

Prevalence and antibiogram of bacterial isolates from urinary tract infection at Imam Hospital at years of 2013-2014

Background & Objectives: Urinary tract infection (UTI) is a common disease in human worldwide. UTI involves any part of the urinary system and can lead to serious life threatening complications such as bacteremia and sepsis. In recent decades, widespread utilization of antibiotics has resulted in increased incidence of antibiotic resistance among urinary tract pathogens all over the world. The aims of the present study were to determine the frequency of bacterial agents responsible for UTIs and their antimicrobial resistance pattern in patients referred to a Imam hospital located in Ardabil, Iran.

Methods: In this cross-sectional retrospective study (from March 2013 to February 2015), 846 patients with positive urine culture were included. The demographic data, microbial culture results and their antibiotic resistance pattern were recovered using laboratory records. The data were analyzed using descriptive statistics.

Results: The highest percentage (62 %) of isolates was related to female compared to males (38 %). Out of 846 positive cultures the most frequent organisms isolated were *Escherichia coli* with 61%, followed by *Klebsiella spp* 11%, *Staphylococcus spp* 9%, *Pseudomonas aeruginosa* 8% and *Enterococci spp* 5%. According to antimicrobial sensitivity testing, *E. coli* isolates were most sensitive against amikacin (92.5%) and nitrofurantoin (88%) and most resistant against ampicillin(88.2%) and amoxicillin(82%). *Klebsiella spp* were most sensitive against nitrofurantoin (94%) and co-amoxiclav (87.5%) and most resistant against tetracyclin(87.5%) and nalidixic acid(77%). *Pseudomonas aeruginosa* was most sensitive against ciprofloxacin (78.2%) and amikacin(76.2%) and most resistant against gentamycin (95.9%) and nitrofurantoin(84.3%). Among the tested antibiotics, vancomycin (86.6%) and cotrimoxazole (75%) showed the highest activity against *Staphylococcus spp* followed by erythromycin (72%), ciprofloxacin(57.1%), amoxicillin (45.4%). For *Enterococcal* isolates amikacin (92.3%), was found to be the most effective antibiotic.

Conclusions: *E. coli* was predominant agent responsible for UTI in the study area. The isolates were resistant against most commonly used antibiotics. Among the tested antibiotics, amikacin and nitrofurantoin showed highest activity against *E. coli* isolates and these antibiotics could be recommended for empiric treatment of urinary tract infections.