusion**:** This study revealed the high prevalence of antimicrobial resistance genes amongst *Acinetobacter baumannii* and thus confirms the need for isolating and identifying them in clinical laboratory and hospital settings.

Keywords**:** *Acinetobacter,* Antibiotic resistance, Beta-lactamase