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## Identification and antibiotic susceptibility testing of urinary isolates in a tertiary care hospital

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Trinary Tract Infection (UTI) is one of the most commonly occurring bacterial infections, characterized by multiplication of microorganisms in any part of the urinary tract. UTI is predominantly caused by gram negative bacilli, where Escherichia coli being the commonest. Increasing antibiotic resistance in urinary pathogens makes it essential to determine the antibiotic resistance pattern of commonly isolated UTI pathogens so that appropriate antibiotics can be used for prevention of further spread of antimicrobial resistance in community and hospitals. In the present study, identification and antibiotic susceptibility testing was performed for various microorganisms isolated from urine specimen of patients with suspected UTI. 140 urine samples were received in the microbiology laboratory and cultured on Cystine-Lactose-Electrolyte Deficient (CLED) and MacConkey agar plates. Gram staining and conventional biochemical tests were done to identify the microorganisms grown on culture media. Antibiotic Susceptibility Test (AST) was performed by Kirby-Bauer disc diffusion method. In result, 20 (14.28%) bacterial isolates were identified. The maximum UTIs were found in females, i.e., 55%, whereas in males, it was 45%. Gram Negative Bacilli (GNB) were responsible for 85% cases of UTI, whereas Gram Positive Coccus (GPC) was responsible for 15% of the cases. Among the total UTI cases, E. coli (60%) was the predominant isolate followed by Klebsiella spp. (15%), Enterococcus spp. (15%) and Pseudomanas aeruginosa (10%). Gram negative bacteria, isolated from urine sample has shown 100% sensitivity to antibiotics like nitrofurantoin, netilmicin and imipenem and was highly resistant to ampicillin, whereas in the gram positive bacterial isolates, vancomycin was 100% sensitive and ampicillin was 100% resistant. It is important to have the current knowledge of antibiotic susceptibility pattern of urinary isolates of a particular geographic area, so that the antibiotics can be prescribed judiciously, to prevent antibiotic resistance.

## Biography

Mohini Agarwal is pursuing BTech+MTech (Dual) degree course from Amity Institute of Biotechnology, Amity University, Uttar Pradesh from India.

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