

## عنوان مقاله:

Characterization of the Extended-Spectrum beta-Lactamase Producers among Non- Fermenting Gram-Negative Bacteria Isolated from Burnt Patients

## محل انتشار:

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## خلاصه مقاله:

**Background & Aims of the Study:** Extended-spectrum beta-Lactamases (ESBLs) represent a major group of beta-lactamases which are responsible for resistance to oxyiminocephalosporins and aztreonam and currently being identified in large numbers throughout the world. The objective of this study was to characterize ESBL producers among non-fermenting gram-negative bacteria isolated from burnt patients. **Materials & Methods:** During April to July 2012, 75 non-fermenting gram-negative bacilli were isolated from 240 bacterial cultures collected from wounds of burnt patients admitted to the Burn Unit at Shahid Motahari Hospital (Tehran, Iran). Bacterial isolation and identification was done using standard methods. Antimicrobial susceptibility testing was performed by disk diffusion method for all strains against selected antibiotics and minimum inhibitory concentration was determined by microdilution test. The ability to produce ESBL was detected through double disk synergy test among candidate strains. **Results:** Of 75 non-fermenting isolates, 47 *Pseudomonas aeruginosa* and 28 *Acinetobacter baumannii* were identified. The resistance of *P. aeruginosa* isolates to tested antibiotics in antibiogram test were 100% to cefpodoxime, 82.98% to ceftriaxone, 78.73% to imipenem, 75% to meropenem, 72.72% to gentamicin, 69.23% to ciprofloxacin and aztreonam, 67.57% to cefepime, 65.95% to ceftazidime, and 61.53% to piperacillin. The results for *Acinetobacter baumannii* were 100% to ceftazidime, cefepime, ciprofloxacin, imipenem, meropenem, cefpodoxime, and cefotaxim, 96.85% to gentamicin, 89.65% to ceftriaxone, 65.51% to aztreonam, and 40% to piperacillin. Double disk synergy test showed that 21 (28%) of non-fermenting isolates were ESBL producer. **Conclusions:** None of the third or fourth generation of cephalosporins is suitable for treatment of *Pseudomonas aeruginosa* and *Acinetobacter baumannii* isolated from burnt patients.

## کلمات کلیدی:

*Acinetobacter baumannii* beta-Lactamases Drug Resistance Iran Patients, Burnt *Pseudomonas aeruginosa*

