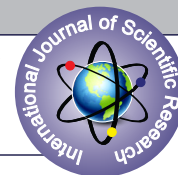


STUDY OF INCIDENCE OF UTI, PATHOGENESIS AND ITS SENSITIVITY PATTERN OF UTI IN PATIENTS IN PATIENTS WITH LOWER ABDOMINAL PAIN WHO VISITED THE DEPARTMENT OF OBG

Gynecology

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ABSTRACT

Background: Asymptomatic bacteriuria is a term used to designate urinary tract infections in the absence of symptoms with the growth of bacteria colonies often crossing 1,00,000 / ml in a freshly voided midstream urine sample. Urethritis and cystitis are characterized by the inflammation of the urethra and bladder with symptoms of dysuria, frequency and lower pubic pain and it is associated with fever. Acute pyelonephritis is the bacterial infection of renal parenchyma and it is characterized by fever with rigors, flank pain, vomiting, costo vertebral tenderness with or without symptoms of cystitis. It may be associated with pus formation. Prostatitis is quite common and it involves infective inflammation of the prostate associated with dysuria, urgency, frequency and pain in the lower abdomen, perineum, or base of the penis. A sincere effort has been made in this study the Pathogenesis and its Sensitivity Pattern in UTI.

KEYWORDS

Urinary Tract Infections, Pathogens, Culture, Sensitivity.

Introduction:

In sexually active females with recurrent UTIs the disease can be prevented by good perineal hygiene, emptying of the urinary bladder before and after intercourse, single dose cotrimoxazole immediately after intercourse^{1,2}. The treatment includes general measures like adequate fluid intake which helps frequent voiding of the bladder, use of urinary analgesics like phenazopyridine hydrochloride for symptomatic relief. Increased fluid intake diuresis there by aiding the flushing of bacteria, reduces irritation and decreases the hyperosmolarity of the medulla. Specific drug therapy whether it is the first episode of UTI or recurrent infection. In acute infection, single dose therapy amoxycycline 500 mg, cotrimoxazole 2 tablets or doxycycline 200 mg affects cure in 80% of the cases of lower urinary tract infection. This dose is two to three times of the therapeutic dose³. Occurrence of the relapse in the remaining 20% suggests acute pyelonephritis or prostatitis in young females⁴. Treatment with appropriate antibacterial agents depends on urine culture sensitivity. The treatment given for 10 to 14 days. Cases with frequent relapses should be treated for six weeks^{5,6}. In pregnant females, only amino penicillins and cephalosporins are permissible in the first trimester, following initial full dose treatment, suppressive therapy with single nightly dose will have to be carried out till term. All patients with recurrent infections will need appropriate radiological evaluation with intra- venous pyelogram, ascending pyelogram and urodynamic evaluation depending on the appropriate clinical diagnosis of the underlying condition. Final cure involve appropriate management of underlying conditions. Antibacterial agents which concentrate in prostatic tissue like cotrimoxazole, quinolones or erythromycin are used in the treatment of prostatitis. Aminoglycosides are used in fulminant cases. Complete eradication from the prostatic tissue may yet times need prolonged treatment for twelve days. Many a time in young couples, both partners need to be monitored and treated to avoid from each other. It is also the most common cause of nosocomial infections in adults⁷. If asymptomatic bacteriuria is detected in diabetics, children, immunity lacking persons or during pregnancy should be treated. High clinical acumen, perseverance and diligent search for underlying cause and adequate therapy from corner stones in recurrent tract infections.

Aims and Objectives:

The aim of the study is to

1. Find the pathogens causing the Urinary tract infection.
2. Find the sensitivity pattern of the pathogens.

Materials and Methods:

Four Hundred Fifty cases who visited the Department of OBG, KMC Mangalore, MAHE University The plethora of the signs and symptoms which were seen were noted and the mid catch of the urine was done and sent to the Department of Microbiology for the pathogens to be identified.

The sensitivity pattern was also studied and reported.

The study was done from December 2015 to November 2017

Inclusion Criteria:

1. The age of the person were between twenty to fifty. This was done to prevent the age bias.
2. Confirmed cases of UTI were included.

