

Título: OXA-72-producing *Acinetobacter baumannii* in a Public Hospital in Brazil: a case report

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Resumo:

Acinetobacter baumannii is a multidrug-resistant opportunistic pathogen that causes nosocomial infections and outbreaks, particularly in the intensive care units (ICUs). At date, five groups of acquired carbapenem-hydrolyzing class D β -lactamases (CHDLs) have been identified in *A. baumannii*, namely OXA-23, OXA-24/40, OXA-58, OXA-143 and OXA-235. OXA-72 is a point mutant of OXA-24/40 that was first described in carbapenem-resistant *A. baumannii* clinical isolates in China. In this study, sixty-eight consecutive *A. baumannii* isolates were collected between January 2014 and January 2015 from three public hospitals in Rio de Janeiro including ICU, medical clinic and emergency. Clinical isolates were identified by both conventional and Vitek 2 automated systems. The specie identification was performed by sequencing analysis of RNA polymerase β subunit (*rpoB*) gene. Clinical isolates were screened for genes encoding carbapenemases. Antibiotic susceptibility was determined by disk diffusion method and MICs of tigecycline and polymyxin were determined by microdilution method according to Clinical and Laboratory Standards Institute recommendations. Among the 68 isolates, one clinical isolate selected from a tracheal aspirate sample of a 17-years-old patient admitted at the ICU presented *bla*_{OXA-51}, *bla*_{OXA-23} and *bla*_{OXA-24/40} genes. Sequencing of the *bla*_{OXA-24/40} amplicon demonstrated that this specific enzyme was OXA-72. This isolate showed resistance to imipenem and meropenem and was susceptible to the other eight antimicrobials tested including tigecycline and polymyxin (MIC=0,5 for both). Although OXA-72 still presents a low prevalence compared with OXA-23, our study highlighted the presence of this resistance mechanism, which could act as a reservoir for further spread to other bacterial species. This is the first report of an OXA-72-producing *A. baumannii* isolate in Rio de Janeiro, Brazil.

Palavras-chaves: *Acinetobacter baumannii*, OXA-72, carbapenem-resistance

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