

Isolation and Prevalence of Pathogenic Bacteria Causing Urinary Tract Infection in Local Population of Rajasthan, India

Akshita Sharma, Ms. Mandvi Mathur, Dr. Sandeep K. Shrivastava
and Dr. Deepika Gupta

Dr. B. Lal Institute of Biotechnology, Jaipur

Abstract—Urinary tract infection (UTI) is one of the most common infection worldwide. It affects nearly 150 million people each year. It is the second most common type of infection in body. The most common uropathogenic bacteria are *Escherichia coli*, *Klebsiella pneumoniae*, *Enterococcus faecalis*, *Pseudomonas aeruginosa*, *Staphylococcus aureus* etc. The study was conducted to determine the prevalence rate of UTI and their confirmation by various biochemical test, microscopic and culture characterization. 1427 samples were found out to be positive out of 4426 total samples analyzed (32.2% positive for UTI). The results showed *E. coli* to be the most prevalent microorganism causing UTI with followed by *K. pneumoniae*. According to the data about 91.21% of UTI infection is caused by gram negative bacteria with *E. coli* being the most prevalent microorganism followed by *K. pneumoniae* and *P. aeruginosa*. The most common gram positive bacteria causing UTI is *E. faecalis* and *S. aureus*. UTI is most prevalent in women with in comparison to males. In females the most predominant microorganisms are *E. coli*, *K. pneumoniae*, *E. faecalis* and *S. aureus* whereas in males *P. aeruginosa* is most common after *E. coli* and *K. pneumoniae*. *E. coli* is the most prevalent organism in all age groups. *K. pneumoniae* infections are most prevalent in elderly group (0-12 years), *P. aeruginosa* in Adult (35-64 years) *E. faecalis* in young adults (19-34 years) and *S. aureus* in adolescents (13-18 years). Our data shows a prevalence of UTI in the local population of Rajasthan and has provided the basis for required control measures.