Exclusion Criteria:

1. <25 years and > 50 years were excluded.
2. Any pre- existing urinary tract malformations were not included in the study.
3. Patients who were under immune suppressant drugs were not included in the study.

Results:

Table 1: Mean age of the patient

Patients	Mean age	Standard Deviation
600	32.11	5.33

Table 2: Incidence of UTI

Patients	Incidence	Percentage
600	100	16.66

Table 3: Table of Significance

Patients	X-Value	P-Value (<0.05)
100	0.625	0.44

So it is significant.

Table 3: Frequency of pathogens in UTI

Organism	Frequency	Percent
E. coli	52	52%
S. aureus	19	19%
S. faecalis	21	21%
Pseudomonas	6	6%
S. pyogenes	1	1%
S. albus	1	1%
Total	100	100.0

Table 2: Antibiotics Sensitivity Pattern (to different organisms).

		E. coli	S. aureus	S. faecalis	Proteus spp.	Pseudomonas
Amoxicillin	Sensitive	19%	62%	71%	38%	0%
	Resistant	81%	38%	29%	62%	100%
Augmentin	Sensitive	38%	79%	72%	63%	0%
	Resistant	62%	21%	28%	37%	100%
Ofloxacin	Sensitive	70%	80%	76%	81%	59%
	Resistant	30%	20%	24%	19%	41%
Gentamicin	Sensitive	58%	67%	31%	48%	34%
	Resistant	42%	33%	69%	52%	66%
Nalidixic acid	Sensitive	40%	21%	22%	31%	19%
	Resistant	60%	79%	78%	69%	81%

Nitrofurantoin	Sensitive	72%	55%	45%	34%	22%
	Resistant	28%	45%	55%	66%	78%
Cotrimoxazole	Sensitive	44%	19%	19%	21%	16%
	Resistant	56%	81%	81%	79%	84%
Tetracycline	Sensitive	32%	24%	42%	8%	09%
	Resistant	68%	76%	58%	92%	91%

Discussion:

Common micro-organisms responsible for UTI are gram negative enterobacteriaceae, *E. Coli*, being the most commonly isolated organism in the acute infections. However *Klebsiella* species and certain gram negative non – fermenting bacteria are encountered in hospital acquired infections. *Proteus* group of organisms are commonly seen in presence of calculus disease of the urinary tract. *Pseudomonas aeruginosa* is seen in special urological situations following catheterization or instrumentation of urinary tracts or nosocomial infections that are acquired from the hospitals. The organisms come from the bacterial flora of the perineal region by ascending infection due to the close proximity of the anal canal and the urethra. They may come from foci of sepsis in the upper respiratory tract, orodental and cardiopulmonary regions through the blood stream. Any obstruction to the urinary passage distal to the bladder allows the the bacteria that have ascended up an opportunity to travel further upwards from the bladder to the ureters and the kidney due to high pressure in the system, leading to the reflux of bladder urine into the ureters. In young, sexually active females, trauma, during intercourse can result in the ascent of infections to the bladder. In pregnant females dilated ureters due to the hormonal influences and pressure of the gravid uterus enables the bacteria to travel from the bladder to the kidney. The growth of the bacteria depends on the host factors as well as the microbial factors. The common etiopathogenic factors include anatomical abnormalities of the urinary tract in adults like meatal stenosis, bladder outlet obstruction due to urethral structures or enlarged prostate. Pelvi ureteric anomalies, vesico – uretric reflux, medullary sponge kidney with calcinosis, renal tubular acidosis, functional abnormalities resulting from bladder dyskinesia, bladder detrusor sphincter dysnergia and neurogenic bladder are some of the congenital causes responsible for recurrent UTI. Common acquired causes include obstruction due to stones, tumors, uterine prolapse, vesico – vaginal fistula, cervicitis and vaginitis in females. In the group of female patients with idiopathic recurrent UTIs where there are no abnormalities of the urinary tract a number of host factors and bacterial virulence properties have been identified.

Conclusion:

The incidence is significantly high in female patients complaining of lower abdominal wall. This is seen peculiarly high in the age bearing group. In this study the most common pathogens which causes the UTI and the sensitivity pattern has been reported.

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