

## Antibiotic Resistance Pattern of *Acinetobacter* spp. Strains Isolated from Blood Infections in Shahid Sadoughi Hospital, Yazd, Iran

Sir,

The *Acinetobacter baumannii* species are important opportunistic nosocomial pathogens that can cause severe infections in critically-ill patients.<sup>1,2</sup> They are responsible for many cases of pneumonia, bacteremia, meningitis, urinary tract infection, and wound infection in hospitals nowadays.<sup>3</sup> Thus, rapid identification of bacteria can be an important step in the treatment of the infection; and consequently, the prevention of the resistant strains spread.<sup>4</sup> The aim of this study was to investigate the demographic patterns and antibiotic resistance among isolates of *Acinetobacter*. This study was approved by the Ethics Committee of Shahid Sadoughi University of Medical Sciences. The study population of this descriptive study, conducted during 2012-2014, consisted of patients with the symptoms and diagnosis of *Acinetobacter* bacteremia hospitalized in Shahid Sadoughi Hospital (a Referral Community Hospital in centre of Iran). The patient's demographic data was collected by reviewing their therapy records. All the isolated *Acinetobacters* were tested using the agar diffusion method and in accordance with Kirby-Bauer disk diffusion method in terms of their susceptibility/resistance to 11 different antibiotic disks such as Ceftriaxone, Imipenem, Cefixime, Ciprofloxacin, Ceftazidime, Cephalexin, Gentamycin, Nitrofurantoin, Nalidixic Acid, Meropenem, and Amikacin. These zones were checked carefully with the American NCCLS guidelines to determine the sensitivity of the isolates. The obtained data were analyzed by using SPSS version 22.

**Table I:** Antimicrobial susceptibility of *Acinetobacter* isolates.

Antimicrobial agent	Antibiogram results			Total, n (%)
	Resistant	Intermediate	Susceptible	
Ceftriaxone	104 (86.7%)	1 (0.8%)	15 (12.5%)	120 (100%)
Imipenem	18 (15.1%)	15 (12.6%)	86 (72.3%)	119 (100%)
Cefixime	107 (92.2%)	2 (1.7%)	7 (6%)	116 (100%)
Ciprofloxacin	10 (89%)	2 (1.8%)	100 (89.3%)	112 (100%)
Ceftazidime	50 (44.6%)	11 (9.8%)	51 (45.5%)	112 (100%)
Cephalexin	74 (92.5%)	1 (1.3%)	5 (6.3%)	80 (100%)
Gentamycin	34 (49.3%)	4 (5.8%)	31 (44.9%)	69 (100%)

Out of 1,038 positive blood cultures, 125 specimens were positive with *Acinetobacter* species, where 66 were male (52.8%) and 59 females (47.2%). The patients' average age was 50.62 ±29.25 years ranging from 0 - 91 years. Most cultures were positive in Spring (36%) followed by Autumn (32%), mostly from the Emergency Ward (65%). Table I shows the sensitivity against antimicrobial agents. The patients in this study were sensitive to Ciprofloxacin (89.3%) and Imipenem (72.3%) and resistance to Ceftriaxone (86.7%) and Cefixime (92.2%).

Our results demonstrated a high antibiotic resistance among *Acinetobacter* species isolated from blood infections. Considering that *Acinetobacter* is one of the factors causing hospital infection, the diagnosis prescription of appropriate antibiotics is very important and the results of this study helps the physicians in prescribing appropriate antibiotics until test results of antibiogram are ready.

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