

TITLE: RESISTANCE PROFILE OF NON-FERMENTING GRAM-NEGATIVE BACILLI ISOLATED FROM INTENSIVE CARE UNIT SURFACES

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ABSTRACT:

Non-fermenting Gram negative bacilli (NFGNB) are a group of microorganisms that do not have the capacity to produce carbohydrates as a way of obtaining energy. Some species such as *Acinetobacter baumannii* and *Pseudomonas aeruginosa* are among the main group of microorganisms most often involved in cases of nosocomial infections. The purpose of this study was to identify and analyze NFGNB resistance profile, which were isolated from Intensive Care Unit (ICU) surface at a hospital in Caruaru city. It was a cross-sectional descriptive study, the samples were isolated from bed grids and cranks, infusion pump buttons and support shelves. The methodology used to collect was a conventional using sterile swabs and identified by mass spectrometry (MALDI-Biotyper®). The resistance profile was evaluated through the Bauer and Kirby diffusion method following the CLSI 2016 standardization. A total of 40 bacteria samples were obtained from the surfaces analyzed which 16 (40%) were reported as NFGNB. From these, 14 (87.5%) were *Acinetobacter baumannii* and 2 (12.5%) *Pseudomonas aeruginosa*. The antimicrobial profile in vitro showed strains of *A. baumannii* resistant to Ceftriaxone, Ceftazidime, Imipenem, Meropenem and Ciprofloxacin. Furthermore, 92.85% of the same bacteria presented intermediate resistance to Levofloxacin. Regarding to strains of *P. aeruginosa*, all of them demonstrated resistance to Aztreonam. Therefore, the identification and resistance profile measurement of NFGNBs despite of being still limited in some microbiology laboratories is an important information for hospitalized patients safety avoiding the occurrence of this infections. Increasing of the frequency of nosocomial infections associated with NFGNBs has been related as a serious

public health problem, being fundamental continuous epidemiological monitoring in order to control the contamination of ICU surfaces by these microorganisms, as well as to provide effective therapy for each patient.

Keywords: Bacteria, Hospital Infection, Intensive Care Units.