PHENOTYPIC CHARACTERIZATION OF MULTIDRUG-RESISTANT ENTEROBACTERIACEAE ISOLATES IN A PRIVATE HOSPITAL OF SALVADOR, BAHIA

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Infections due to multidrug-resistant Enterobacteriaceae (MDR) have become a serious health problem, compromising the effectiveness of the antibiotics. Antibiotics given empirically without proper antibiotic susceptibility testing are one of the major causes for the development of MDR. So, to ensure appropriate therapy, current knowledge of the organism and their antibiotic susceptibility is required. The dissemination of MDR Enterobacteriaceae in the hospital setting is a problem with major therapeutic and epidemiological consequences. So, early identification of potential MDR could avoid the dispersal of these microorganisms and possible complications for patient's treatment. The objectives of the study were to describe the epidemiology and to characterize the phenotypic pattern of Enterobacteriaceae causing infections in different sites. From March 2015 to September 2016, 61 patients were hospitalized in a private hospital in the city of Salvador with MDR Enterobacteriaceae infections from several sites. Bacterial species identification was performed by Vitek 2 System and MALDI-TOF. Antimicrobial susceptibility testing was made using Vitek 2 System and Etest. MDR Enterobacteriaceae infection were more common in patients older than 60 years (61.7%) and male (68.8%). The previous use antibiotic was observed in 68% of the patients and mortality rate was 44%. The most common type of specimen from which MDR pathogens was isolated was blood (68.8%), followed by urine (19.8%). *Klebsiella pneumoniae* was the most frequently specie (67.3%) followed by *Escherichia coli* (19.6%). In the present study, 25% of the isolates were resistant to 7 classes of antimicrobials, the class with the highest resistance index was cephalosporins, such as ceftriaxone (92.4%) and ceftazidime (92.4%); fluroquinolones (74.6%) and penicillins associated with beta-lactamase inhibitors, such as ampicillin/sulbactam (96.6%) and piperacycline/tazobactam (69.5%) The most frequent MDR phenotype profile in these infections was resistance to cephalosporins, penicillins and quinolones (18.3%). The knowledge of local bacterial resistance profile is essential to encourage the rational use of antimicrobial therapy and consequently contribute to the reduction of morbidity and mortality rates.

Keywords: Multidrug resistance, Enterobacteriaceae, antimicrobial agents.
Financial support: CNPq
Field of expertise: Medical Microbiology