

Assessment of Antibiotic Resistance and Metallo Beta-Lactamase Production in Nosocomial Isolates of *Acinetobacter baumannii*

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Background & Objectives: *Acinetobacter baumannii* is an emerging pathogen that frequently causes nosocomial infections in patients in intensive care units. Resistance to multiple classes of antibiotics seriously compromises the ability to treat these patients. This study was designed to investigate the prevalence of antibiotic resistance and Metallo Beta-lactamase (MBL) production among clinical isolates of *Acinetobacter baumannii*.

Methods: A total of 32 clinical isolates of *A. baumannii* were collected from Imam Hossein hospital during the autumn and winter of 2011. The isolates were identified as *A. baumannii* by standard biochemical tests. Antimicrobial susceptibility was determined using the disk diffusion methods as recommended by the Clinical and Laboratory Standards Institute (CLSI) using disks containing ceftazidime, piperacilin, piperacilin/tazobactam, gentamicin, amikacin, imipenem, meropenem, aztreonam, ciprofloxacin, cefepime, tobramycin, ticarcillin, cotrimaxazole and carbenicilin. MBL production was measured by the double disk synergy test.

Results: All isolates were resistant to imipenem, meropenem, piperacilin, piperacilin/tazobactam, ciprofloxacin, cefepime, cotrimaxazole, carbenicilin, ticarcillin. Resistance to ceftazidime was 94% followed by 88% to amikacin, 61% to aztreonam, 58% to tobramycin and 38% to gentamicin. MBL production was not detected in any of the isolates.

Conclusion: The majority of *A. baumannii* isolates were multidrug resistant. However, resistance was independent of MBL production.

Keywords: *Acinetobacter baumannii*; Metallo Beta-Lactamase; Resistant