

TITLE: RESISTANCE PROFILE of *Pseudomonas aeruginosa* ISOLATED FROM A TEACHING HOSPITAL IN NORTHEAST OF BRAZIL

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ABSTRACT:

Rapid dissemination of antibiotic-resistant Gram-negative infections constitute a worldwide problem with an increasing health and economic burden. *Pseudomonas aeruginosa* multi-drug-resistant (MDR) infections are associated with high morbidity and mortality, with significant direct and indirect costs resulting from long hospitalization due to antibiotic failure. As treatment options become limited, antimicrobial stewardship programs aim to optimize the appropriate use of currently available antimicrobial agents and decrease hospital costs. To establish preventive measures, it is crucial to know the antibiotic resistance profile of this bacterium in the hospital environment. Therefore, this study aimed to determine the antimicrobial susceptibility patterns of *P. aeruginosa* isolated from patients of a teaching hospital in Ceará, Northeast Brazil. A total of 97 *P. aeruginosa* strains were isolated from January 2018 through April 2019 from sites such as blood, secretion, catheter tip, tracheal aspirate, urine, oropharynx and cerebrospinal fluid. The sensitivity tests were performed by VITEK®2 automated equipment for the following antimicrobials: Amicacin, Ampicillin, Ampicillin / Sulbactam, Cefepime, Cefoxitin, Ceftazidime, Ceftriaxone, Cefuroxime, Cefuroxime Axetil, Ciprofloxacin, Colistin, Gentamicin, Imipenem, Meropenem, Piperacillin / Tazobactam and Tigecycline. The majority of isolates analyzed were resistant to Ceftriaxone (99%), Cefuroxime Axetil (99%), Cefuroxime (96.5%), Ampicillin (95.3%), Ampicillin/Sulbactam (95.2%), Tigecycline (95.7%), and presented different levels of resistance to the other antimicrobials tested. On the other hand, Colistin and Amicacin were the most active antimicrobials against the specimens in the analyzed period. These results highlight the importance of the antibiotic sensitivity test to monitor resistance patterns, which vary according to the hospital and the region, in order to clarify the resistance profile and emphasize the most effective therapeutic agents in the fight against infections caused by *P. aeruginosa*.

KEYWORDS: *P. aeruginosa* multi-drug-resistant; antimicrobial susceptibility; nosocomial infection; teaching hospital.

DEVELOPMENT AGENCY: Santa Casa de Misericórdia de Sobral – CE.