

TITLE: FREQUENCY AND ANTIMICROBIAL SENSITIVITY PROFILE OF ISOLATED ENTERIC RODS FROM COVID-19 PATIENTS ASSISTED AT A TERTIARY HOSPITAL IN THE NORTH REGION OF CEARÁ

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ABSTRACT:

Patients with COVID-19 may be at risk for concurrent bacterial infections, particularly if hospitalized, and prompt administration of antibiotics according to antimicrobial susceptibility reports is essential to reduce severity. This study aimed to evaluate the frequency and profile of antimicrobial susceptibility of enteric rods isolated from patients with COVID-19 assisted in a tertiary hospital in the North Region of Ceará, Brazil. Microbiological data from patients with bacterial coinfections were collected from April to June 2021 by the Hospital Infection Control Commission of that hospital. A total of 51 samples were identified, 31 from the Intensive Care Units (ICU) and 20 from wards. Of the total, 20 (39.21%) samples were identified as *A. baumannii*, 15 (29.40%) from the ICU and 5 (9.81%) from the wards. 16 (31.37%) were enterobacteria, 7 (13.73%) from ICU and 9 (17.64%) from wards, of which 13 (25.49%) were *Klebsiella pneumoniae*, 2 (3.92%) *Escherichia coli* and 1 (1.96%) *Proteus mirabilis*. All ICU Enterobacteriaceae isolates were *K. pneumoniae* (n = 7; 13.73%). The results showed that *A. baumannii* was the prevalent microorganism with a higher frequency in patients hospitalized with COVID-19 in the ICU. As for the antibacterial sensitivity profile, all *A. baumannii* strains were resistant to Imipinem, Tigecycline and Piperacillin/tazobactam, and 94.44% resistant to Colistin. However, 95% of them were sensitive to Aztreonam. Of the *K. pneumoniae* isolates, 11 (84.61%) were resistant to Ceftazidime and 10 (76.92%) to Meropenem, Ceftriaxone and Colistin. All *E. coli* strains showed resistance to Ceftolozane/Tazobactam, Ceftriaxone, Ceftazidime, Aztreonam and Trimethoprim/Sulfamethoxazole, and sensitive to other antimicrobials. While *P. mirabilis* strain was resistant to all antibacterials tested. Therefore, the results of this study reveal that hospitalized patients with COVID-19 can acquire co-infections with multidrug resistant bacteria (MDR). Therefore, these data may be useful for generating important information in controlling the spread of these MDR pathogens, directly affecting patient safety and improving the quality of care.

Keywords: Antimicrobial resistance, bacterial coinfections, COVID-19, IRAS

Development Agency: UNIVERSIDADE FEDERAL DO CEARÁ, Campus SOBRAL - CE