

TITLE: ANTIMICROBIAL SUSCEPTIBILITY OF THE *Acinetobacter baumannii* AND *Pseudomonas aeruginosa* ISOLATED FROM TRACHEAL LAVAGE SAMPLES

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ABSTRACT:

Ventilator-associated pneumonia (VAP) is one of the major health care-related infections, and it is very common in the Intensive Care Unit (ICU). Among the main etiological agents involved are *Acinetobacter baumannii* and *Pseudomonas aeruginosa*. The aim of this study was to evaluate the prevalence and antimicrobial susceptibility profile of strains of *A. baumannii* and *P. aeruginosa* isolated from tracheal lavage samples. This is a retrospective, cross-sectional, descriptive study where tracheal lavage culture results were collected from patients with VAP admitted to an adult ICU at a public hospital in the city of Juiz de Fora, MG. Data were collected through the electronic records of the Hospital Infection Control Service for the period from January to December 2018. A total of 469 tracheal lavage samples from adult patients admitted to the ICU were analyzed. Were considered colonies counts $\geq 10^6$ CFU / mL, totaling 242 (51.52%) of samples were positive, resulting in 254 strains of microorganisms, being 237 bacterial strains and 17 strains of *Candida sp.* 55 (24.89%) strains of *A. baumannii* and 45 (18.98%) strains of *P. aeruginosa* were isolated. According to CLSI 2018 criteria, regarding the antimicrobial susceptibility profile tested, *A. baumannii* presented 100% of the strains resistant to meropenem, cefepime, ceftriaxone, ceftazidime and piperacillin-tazobactam, 89.8% to sulfamethoxazole, 86.4% to levofloxacin, 79.6% to amikacin and gentamicin, 22.1% to ampicillin-sulbactam. *P. aeruginosa* presented a resistance profile of 64.4% to levofloxacin and gentamicin, 46.6% to piperacillin-tazobactam, 42.2% to ceftazidime, 40% to meropenem, 37.7% to imipenem, 31.1% to cefepime and 28.8% to amikacin. Polymyxin B has not been tested. Empirical therapy for VAP is performed with broad-spectrum antimicrobials, since the bacteria involved may be multiresistant, so the identification of the pathogen and evaluation of its antimicrobial susceptibility profile has a great importance for the therapeutic success. *A. baumannii* and *P. aeruginosa* are important agents of VAP, and *A. baumannii* was the most commonly associated pathogen and presented multiresistance to the drugs tested, being considered as a public health problem.

Keywords: Drug resistance, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, Pneumonia, ventilator-associated.

Development Agency: not applicable