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ORIGINAL ARTICLE

Prevalence of various pathogens isolated from urine cultures causing urinary tract infections in Bakhtawar Amin Trust Hospital, Multan

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ABSTRACT

Objective: This study is conducted to ascertain the microbial agents along with their prevalence leading to urinary tract infections in patients admitted in Bakhtawar Amin Hospital, Multan with manifestations of urinary tract infections.

Design: Descriptive observational study

Place and duration of study: Department of Microbiology Bakhtawar Amin Medical & Dental College & Hospital, Multan from January 2021 to July 2021.

Material and Methods: A total of 220 positive urine cultures were analyzed in this study extended for six months. All the appropriate details like age, gender, major presenting complaints, history of catheterization etc were noted. All the isolated urinary pathogens were recorded along with their frequency and percentages.

Results: Out of these 220 patients with positive urine cultures, majority (63.6%) were male. Gram negative bacteria (E. Coli) constitute the major bulk of urinary pathogens followed by Candida.

Conclusion: Urinary tract infections were commonly seen in men in our region. E. Coli was the most frequently encountered bacteria. A large number of Candida species were segregated in immunocompromised critically ill ICU admitted patients.

Keywords: Urinary tract infection, culture, pathogens, E.Coli, Candida.

INTRODUCTION

All over the world, the major bulk of infection related diseases received in health care units, is of urinary tract infection (1); seen inalmost every age group and in both men and women. Recurrent UTI is mostly encountered in sexually active women and almost half of the population of women is definitely affected at least once in their lives. (2, 3, 4)UTI is a designation given todiverse clinical states varying from symptomless presence of microbes in the urine to grave renal inflammation consequently leading to septicemia. (5)Urinary tract infections account for a large proportion of hospital acquired infections and mostly related to urinary catheterization. Various factors such as age, sex, sexual activity, pregnancy, prostatic enlargement, infrequent micturition, bed wetting at night during sleep and faulty toilet habits are potential etiologic factors leading to UTI along with frequent and extended usage of anti microbials leading to replacement of normal beneficial urine flora by pathogenic organisms. (6, 7)

MATERIAL AND METHODS

The research is conducted in Microbiology Department of Bakhtawar Amin hospital. Positive culture reports of all the urine samples sent to microbiology section of hospital laboratory were included. All the relevant data like age, sex, clinical signs and symptoms and indication of culture and sensitivity are noted along with microbiologic culture report. The particulars were obtained from medical track record, microbiologic culture request form and culture report registers. Percentage and proportions were calculated for all the variables. Relevant tables and charts were computed.

RESULTS

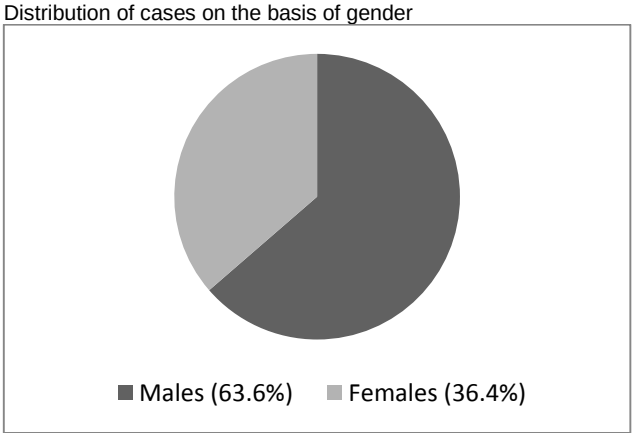
During the last seven months, a total of 220 positive urine cultures were reported in the microbiology department. The mean age was 65 years (ranging from 6 months to 75 years). Out of these 220 patients 140 (63.6%) were male. The major presenting complaints were fever, dysuria (burning micturition) and urgency.In majority of these positive urine cultures, the urinary tract infection was related to catheterization and the sample was obtained from indwelling catheters especially in men.Major bulk of urinary pathogens in our study was formed by gram negative bacteria.

Escherichia coli was the most frequently found gram negative UTI causing bacteria followed by Candida in our study.

Table: Percentage and proportions of various pathogens found on urine culture

Organism	Numbers	Percentage (%)
E. Coli	110	50
Candida species	29	13.2
Pseudomonas species	25	11.4
Klebsiella species	15	6.8
Enterobacter	16	7.3
Proteus species	10	4.5
Staph. saprophyticus	15	6.8
Total	220	100

Distribution of cases on the basis of gender



DISCUSSION

This study is conducted to ascertain the microbial agents responsible for urinary tract infections in Bakhtawar Amin Hospital, Multan. The mean age of patients who develop urinary tract infections in our study was 65 years in accordance with the study by Silver SA et al where they found mean age of 68 years. (8)

Out of these 220 patients with positive urine cultures, 140 (63.6%) patients were males, comparable to studies conducted by Silver SA et al, Lopes HV and Head KA. The application of instruments especially indwelling catheters and the development of ailments related to prostate are the elements involved in the rising frequency of UTI in men. In our study a vast majority of positive urinary tract infections were related to catheterization and the samples were taken from indwelling catheters. (8, 9, 10)

The most common presenting complaints associated with urinary tract infections in our study were fever, buning micturition and urgency. Similar mode of presentations was seen in several other studies. (11, 12, 13)

Most pathogens in our study were bacteria belonging to gram negative family. This is comparable to studies by Ullah A and Seifu WD. (6, 14)

E coli was the commonest bacteria responsible for urinary tract infection in our study comparable to many other studies (12, 15, 16, 17, 18, 19) followed by Candida species.

The reason of high percentage of Candida in our study is that most of these patients were seriously ill and hospitalized in ICU and were immunocompromised. Several studies proved such links. (20, 21, 22)

CONCLUSION

Urinary tract infections were more frequently found in men in this region. E Coli was the commonest pathogen. However, Candida species were isolated in a large number of immunocompromised seriously ill patients admitted in intensive care unit of the hospital.

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