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A study of pathogenesis, clinical and sensitivity patterns of UTI in the field of OBG

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Abstract
The effectiveness of antimicrobial treatment in reducing UTI s is well established. But Studies have demonstrated wide variation in utilization of antimicrobial treatment, including inappropriate selection of agents, improper timing of administration, and excessive duration of treatment. The purpose of this study is to evaluate and establish an antibiotic protocol for UTI's in our hospital setting. We would be performing a culture analysis of urine to identify the presence of infection in the renal unit, which will guide us for antibiotic usage. Hence, we are trying to establish an antibiotic protocol for UTI without compromising on treatment, and to avoid excessive duration of antibiotic treatment. But the knowledge is lacking in the field of OBG and to find the appropriate treatment in pregnant females and the normal females is a challenge in itself.

Keywords: renal stone, microbiology, sensitivity.

Introduction
The knowledge is lacking in the field of OBG and to find the appropriate treatment in pregnant females and the normal females is a challenge in itself. In case of pregnant females there is a lot of discrepancies between authors and Antibiotics should be used very carefully.
Most of the cases of Urinary tract infections land up first in a general practitioners office as the signs and symptoms are very plethoric [1, 2]. Urinary tract infections (UTIs) results in patient morbidity [3]. The effectiveness of antimicrobial treatment in reducing UTI s is well established[4]. But Studies have demonstrated wide variation in utilization of antimicrobial treatment, including inappropriate selection of agents, improper timing of administration, and excessive duration of treatment.
For UTI's the most preferred antibiotic treatment are either Cephalosporin or Aminoglycoside or Clindamycin or Ampicillin-Sulbactum or Fluoroquinolones. But in Indian scenario, the general trend is to give 5 days of oral antibiotics due to long standing and complications to prevent pyelonephritis, sepsis, and septicaemia [4, 5]. The injudicious use of antibiotics may result in the emergence of Extended Spectrum Beta Lactamases (ESBL) resistant strains [6].

Aims and Objectives
To study the Pathogenesis, Clinical and Resistant Patterns of UTI in the Department of OBG in non-pregnant females.

Methodology
Study design: A retrospective study.
Study period: September 2018 – September 2019.
Study setting: Department of OBG
Study population: All non – pregnant patients presented to our center Kanachur Institute of Medical Sciences, Mangalore.
Sample size: 31 patients
Study group: Patients diagnosed to have surgical site infections.

Inclusion criteria
1. Non-pregnant females
2. Clinically Diagnosed

Exclusion Criteria

1. Pregnant females
2. Patients on immunosuppressant drugs

Results

Table 1: Signs and Symptoms

	Fever	Pain (Burning)	Pain (Dull non specific)	Dysparenunia	Smell
Yes	121	130	76	68	92
No	13	04	58	66	42
Total	134	134	134		
Sig	Sig (p<0.001)	Sig (p<0.001)	Not	Not	Sig (p<0.001)

Table 2: Urine culture

Intra Operative Renal Urine Culture		Valid Percent
growth present	96	71%
No growth	38	29%
Total	134	100

Graph 1: Sensitivity

	P	EC	PV	AB	EA	K	CNS	ECS	SA	MRSA
Amikacin	6	7		2	1	1				
Gentamycin	2	1		1		3	8		2	
Colistin										
Ceftazidime	2					2			1	
Cefepime										
Flucytosine										
Fluconazole										
Voriconazole										
Amphotericin B										
Caspofugin										
Micafungin										
Nalidixic Acid										
Ciprofloxacin	2	1				3	9		1	
Norfloxacin						1				
Levofloxacin	4	1				3	5			
Nitrofurantoin										
Fosfomycin										
Trimethhoprim/Sulfamethoxozole	2						3			1
Piperacillin/Tozabactam	2			1	2	2				
Ceftrazidine										
Ertapenem										
Minocyclin										
Tigecycline		1			1		1		1	
Cefta				1			1			
Amoxiclav		1								
Doripenem	4	3			1	1			1	
Meropenem	4	3			3	4			1	
Clindamycin							2			
Linezolid							7		1	1
Teicoplanin							4			1
Vancomycin							3			1
Tetracycline							3			1
Oxacillin							1			
Benzylpenicillin										
Cefalotin										
Ceftazidime	1					2				
Cefexime		1				2				
Cefoperazone/Sulbactam	1				2	2				
Cefepime	2	1				2				
Imipenem										
ceftazidime						2				
Cefoxitin							3			
Cotrimoxasole							2		1	
Ampicillin/Sulbactam				1						
Doxycyclin							4		1	
Vancomycin							1			
Erythromycin							1			
Ofloxacin										

P - Pseudomonas aeruginosa
EC- Escherichia coli
PV- Proteus vulgaris
AB- Acinetobacter baumannii
EA- Enterobacter aerogenes
KP- Klebsiella pneumoniz
CNS - Coagulase negative Staphylococcus
ECS - Enterococcus spp

Discussion

Fever, Pain and smell are significantly consistent finding in our study.

Microbiological Profile and Resistance Pattern in Urine Culture:

We found 96 urine culture which turned positive. In this study actinobacter was isolated in 4 cases, candida albicans was found in 1 case, candida krusei was isolated in one case, candida tropicalis was isolated in one case, coagulase negative staphylococcus aureus were isolated in 2 cases, Enterobacter and enterococcus were isolated in 2 cases each, E-Coli were isolated in ten cases and was by far the most common isolated organism. Klebsiella pneumoniae were isolated in 2 cases, Proteas vulgaris were isolated in one case, Pseudomonas was isolated in three cases. Mixed variety were reported in 3 cases. The most common organisms that were found in urine culture is pseudomonas aeruginosa. Majority were sensitive to Amikacin followed by gentamicin. They were also sensitive to cephalosporins.Candida species were also recovered and were seen sensitive to fluconazole. Proteas vulgaris were also recovered and were extensively resistant to Amikacin and gentamycin.

The study is in agreement with other studies conducted by Patterson JE *et al*. [7], Meiland R *et al*. [8] and Boyko EJ *et al*. [9]. Co-Morbodities especially a state of immune-suppression can have its affects. The UTI and resistance patterns are especially reported in a risk ratio and rate ratio association pattern.

In our study 96 patients were found to be positive on microbiological culture which accounted for 71 percent which is significantly high. Lack of hygiene may be the problem and education regarding this should be done in the under privileged. Rest of the patients were negative. This may indicate in injudicious use of antibiotics in the society.

Conclusion

In our study 96 patients were found to be positive on microbiological culture which accounted for 71 percent which is significantly high. Lack of hygiene may be the problem and education regarding this should be done in the under privileged.

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