

TITLE: β -LACTAMASES PRODUCTION IN ISOLATED CLINICAL OF *PSEUDOMONAS AERUGINOSA*

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Pseudomonas aeruginosa is among the most resistant pathogens and consequently, smaller therapeutic options. It is known that there is an increasing number of reports of strains producing β -lactamase and dissemination of resistance genes in a variety of organisms and in different geographic regions. This makes it important to detect these enzymes so that infection control measures can be implemented, as well as a better therapeutic orientation. This study aimed to evaluate the antimicrobial resistance profile of *Pseudomonas aeruginosa* as well as the factors involved in the resistance of β -lactams, based on test phenotypes. A study was conducted with *P. aeruginosa* isolates resistant to carbapenems, in 2013-2015 years the Municipal Maternity Hospital in the city of Uberlândia, Minas Gerais, through analysis of susceptibility testing antimicrobial research and production ESBL, disk-approximation method, *AmpC* β -lactamases, D testing and metallo (MBL) by synergism test. Most of the samples recovered were ICU (68%), pneumonias (73%), infecting individuals older than 51 years (86%), resistant mainly to fluoroquinolones, aminoglycosides and β -lactams plus β -lactamase inhibitors. Most of the samples were extensively resistant (59%), 27% presenting the three enzymatic profiles, but most (79%) none of the three and a sample and a sample resistant to polymyxin B. The spread of Healthcare-associated Infections (HAI) often results from cross-contamination. The most common pathway of pathogen transfer occurs between the hands of healthcare workers and patients. In this study, the proportion of resistance inside and outside the ICU was the same for all antimicrobials, but it is necessary to increase and highlight the need to improve infection prevention and control strategies in an attempt to contain the genetic spread of bacterial resistance mechanisms.

Key-words: *Pseudomona aeruginosa*, resistance, β -lactamases.

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