

**TITLE:** MORPHOLOGICAL AND GENOTYPIC CHARACTERIZATION OF MULTIRESISTANT BACTERIA ISOLATED FROM HOSPITALIZED ELDERLY PATIENTS.

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**ABSTRACT:**

The hospitalization of the elderly in Intensive Care Units (ICU) is a highlight as well as the presence of resistant bacteria. The aim of this study was to evaluate the colonization and / or infection of elderly patients by resistant bacteria in ICU and after hospital discharge in microbiological aspects. It was a prospective cohort in an adult ICU of a public hospital in Belo Horizonte and in the community. Elderly colonized / infected by resistant bacteria were monitored during hospital stay and after discharge between August 2018 and March 2019. Clinical data were obtained from medical records and microbial isolates from the swab rolls in nasal mucosa, groin and perineum. Microbiological samples were cultured in selective media at 37 ° C for 24-48 hours. Identification tests (gram, biochemicals, catalase, coagulase), Bauer-Kirby method (oxacillin, imipenem, ceftazidime, ciprofloxacin and cephalosporins 3rd generation) were performed, Carba NP test for identification of carbapenemase producers. Eight patients were monitored, four of whom were followed up at home, others died. There were 320 resistant samples, of which 10% methicillin-resistant *Staphylococcus aureus*, 38% *Acinetobacter baumannii*, 5% *Pseudomonas aeruginosa* resistant to carbapenems, 29% *Klebsiella pneumoniae* ESBL and / or carbapenemase producers, 18% vancomycin-resistant *Enterococcus faecalis* - VRE. Gram-negative and Gram-positive co-colonization was verified in 100% of the patients. There was an association between *Acinetobacter baumannii* infection and carbapenem resistant *Klebsiella pneumoniae* and antimicrobial use ( $p = 0.03$ ) and invasive devices (mechanical ventilation and nasogastric tube) ( $p = 0.02$ ). The mean time of reduction of the microbial load varied from 40 to 90 days, such reduction occurred for all patients remained colonized until discharge. Four were monitored in the community, with the persistence of resistant bacteria, but with a decline in undetectable levels in culture media. The reduction of the load of resistant bacteria without total decolonization was verified. There was a higher percentage of deaths considering data in the literature, since these are elderly patients, whose senility implies greater clinical complications.

**Keywords:** hospital infection, bacterial drug resistance, transmission, isolation of patients

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