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Antimicrobials: Resistance surveillance

In vitro activity of tigecycline and colistin against clinical isolates of *Acinetobacter baumannii* in Tehran, and Bandar-Abbas hospitals, Iran

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Background*:Acinetobacter* species, and in particular *A. baumannii*, has emerged as an important opportunistic pathogen in recent years, causing a variety of infections such as pneumonia, bacteremia, meningitis, urinary tract, skin and soft tissue infections. It is also associated with high mortality. High prevalence of multi-drug resistance in *A. baumannii,* limits the therapeutic options in the treatment Of infection caused by this bacteria. The objective of the present study was to determine in vitro activity of tigecycline and colistin against clinical isolates of MDR *A. baumannii* in Tehran, and Bandar-Abbas .

Methods: This study was conducted from March 2009 to November 2010, at three hospitals of Tehran , and Bandar-abbas, on 165 *Acinetobacter* species isolated from clinical specimens. All isolates were subjected to PCR to detect *bla*OXA-51-like gene that is unique to *Acinetobacter baumannii*. Isolates that gave a band for *bla*OXA-51-like, identified as *A. baumannii*. This gene was detected in 157 isolates. The antimicrobial susceptibility test was performed for 8 different antibiotics.

Results: Sensitivity rates to colistin and polymyxin-B were 100%. Resistance rates for tigecycline were **4.2**%in Tehran and 8.8% in Bandar-abbas according to jones et al criteria, and **20.8%** in Tehran and 17.6% in Bandar – Abbas according to Us FDA criteria .

Conclusion: It is obvious that new alternative drugs are needed for the treatment of MDR *A. baumannii* . Although colistin appears to be a good choice, adverse reactions limit its wide usage. Tigecycline, is effective against MDR *A. baumannii* isolates and shows promising results to solve the problem, however selection of appropriate criteria for the disk diffusion method is crucial and resistance rates should be monitored closely.