

Clinico- microbiological profile of urinary tract infection (UTI) in paediatrics age group at a tertiary care hospital in Kanpur.

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Abstract-

Background- Urinary tract infection (UTI) is among the most common serious bacterial infection in infants and children. It may lead to renal scarring, hypertension, and end-stage renal disease. Early diagnosis is important to preserve renal function of the growing kidney. The aim of the present study was to assess the prevalence and changing susceptibility pattern of urinary pathogens in febrile paediatrics patients. **Material and Methods** An observational study was conducted in Department of Microbiology, Rama medical college, Kanpur, a tertiary care center, from January to June, 2018. Patients who had UTI confirmed by positive urine culture reports were included in the study. 50 millilitres urine specimen was collected in a sterile universal container with sterile precaution and used for microscopic examination (pyuria detection) and for culture according to standard protocol and AST was done according to CLSI guidelines. **Result-** Out of total 50 UTI suspected paediatrics 16 showed significant bacteriuria. Male were giving 37.5% of UTI infection and female were having 62%. Females showed higher positivity in UTI cases than males. In our study Klebsiella pneumoniae (56.25%) and Staphylococcus aureus. (43.75%) were predominant pathogens isolated. Ampicillin, trimethoprim, cephalexin were found to be the most resistant drugs and, nitrofurantoin, ciprofloxacin, ceftriaxone, were found to be the most sensitive drugs. **Conclusions-** Knowledge of the varied presentation of UTI, its risk factor and local antimicrobial sensitivity patterns are of great significance in preventing future complications in children.

Key words- Culture and sensitivity, Urinary tract infection

Introduction

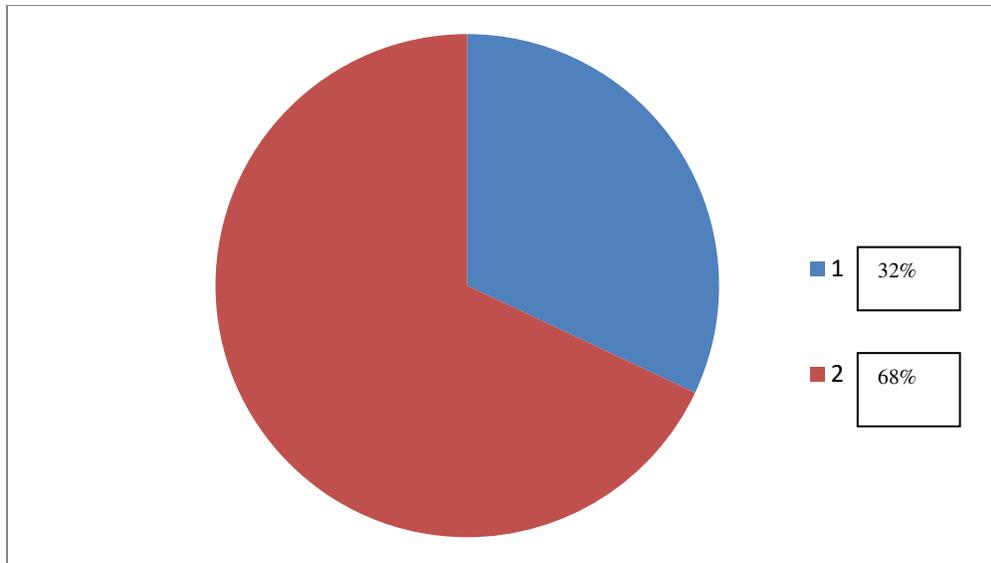
Urinary tract infection (UTI) is among the most common serious bacterial infection in infants and children. It may lead to renal scarring, hypertension, and end –stage renal disease. Early diagnosis is important to preserve renal function of the growing kidney.^[1] The aim of the present study was to assess the prevalence and changing susceptibility pattern of urinary pathogens in febrile paediatric patients.

Material and Methods

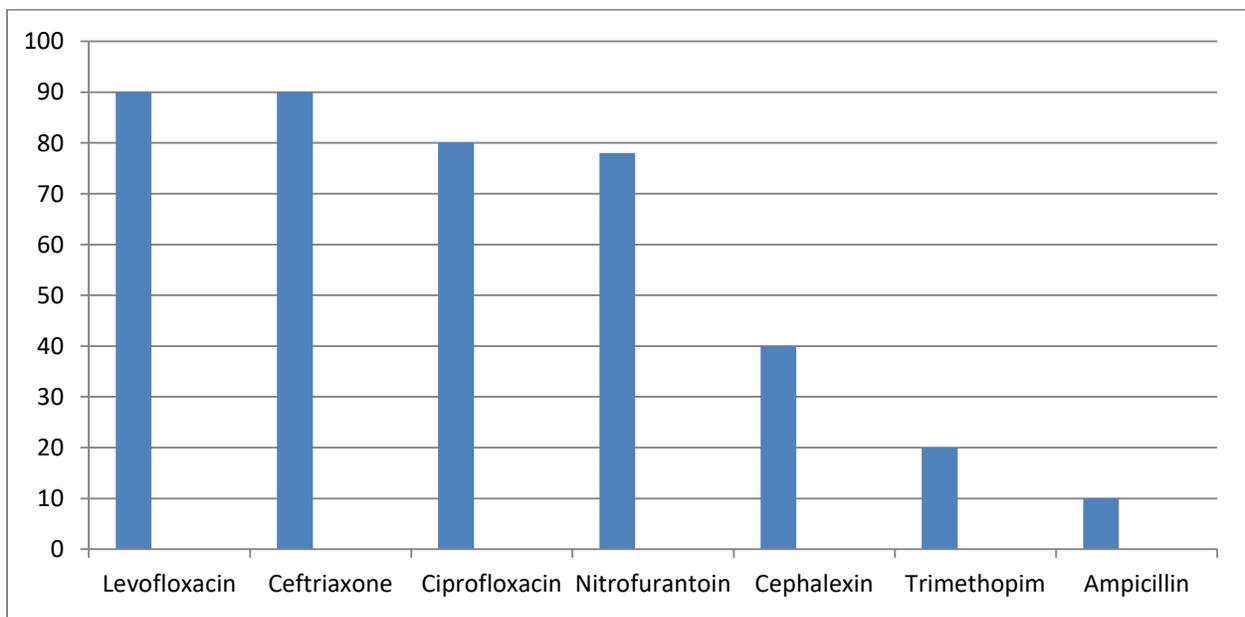
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Results

