

TITLE: PREVALENCE OF MULTIDRUG-RESISTANCE BACTERIA IN URINE

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ABSTRACT:

The emergence of multidrug-resistant (MDR) in bacteria has become a great public health problem. Different antimicrobial resistance mechanisms and the production of carbapenems enzymes have been described and the most common is *Klebsiella pneumoniae* carbapenemase (KPC). The objective of this study was to evaluate the prevalence of multidrug-resistant of *Escherichia coli* and *Klebsiella pneumoniae* in urine samples. The cross-sectional study analyzed 7,934 urine samples of Laboratório Carlos Franco Voegeli of Santa Casa de Misericórdia de Porto Alegre, between August 2016 and January 2017. The urine culture and antimicrobial sensitivity test was by MALDI-TOF mass spectrometry methodology, performed for MALDI Biotyper[®] Microflex LT that interprets and provides the result from a computerized database. Among the 792 samples (10%) with bacteria in urinary sediment that had a positive urine culture, in 332 (42%) was identified *E. coli* and in 108 (13.6%) was *K. pneumoniae*. The MDR was observed in 169 samples (21.3%), of which 89 (52.7%) shows *E. coli* and 80 (46.3%) *K. pneumoniae*. The prevalence of MDR between *E. coli* samples was 26.8% whereas between *K. pneumoniae* was 74.1%. Among MDR *K. pneumoniae*, 36 (33.3%) was KPC and 13 (16.2%) had reduced susceptibility of carbapenem-resistant and 1 (1.2%) was producer of extended-spectrum β -lactamases. The *K. pneumoniae* showed a higher occurrence of antibiotics resistance, despite your prevalence is lower than *E. coli*. This result demonstrates the importance of this occurrence because the MDR is associated with the presence of *K. pneumoniae* and development KPC and more resistance.

Keywords: *Klebsiella pneumoniae* carbapenemase, antimicrobial resistance, multidrug-resistance.

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