

TITLE: ANTIMICROBIAL SUSCETIBILITY PROFILE IN URINE CULTURE TEST FROM JULY 2015 TO DECEMBER 2017.

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ABSTRACT:

Urinary tract infections (UTIs) are common diseases and they can reach not only the renal system but also adjacent structures. Its prevalence is higher in women than in men, because of the anatomical features of the urinary system of both sexes. The aim of this study was to evaluate the frequency of positive urine culture tests by sex in order to verify the incidence of the isolated microorganisms in the samples analyzed from July/2015 to December/2017 through the antimicrobial susceptibility profile. This is a quantitative analysis of retrospective results of 1,134 samples from outpatients. In addition, the information was obtained from a database of a laboratory integrated to a private hospital in Aracaju, SE. The samples were sown by the 1 µl calibrated loop method, in the CLED and MacConkey agar media, and then incubated in an oven at 36°C for up to 48 hours, considering growths of 10.000 to 100.000 CFU/mL. Autoscan-BeackmanCoulter semi-automated method was performed using the PC41 and NC66 panels, using the minimum inhibitory concentration (MIC) protocols established by the Clinical and Laboratory Standards Institute (CLSI) for the identification of microorganisms and the susceptibility profile. Of the 1,134 urine culture tests evaluated, 261 (22.99%) were positive. Of these, 211 (80.84%) were female and 50 (19.15%) male. Among the microorganisms identified were: *Escherichia coli* (69.73%), resistance to ampicillin (66%), sensitivity to amikacin (98%), fosfomicin (99%) and carbapenemics (100%). Moreover, 182 isolates were found, which 22 were ESBL producers; *Klebsiella pneumoniae* (8.81%) demonstrated resistance to ampicillin (100%), sensitivity to sulfamethoxazole-trimethoprim and nitrofurantoin (52%). Furthermore, of the 23 isolates, 2 were ESBL positive; *Pseudomonas aeruginosa* (6.89%), *Proteus mirabilis* (4.59%), *Enterococcus faecalis* (2.68%), *Citrobacter koseri* (1.14%) and *Staphylococcus saprophyticus* (0.76%). The female patients were the most affected by diagnosed UTIs, with *E. coli* being the most prevalent pathogen. Through the antimicrobial susceptibility profile, it is possible to ensure effective empirical treatment considering the profile of the region, which is important to avoid the development of multiresistant pathogens.

Keywords: Urinary infection, Resistance, Antimicrobial.