

Title: THREE-YEAR EVALUATION OF DISSEMINATION CASES OF *KLEBSIELLA PNEUMONIAE* CARBAPENEMASE (KPC)

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Resume:

The increase of carbapenem resistance, especially by *Klebsiella pneumoniae* Carbapenemase (KPC), is an emerging threat to Brazilian healthcare system, causing severe and difficult-to-treat infections associated with high-mortality rates. In order to limit nosocomial dissemination, surveillance cultures to detect colonized inpatients are recommended. This is a retrospective observational study of confirmed cases of KPC-producing bacteria at the University Hospital of the Federal University of Santa Catarina from January 2012 through December 2014. The isolates were identified by automation (Vitek2/Biomerieux). Clinical samples resistant to Ertapenem and the surveillance cultures performed according to Technical Note No. 01/2013 (ANVISA) were screened initially by modified Hodge test and later by meronepim/imipenem disks supplemented with EDTA, aminophenylboronic acid and cloxacillin. KPC were confirmed by PCR. One sample per inpatient was performed. During this period, 199 isolates were identified as KPC-producing, with a total of 50 isolates in 2012, including 26 surveillance cultures, 58 in 2013 (26 surveillance cultures) and 91 in 2014 (45 surveillance cultures). The clinical samples were obtained from several different anatomic sites, as urine (58), blood (24), tissue sample (8), respiratory tract (7), abdominal fluid (2), catheter (2) and sputum (1). *K. pneumoniae* was the more frequent bacteria with 180 isolates, followed by *Enterobacter cloacae* (12), *Escherichia coli* (3), *Citrobacter freundii* (2), *Klebsiella oxytoca* (1) and *Pantoea* spp. (1). The increase of KPC-positive isolates over three years in the institution represents failure at the containment process of the spread of this pathogen, reinforcing the need to improve early detection, adopt specific measures to prevent contact as well as having greater control of antimicrobial use.

Key words: *Klebsiella pneumoniae* Carbapenemase, Carbapenem resistance, Surveillance, Nosocomial infection.