Title: **PREVALENCE AND ANTIMICROBIAL SUSCEPTIBILITY PROFILE OF MICROORGANISMS ISOLATED FROM LOWER RESPIRATORY TRACT INFECTIONS IN HOSPITALIZED PATIENTS OF BELO HORIZONTE – MINAS GERAIS/BRAZIL.**

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Summary:

Lower respiratory tract infections (LRTI) have been playing a main role for hospital infections due to it frequency morbidity. It has been showing great prevalence levels in Brazil as globally, displaying great importance at hospital infections first rates, mostly in intensive care units. In this study we evaluated the frequency of positivity in the samples and the sensitivity profile of microorganisms to antimicrobials agents front of bacteria found in LTRI of hospitalized patients, obtained from a large hospital of Belo Horizonte (Southeast region) – Brazil. The identification and antibiogram were analyzed by the automated system MicroScan WalkAway®. A total of 584 patients from our data basis were analyzed, whose 381 were positive for bacterial culture (65%). The most prevalent microorganisms were *Pseudomonas aeruginosa* (25.9%) and *Acinetobacter baumannii/haemolyticus* (20.5%) followed by *Staphylococcus aureus* (11.3%, *S. aureus* MRSA corresponding to 45%), *Stenotrophomonas maltophilia* (5.7%), *Klebsiella pneumoniae* (4.4%) and *Escherichia coli* (4%). Regarding the susceptibility profile, were found a high level of resistance to antimicrobials evaluated, 26% of *Pseudomonas aeruginosa* isolates were resistant to ciprofloxacin and levofloxacin, 22% for aztreonam and we also found resistance for the class of cephalosporins and carbapenems class, with 15% resistance to imipenem and 16% to meropenem. For the strains of *Staphylococcus aureus* methicillin-sensitive, we found 21% of the isolates were resistant to clindamycin, 24% to erythromycin and 60% to penicillin and ampicillin. In addition, 93% of *Staphylococcus aureus* (MRSA) showed resistance to clindamycin and erythromycin, 52% to gentamicin; 56% to levofloxacin; 33% to moxifloxacin and 4% to tetracycline. *Escherichia coli* strains showed an increased resistance to ampicillin (43%) and to tetracycline (33%). Over 50% of the *Acinetobacter baumannii* strains showed resistance to most antimicrobial evaluated, highlighting amikacin with 66% of resistance, cephalosporins with about 80%, quinolones and carbapenems with approximately 90% of resistant strains. Given the regional importance of knowing the prevalence of microbiota and the delineation of antimicrobial susceptibility profile, this study represents an extreme importance to treatment standardization and a empirical treatment of more streamlined for the LTRI in hospitals of the regions studied helping reducing bacteria resistance.

Keywords: Lower respiratory tract infections (LRTI), antimicrobial, bacterial resistance.