TITLE: EPIDEMIOLOGY AND MICROBIOLOGY OF LOWER RESPIRATORY TRACT INFECTIONS IN A TERTIARY HOSPITAL

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ABSTRACT:

Healthcare-associated infections (HAI) represent one of the most important public health problems worldwide. Among these infections, lower respiratory tract infections (LRTIs) are of great importance due to their frequency and morbidity, in which atypical pneumonia is most epidemiologically important. Considering the antimicrobial resistance phenomena and the relevance of epidemiological data to support empirical antimicrobial therapy, this study was focused on–epidemiological and microbiological characteristics (etiology and drug susceptibility patterns) of lower respiratory tract infections in patients admitted in a public tertiary hospital between 2014 and 2015, in Juiz de Fora, Minas Gerais. Bacteria were isolated from tracheal aspirate samples and identified by the BBL Crystal system. Antimicrobial susceptibility patterns were evaluated by disk diffusion method according to the CLSI. Clinical and epidemiological data of the patients were collected from medical records in hospital database. Out of the 60 tracheal aspirate samples, 50.0% were associated to patients admitted in Intensive Care Unit (ICU), 11.7% from the Pediatric Intensive Care Unit (PICU) and Female Infirmary, 8.3% of the Intermediate Unit, Male Infirmary and of Pediatrics and 01 (1.7%) of the Tuberculosis Infirmary. Overall, 78.3% of samples were recovered from male patients and 21.7% from female. Patients ages ranged from 05 months to 92 years old. Out of 101 bacterial isolates, *Pseudomonas aeruginosa* was the most isolated microorganism, (38.6%) followed by *Acinetobacter baumannii* (24.8%), *Klebsiella pneumoniae* (9.9%), *Staphylococcus aureus* (8.9%), *Stenotrophomonas maltophilia* (4.9%) and others species (12.9%). Regarding to the resistance patterns, out of the 101 isolates, 16.8% presented resistance phenotypes, among them ESBL (58.8%), MRSA (35.3%) and AmpC (5.9%). This study showed relevant data on multidrug resistance bacterial strains in critical areas associated to respiratory tract secretions. Our data are highly relevant for surveillance systems and raise discussions on containment strategies and rational use of chemotherapy.

Keywords: Lower respiratory tract infections; Tracheal aspirate; Antimicrobial Resistance