ORIGINAL ARTICLE

Prevalence and Antimicrobial Susceptibility Pattern of *Acinetobacter baumannii* Complex in Clinical Samples Among Patients at a Tertiary Care Hospital, Jaipur

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Abstract: Aims and objectives: *Acinetobacter causes a wide spectrum of infections, including nosocomial pneumonia, secondary meningitis, surgical wound infections, skin and soft tissue infections, urinary tract infections, bacteraemia, and transmission via the hands of hospital personnel. The study aimed to determine the prevalence of Acinetobacter baumannii complex isolates and the antimicrobial susceptibility pattern of isolated A. baumannii complex. in clinical samples among patients at Mahatma Gandhi Medical College and Hospital.* ***Introduction:*** *In recent decades, Acinetobacter baumannii (A. baumannii) infections have also occurred outside the ICU or in trauma patients after natural disasters, and they have even affected patients after co-morbidities in the community.* ***Materials and methods:*** *All A. baumannii complex isolates (non-repetitive) from different clinical samples received in a clinical microbiology laboratory from inpatients and outpatients at Mahatma Gandhi Medical College and Hospital, Jaipur, Rajasthan, were included in the study. Routine microscopy of the samples was done. Gram's staining was done on all samples except urine. All clinical samples were inoculated on blood agar and MacConkey agar and incubated at 370 °C for 18–24 hours. Antimicrobial susceptibility testing of the isolated A. baumannii complex was done by the VITEK2-AST Compact system.* ***Results:*** *Among 6483 samples, 157 (2.42%) A. baumannii complex isolates were culture-positive, 68.37% were sterile, and 29.19% were other culture-positive. The maximum sensitivity of A. baumannii isolates was seen to be Tigecycline (70%), followed by Minocyclin (29.9%), while maximum resistance was observed for Piperacillin/Toazobactam (97%), followed by Imipenem, Meropenem (96.8%), Ceftazidime (96%), Cefepime (91.7%), Ciprofloxacin (88%), and Gentamycin (87%).* ***Conclusion:*** *Based on this study, it could be concluded that, as antibiotic resistance increases, hardships will be experienced in A. baumannii complex treatment unless the necessary precautions are taken and new antibiotics are discovered. In order to prevent the spreading of resistant Acinetobacter strains, infection control measures should be taken, clinicians and laboratory workers should cooperate during antibiotic use, and hospital hygienic rules should be observed.*

Keywords: *Acinetobacter baumannii, antibiotic, susceptibility, resistance.*

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INTRODUCTION

The genus Acinetobacter species is a non-fermentative and non-motile, Gram-negative coccobacillus, which comprises 27 known and several unnamed provisional species. Clinically, we most often identify Acinetobacter baumannii (A. baumannii) as the cause of infection. A. baumannii is a typically short, almost round, rod-shaped (Coccobacillus) Gram-negative bacterium. It is named after Paul Baumann, a bacteriologist [1,2]. It can be an opportunistic pathogen in humans, affecting people with compromised immune systems,