

TITLE: ANTIMICROBIAL RESISTANCE PATTERNS IN A NOSOCOMIAL URINARY TRACT INFECTION

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ABSTRACT:

Hospitalized patients are predisposed to a variety of nosocomial infections, especially with multidrug-resistant organisms. Urinary tract infection (UTI) is one of the most common infection acquired in hospital environment. Both gram negative and gram positive bacteria are associated with these infections, being *Klebsiella pneumoniae*, *Staphylococcus saprophyticus*, *Pseudomonas aeruginosa*, *Enterobacter spp*, *Proteus spp* and *Escherichia coli* the most commonly isolated. The effective treatment for UTI depends on identification of the pathogen and the correct use of antimicrobial agents. Extensive and inappropriate use of antimicrobial agents has resulted in the development of antimicrobial resistance that is considered to a serious problem worldwide. This study aims to determine the etiologic agents of nosocomially acquired UTI in patients interned in a public hospital in Mauá, SP and the antibiotic susceptibility. Medical records containing hospitalar information from nosocomially acquired UTI patients interned at the Radamés Nardini hospital were utilized to prepare this study. Data about bacterial etiology as well as antimicrobial susceptibility to commonly used antibiotics were analyzed and compared with other studies.

In 2018, 90 cases of nosocomial infection were reported, being 32% urinary tract infection. The most prevalent bacteria species isolated were *Klebsiella pneumoniae* (42%), *Pseudomonas aeruginosa* (18%), and *Escherichia coli* (10%). Other isolated were *Enterobacter spp*, *Klebsiella oxytoca*, *Proteus mirabilis*, *Candida albicans*, *Acinetobacter baumannii* e *Serratia marcescens*. Almost all *Klebsiella pneumoniae* isolates were resistant to all antibiotics classes tested, including penicillin (91%), cephalosporin (100%), quinolone (100%), sulfonamide (100%), aminoglycoside (75%), carbapenem (91%) and beta lactamase inhibitor (100%). 91% of the isolated presented sensibility to Polymyxin B antibiotic. *E. coli* isolates presented 100% resistance to penicillin, quinolone and cephalosporin. Just one *Pseudomonas aeruginosa* isolate (4/5) presented resistance to all tested antibiotics, excepted beta lactamase inhibitor. All bacterial species isolated from UTI are Gram negatives. The most common causative agent found was *Klebsiella pneumoniae*. The isolated urinary tract pathogens presented the highest resistance rates against ampicillin (93%), ceftriaxone (90%), cotrimoxazole (90%) antibiotics.

Keyword: nosocomial infection, urinary tract infections, antibiotics, drug-resistance, *Klebsiella pneumoniae*