

CLINICAL AND LABORATORY IMPORTANCE OF *Klebsiella pneumoniae* CARBAPENEMASE-PRODUCING (KPC) ISOLATED IN HEMOCULTURE

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Klebsiella pneumoniae and other carbapenemase producing enterobacteriaceae (KPC) are capable of hydrolyzing and inactivate all beta-lactams including carbapenems, which are drugs of first choice for the treatment of serious nosocomial infections caused by gram-negative rods. The high prevalence of these microorganisms in hospital environments and limited therapeutic options for the treatment, increases mortality rate of patients. Thus, the objective of this study was to characterize the presence of carbapenemases and evaluate the evolution of patients after isolation in hemoculture of enterobacteria carrying the blaKPC gene. In the period from February 2013 to January 2015, 49 hospitalized patients in HC-UNICAMP were detected with bloodstream infection, with carbapenemase-producing enterobacteria, being possible to analyze only 43 cases. The identification and antimicrobial susceptibility testing (MIC) were performed by automation (Vitek 2 - Biomérieux®/ BD Phoenix™ – BD Biosciences). MIC values to carbapenems considered resistant by automation were confirmed by Etest® and the interpretation followed the CLSI recommendations. The screening tests for KPC enzymes detection were performed by the Modified Hodge Test (MHT) and strains with positive responses to MHT were analyzed with the PCR molecular method for the gene blaKPC. All the 43 patients with *K. pneumoniae* bacteremia resistant to carbapenems had positive test for the gene blaKPC. Following the clinical evolution of the 43 patients, 31 died (72,09%) and 54,84% of the deaths occurred in period ≤ 6 days after KPC isolation. The mean, median and standard deviation of hospitalization after the KPC isolation were respectively 12.52, 6 e 17.12 days. For the 12 patients that survived, the hospital discharge occurred on average 22.75 days after KPC isolation. During the study period there was on average one case of KPC infection per month, with high mortality and high hospital stay for those patients who survived after the KPC isolation. Thereby, the early KPC detection is important for patient isolation to avoid the KPC dissemination.

Keywords: *Klebsiella pneumoniae*, carbapenemase, mortality, bloodstream infection