

TITLE: MULTIDRUG AND EXTENSIVELY-DRUG RESISTANT *Acinetobacter baumannii* BELONGING TO INTERNATIONALLY-DISSEMINATED CLONES IN A TEACHING HOSPITAL OF SOUTHERN BRAZIL.

AUTHORS: FÁVARO, L.S.; ROMANIN, P.; PALERMO, R.L.; PAULA-PETROLI, S.B.; MOURA, C.F.; COIMBRA, J.C.; YAMADA-OGATTA, S.F.; YAMAUCHI, L.M.; CARRARA-MARRONI, F.E.

INSTITUTION: UNIVERSIDADE ESTADUAL DE LONDRINA, LONDRINA, PR (RODOVIA CELSO GARCIA CID, PR 445 Km 380, CEP 86.057-970, LONDRINA – PR, BRAZIL)

ABSTRACT:

The global success of multidrug-resistant *Acinetobacter baumannii* has been associated with the dissemination of a high-risk clones designated clonal complexes (CC) which are responsible for outbreaks and endemic state of this pathogen in health institutions. This study aimed to characterize the main mechanisms of acquired antimicrobial resistance in 385 isolates of *A. baumannii* recovered from the bloodstream (n=103) and quantitative endotracheal aspirate (n=282) of patients hospitalized at Hospital Universitário de Londrina (HU) in the period of November 2006 to December 2016. Antibiotic susceptibility tests, the prevalence of antibiotic-resistant genes and trilocus sequence-based multiplex-PCR were conducted to characterize these strains. High resistance rates (99.48% - 5.19%) were obtained for the evaluated antimicrobials and including resistance to colistin (7.01%), polymyxin B (5.19%) and tigecycline (15.06%). Most isolates were classified as multidrug resistant (61.56%) and 37.92% were extensively-drug resistant. More than 97.4% of the isolates were resistant to carbapenems and, of the total of isolates, 357 (92.72%) carried *bla*_{OXA-23-like}, nearly all of them associated with IS*Aba1*. The Tn2008 (71.99%) was the predominant genetic context of the *bla*_{OXA-23-like} and the Tn2008 was less frequent (27.17%). Molecular typing assessed by trilocus sequence-based multiplex-PCR demonstrated that the strains were mainly associated with clonal complexes CC 113/79 (33.77%), followed by CC110/25 (24.42%), CC103/15 (9.61%) and 109/1 (5.19%) with different prevalences over the years. The high resistance rates obtained and the large number of multidrug and extensively-drug resistant isolates demonstrate the difficulty in treating infections caused by *A. baumannii* in HU and alert to the emergence of untreatable infections. The prevalence of global epidemic clones reinforce the importance of infection control measures and the urgent need to develop stewardship programs to avoid the spread of new resistance determinants and potential outbreaks by this pathogen.

Keywords: *Acinetobacter baumannii*, carbapenemase, epidemic clonal complexes

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