Title: ANTIMICROBIAL SUSCEPTIBILITY AND DETECTION OF RESISTANCE DETERMINANTS IN *Acinetobacter* spp.

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Acinetobacter spp. are opportunistic pathogens responsible especially for respiratory, urinary and wound infections in intensive care unit patients. The treatment for these infections can be extremely difficult because a large number of isolates are able to acquire resistance to multiple classes of antimicrobial agents. Carbapenems became the drug of choice for therapy of *Acinetobacter* spp. infections, but reports of resistance to these drugs have emerged, leading to the use of polymyxins. These microorganisms can harbor several resistance determinants, particularly those encoding beta-lactamases. Some determinants are located in mobile genetic elements, like integrons, that make them easier to spread in the hospital environment. Therefore, the aim of this study was determine the antimicrobial susceptibility and detect important resistance determinants of *Acinetobacter* spp. isolated from healthcare-associated infections. One hundred isolates, mainly from sputum (n=58), tracheal aspirate (n=27), catheter (n=5), and blood (n=5), were evaluated. The analysis of antimicrobial susceptibility for 18 drugs was performed by disk diffusion, and the minimum inhibitory concentration (MIC) values for polymyxin B was determined by broth microdilution, following the CLSI guidelines. Multidrug-resistance (MDR) was defined as non-susceptibility to at least one agent in three or more antimicrobial categories and extensively drug-resistance (XDR) as susceptible to only one or two antimicrobial categories. Genomic DNA was extracted with guanidine isothiocyanate-based method, and used as template in PCR targeting beta-lactamases genes ($bla_{\text{OXA-51}}$, $bla_{\text{OXA-23}}$, bla_{NDM}, and $bla_{\text{SIM-1}}$) and class 2 integron (*int*I2). All isolates were resistant to carbapenems and susceptible to polymyxin B, being 82% classified as XDR and 18% as MDR. All isolates showed the presence of $bla_{\text{OXA-51}}$ and $bla_{\text{OXA-23}}$, 2% presented $bla_{\text{SIM-1}}$, and bla_{NDM} was not found in any isolate. Class 2 integron was detected in 85% of the isolates. Resistance of *Acinetobacter* spp. isolates to most antimicrobial agents tested was found, remaining polymyxin B as the unique choice for treatment, which is of great concern considering the described high rates of gene horizontal transfer in this species.

Keywords: *Acinetobacter*, antimicrobial resistance, carbapenems

Financial support: Decit/SCTIE/MS, through the CNPq, with support of the FAPERGS and SES/RS.