

Carbapenem resistance in *Pseudomonas aeruginosa* and *Acinetobacter baumannii* in the nosocomial setting in Latin America

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Abstract

Increasing prevalence of carbapenem-resistant *Pseudomonas aeruginosa* and *Acinetobacter baumannii* strains in the nosocomial setting in Latin America represents an emerging challenge to public health, as the range of therapeutic agents active against these pathogens becomes increasingly constrained. We review published reports from 2002 to 2013, compiling data from throughout the region on prevalence, mechanisms of resistance and molecular epidemiology of carbapenem-resistant strains of *P. aeruginosa* and *A. baumannii*. We find rates of carbapenem resistance up to 66% for *P. aeruginosa* and as high as 90% for *A. baumannii* isolates across the different countries of Latin America, with the resistance rate of *A. baumannii* isolates greater than 50% in many countries. An outbreak of the SPM-1 carbapenemase is a chief cause of resistance in *P. aeruginosa* strains in Brazil. Elsewhere in Latin America, members of the VIM family are the most important carbapenemases among *P. aeruginosa* strains. Carbapenem resistance in *A. baumannii* in Latin America is predominantly due to the oxacillinases OXA-23, OXA-58 and (in Brazil) OXA-143. Susceptibility of *P. aeruginosa* and *A. baumannii* to colistin remains high, however, development of resistance has already been detected in some countries. Better epidemiological data are needed to design effective infection control interventions.

Keywords

Carbapenem, infection, Latin America, nosocomial, resistance