

TITLE: PROFILE OF BACTERIAL INFECTIONS AND ANTIMICROBIAL RESISTANCE IN COVID-19 PATIENTS HOSPITALIZED IN A TEACHING HOSPITAL IN CEARÁ

AUTHORS: BRITO, I. L.P.¹; BARBOSA, F. C. B.²; OLIVEIRA, M. W. M.²; RANGEL, R. L. P.¹; COSTA, A. N. B.¹; BASTOS, E. C. B.¹; ARAÚJO, A.K.¹

INSTITUTIONS: ¹SANTA CASA DE MISERICÓRDIA DE SOBRAL (RUA ANTÔNIO CRISÓSTOMO DE MELO, 919, CENTRO, CEP 62010-550, SOBRAL – CEARÁ, BRAZIL); ²UNIVERSIDADE FEDERAL DO CEARÁ, *CAMPUS SOBRAL*, CE (AVENIDA COMANDANTE MAUROCÉLIO ROCHA PONTES, 100, DERBY, CEP 62042-280, SOBRAL – CEARÁ, BRAZIL)

ABSTRACT:

COVID-19 (coronavirus disease 2019) is caused by infection from severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and has become a public health challenge, mobilizing the opening of new beds in emergency units intensive care (ICU) to resolve the demand related to severe acute respiratory distress syndrome (ARDS). Among the long-term consequences of the COVID-19 pandemic, there is great concern about the global increase in microbial resistance to antibiotics. This study aimed to evaluate the profile of bacterial infections and antimicrobial resistance among patients with COVID-19 in a teaching hospital in the Northern Region of Ceará. Retrospective data from adult patients with COVID-19, hospitalized at Santa Casa de Misericórdia de Sobral – CE and who had positive cultures in identified biological samples, were collected from April 2020 to December 2021. From a total of 282 samples analyzed, in 68 (24.1%) there was bacterial growth. Of these, 59 came from patients in intensive care units (ICU) and 9 from wards. Of laboratory-confirmed healthcare associated infections (HAI), 66.1% were from blood cultures, 26.4% from urine, and 7.3% from respiratory samples. Gram-negative bacteria represented 22% (15/68) of the total, among which 8 (53.3%) were non-fermenters [*Pseudomonas aeruginosa* (62.5%) and *Acinetobacter* spp. (37.5%)], being 75% resistant to carbapenems and 50% to amikacin. Among the enterobacteria, all were resistant to ceftriaxone, 50% were resistant to amikacin and 25% to carbapenems. On the other hand, gram-positives represented 69.1% (47/68) of the sample, being 91.4% coagulase negative *Staphylococcus*, 6.4% *Enterococcus* and 2.1% *S. aureus*. Among the gram-positives, all were resistant to oxacillin and 2.1% were resistant to vancomycin. Therefore, it is clear that with the advent of the pandemic and the emergence of severe cases of the disease, conditions were established that favor the spread of antimicrobial-resistant microorganisms and HAI. Thus, the implementation of infection prevention policies and management of the correct use of antimicrobials will become even more essential to achieve lower fatality rates in this and other populations that require hospitalization in times of a pandemic.

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

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