

Title: CLONAL DISSEMINATION OF KPC-PRODUCING-POLYMYXIN-RESISTANT *KLEBSIELLA PNEUMONIAE* IN SÃO PAULO-BRAZIL

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Resume: The increasing incidence of multi-drug resistant bacteria in nosocomial infections limits the therapeutic options, and increases the morbidity and mortality. Over the last five years this limitation has led to the reestablishment of the use of antimicrobials considered outdated, such as polymyxins. This group came to be used much more frequently in the treatment of infections caused by carbapenem-resistant Gram-negative bacteria, including *Enterobacteriaceae* species, mainly *Klebsiella pneumoniae*. This study was prompted by the observation of a significant increase in both carbapenem and polymyxin resistance among *K. pneumoniae* causing infections in inpatients from São Paulo, Brazil. In this study we evaluated the occurrence of clonal dissemination of carbapenem and polymyxin-resistant *K. pneumoniae* (CPRKP). Pulsed field gel electrophoresis (PFGE) was performed on 55 CPRKP isolates and their profiles were compared using BioNumerics[®] program version 6.0. These multidrug-resistant *K. pneumoniae* isolates were selected from cultures performed in the first trimester of 2014 and 2015 in several hospitals of São Paulo, Rio de Janeiro and other cities from Brazil. Polymyxin B resistance was reconfirmed by broth microdilution in Cation-Adjusted Mueller Hinton Broth. Most of the isolates showed MIC values above 32 mg/L. The analysis of the PFGE profiles evidenced the occurrence of indistinguishable profiles in isolates from different patients from different hospitals e from the same hospital, although most isolates exhibited unrelated profiles. Our results indicate that there is both clonal spread and selection of polymyxin B-resistant mutants.

Keywords: Multi-drug resistant bacteria, PFGE profiles, polymyxin resistance, *Klebsiella pneumoniae*.

Fomentation: CNPq