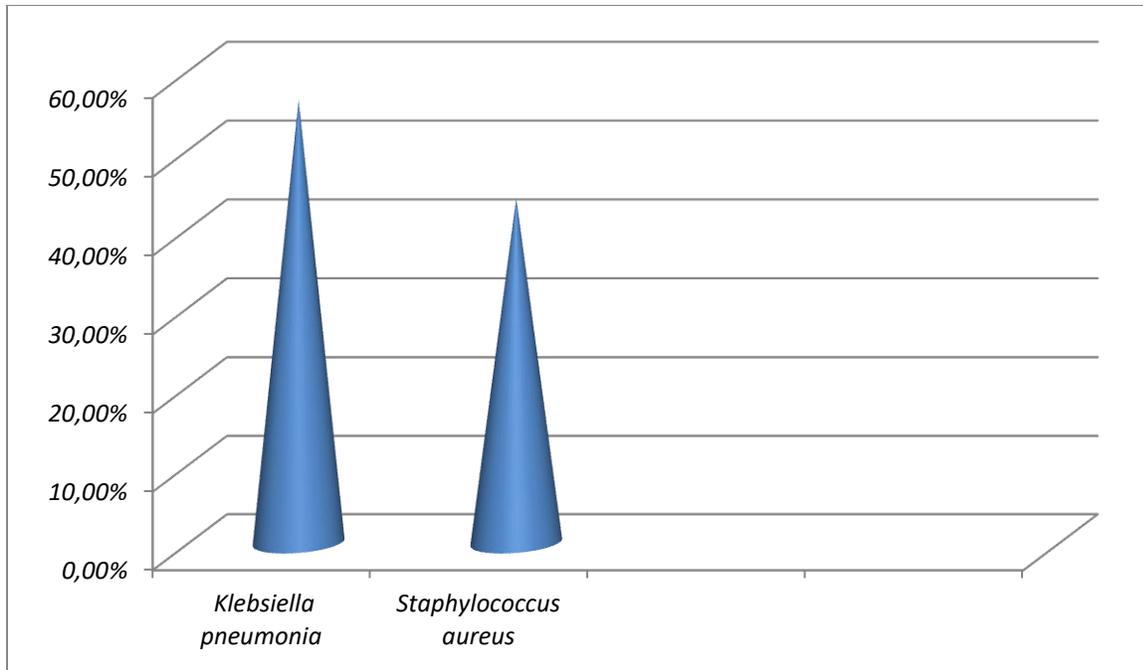
Out of total 50 UTI suspected paediatric patients 16 showed significant bacteriuria. Male were having 37.5% of UTI infection and female were having 62%. Females showed higher positivity in UTI cases than males. In our study *Klebsiella pneumoniae* (56.25%) and *Staphylococcus aureus*. (43.75%) were predominant pathogens isolated. Ampicillin, trimethoprim, cephalexin were found to be the most resistant drugs and, nitrofurantoin, ciprofloxacin, levofloxacin, ceftriaxone, were found to be the most sensitive drugs.



Significant Bacteriuria among the UTIs Cases



Antibiotics Sensitivity patients of the isolates



Most common isolated organisms

Discussion

In our study we concluded that out of total 50 UTI suspected paediatrics 16 showed significant bacteriuria. Male were having 37.5% of UTI infection whereas, female were having 62%. Females showed higher positivity in UTI cases than males. Similar to other study which was done by Qureshi AM and Malla KK, ^[3,4].

Several studies in paediatrics reported female predominance, with a variable ratio ranging from 6:1 to 1.33:1, depending upon the different sample size, and difference in age groups being studied ^[5-10] Reason behind low percentage of UTI among males was longer course of urethra and bacteriostatic secretion by prostate gland ^[11,12,13] which was also supported by our study.

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Conclusion

The antibiotic sensitivity pattern of organisms changes rapidly over a short period. Studies have demonstrated geographic variation in etiologic characteristics of UTI and their resistance patterns to antibiotics. Therefore to successfully eradicate UTI by empiric treatment, knowledge of local etiologic agents and their antibiotic susceptibility is of great value. This study reports the percentage of etiologic agents of UTI, most common symptoms in UTI patient and their antibiotic susceptibility in Northern India. It is important for clinician in order to facilitate the empiric treatment of patients and management of patients with symptoms of UTIs. Moreover, the data would also help to formulate antibiotic prescription policies.

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