

A Study on the Microbiological Profile and Antibiotic Sensitivity Pattern of Bacterial Isolates Causing Urinary Tract Infection in Intensive Care Unit Patients in a Tertiary Care Hospital in Eastern India

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Abstract : The study was done to determine the microbiological profile and changing pattern of the pathogens causing UTI in the ICU patients. All the patients admitted to the ICU with urinary catheter insertion for more than 48hours were included in the study. Urine samples were collected in a sterile container with aseptic precaution using disposable syringe and was processed as per standards. Antimicrobial susceptibility test was done by Disc Diffusion method as per CLSI guidelines. A total of 100 urine samples were collected from ICU patients, out of which 30% showed significant bacterial growth and 7% showed growth of candida spp. Prevalence of UTI was more in female (73%) than male (27.%). Gram-negative bacilli 26(86.67%) were more common in our study followed by gram-positive cocci 4(13.33%). The most common uropathogens isolated were Escherichia coli 14 (46.67%), followed by Klebsiella spp 7(23.33%), Staphylococcus aureus 4(13.33%), Acinetobacter spp 3(10%), Enterococcus faecalis 1(3.33%) and Pseudomonas aeruginosa 1(3.33%). Most of the Gram-negative bacilli were sensitive to amikacin (80%) and nitrofurantoin (80%), where as all gram-positive organisms were sensitive to Vancomycin. A large number ESBL producers were also observed in this study. The study finding showed that E.coli is the predominant pathogen and has increasing resistance pattern to the commonly used antibiotics. The study proposes that the adherence to antibiotic policy is the key ingredients for successful outcome in ICU patients and also emphasizes that repeated evaluation of microbial characteristics and continuous surveillance of resistant bacteria is required for selection of appropriate antibiotic therapy.

Keywords : antimicrobial sensitivity, intensive care unit, nosocomial infection, urinary tract infection

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