TITLE: IDENTIFICATION BY MALDI-TOF OF *ACINETOBACTER BAUMANNII*, ANTIMICROBIAL PROFILE AND COMPARISON BETWEEN ISOLATES FROM DIFFERENT REGIONS OF BRAZIL

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ABSTRACT

Acinetobacter baumannii is a non-fermenter Gram-negative bacillus responsible for serious infections in health care institutions. The extensive use of antimicrobials in hospitals has contributed to increase the multi-resistance of *A.baumannii* strains. In this context, the MALDI-TOF technology is a major advance for diagnosis, due to speed of execution and assertiveness in results, allowing the identification of microorganism species, which is not always possible by conventional methods. This study aimed to evaluate antimicrobial profile of 82 *A. baumannii* strains sent to the Hermes Pardini Laboratory and their frequency in every clinical samples analyzed during the period from July to December 2017. The microorganism identification was performed by VITEK® MS (MALDI-TOF/ Biomerieux) and antibiotic susceptibility testing was performed by VITEK 2 Compact® (Biomerieux). The frequency of the bacteria in infections sites was 34.2% (respiratory tract), 24.4% (blood), 14.6% (secretions), 12.2% (urine), 9.8% (catheter) and 4.8% (others). The frequency in each State was 48.8% (Minas Gerais), 28.1% (São Paulo), 14.6% (Mato Grosso), 2.4% (Espírito Santo), 2.4% (Rio de Janeiro), 2.4% (Rio Grande do Sul) and 1.3% (Pará). The sensitivity of the isolates to antimicrobials was 43% (gentamicin), 27% (meropenem), 25% (imipenem), 25% (ampicillin /sulbactam), 20% (piperacillin /tazobactam), 13% (ceftriaxone) and 7% (ceftriaxone). Furthermore, 70.7% of the isolates presented resistance to imipenem and meropenem. The high percentage of strains that demonstrated resistance to all tested antimicrobials (46.3%), cause for alarm given the current scenario. The antimicrobial susceptibility is considerably different among the States. In this study, the percentage by State of the isolates that showed no sensitivity to any antimicrobial was 66.7% (Mato Grosso), 50.0% (Minas Gerais, Espírito Santo and Rio de Janeiro) and 34.8% (São Paulo). The identification of non-fermenter Gram-negative bacillus has always been a challenge for routine laboratories in microbiology. MALDI-TOF technology has been extremely important due to its low cost, high accuracy and quick microorganisms identification compared to traditional methods. Differences in resistance patterns emphasize the importance of local investigations to determine the most appropriate therapy in order to avoid the spread of resistance and the consequent decrease of therapeutic possibilities.

Keywords: *Acinetobacter baumannii*, resistance, antimicrobials