

TITLE: ANTIMICROBIAL RESISTANCE PROFILE OF *Escherichia coli* ISOLATED FROM URINARY TRACT INFECTIONS IN ADULT ICU PATIENTS

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ABSTRACT:

The infections related to health care (IRHC) are considered a public health problem and have been contributing to an increased rate of mortality, mainly in Intensive Care Unit (ICU) patients. The urinary tract infections (UTI) are amongst the main IRHC in ICUs, this is due, mostly, to the continuous use of urinary catheter, which is made worse by the multiresistance profile of the isolated bacteria from these patients. The aim of this study was to assess the susceptibility profile of *Escherichia coli* isolated from urine samples from patients admitted in the adult ICU of a teaching hospital in the city of Juiz de Fora, MG. The study is retrospective and transversal, whose urine sample data were collected through electronic records from Hospital Infection Control Service, referring to the period from January to December of 2018. In these studies, cultures of urine with growth for *E. coli* that had colony counts $\geq 10^5$ CFU/mL were considered positive. A total of 769 urine samples were submitted to culture, out of these, 240 (31,2%) presented microbial growth, being 37 (4,81%) positive for *Escherichia coli*. In relation to antimicrobial susceptibility profile, 43,24% of the strains were resistant to ciprofloxacin, 40,54% to norfloxacin, 35,13 to ampicillin, 32,43 to nitrofurantoin, 29,72% to cephalothin, ceftriaxone, ceftazidime and cefepime, 18,91% to sulfamethoxazole trimethoprim, 5,04% to amikacin and gentamicin. All the strains were sensitive to carbapenems. 9 (24,82%) strains producers of Extended Spectrum Beta Lactamase (ESBL) were isolated. The beta-lactam is the most prescribed antimicrobial in medicine practice, thus the bacterial resistance to these drugs bring increased worry in the clinical area, mainly in relation to the strains producer of ESBL and carbapenemase. Besides, the empirical therapy for UTI with quinolones, has been elevating the profile of resistance of the *E. coli* strains to these drugs. The *Escherichia coli* is an important pathogen related to UTI and presents increasing resistance to the antimicrobials used in medicine practice, such as the quinolones and the beta-lactams.

Keywords: Drug Resistance, Intensive Care Units, *Escherichia coli*

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