Title: Detection of carbapenemase-producing *Acinetobacter* spp. from hospitals in the city of Natal-RN

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Acinetobacter sp. is a leading cause of nosocomial infections. Carbapenems have been the drugs of choice for those infections. However, the emergence of carbapenem-hydrolyzing beta-lactamases has impairs the clinical usefulness of these antimicrobial agents. The aim of this study was to search for genes carbapenemases in isolates of *Acinetobacter* from four hospitals (one public and three private) in the city of Natal-RN. We evaluated 144 samples of *Acinetobacter* resistant to carbapenems. One hundred twelve isolates from infections and 32 from hospital surfaces (floor, couches, benches and others). The isolates were identified by conventional biochemical tests, MALDI-TOF system and research *blaOXA-51* gene. The antimicrobial susceptibility was evaluated by disk diffusion method and modified Hodge test and inhibition test with EDTA. Furthermore, the research was conducted by PCR for the genes encoding the carbapenemases: *blaKPC-2*, *blaIMP-1*, *blaVIM-1*, *blaNDM-1*, *blaOXA-23*, *blaOXA-24*, *blaOXA-58*, *blaOXA-143*. Of the 144 isolates analyzed, 137 belonged to the species *A. baumannii* and 7 belonged to other species. Of these, 61.1% (88) were positive for modified Hodge test and 78.5% (113) were positive for inhibition test with EDTA. Were found 4(2.8%) positive strains for *blaKPC-2*, 2 (1.4%) *blaIMP-1*, 1 (0.7%) *blaVIM-1*, 13 (9.0%) *blaNDM-1*, 97 (67.4%) *blaOXA- 23*, 1 (0.7%) *blaOXA-24*, 1 (0.7%) *blaOXA-58* and 36 (25.0%) *blaOXA-143*. Still infrequent genes were detected like that *blaKPC-2* and genes recently isolated in Brazil as the *blaNDM-1*. Our study demonstrates the predominance of OXA-23 carbapenemase as the leading mechanism of carbapenem resistance among *Acinetobacter* spp. in our setting.

Key Words: *Acinetobacter*, multirresistence, carpapenemase, MALDI-TOF.

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