

International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622
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www.gynaecologyjournal.com
2021; 5(4): 31-33
Received: 05-04-2021
Accepted: 07-06-2021

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Urinary tract infection in pregnancy

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DOI: <https://doi.org/10.33545/gynae.2021.v5.i4a.962>

Abstract

Urinary tract infections are the most common bacterial infection in pregnancy. Urinary tract infections may present as asymptomatic bacteriuria, acute cystitis, pyelonephritis. Untreated urinary tract infections cause serious maternal and neonatal complications, such as preterm labour, premature rupture of membrane, preeclampsia, anemia, low birth weight. Urine culture and sensitivity is the gold standard method of screening. *E.coli* is the most common organism causing urinary tract infection. Treatment of urinary tract infection with appropriate antibiotics has been shown to reduce these complications. Therefore, pregnant women should be screened for the presence of bacteriuria early in pregnancy.

Keywords: urinary tract infection, pregnancy, bacteriuria, pyelonephritis

Introduction

Aim

To study the prevalence of Urinary tract infection in Pregnancy and its associated maternal and neonatal complications.

Materials and Methods

This study was conducted at Government Thiruvannamalai medical college and Hospital during the period from April 2019-April2020.

Study Design

Prospective study

Inclusion Criteria

All pregnant women presenting with signs and symptoms of UTI (frequency, urgency, dysuria, suprapubic or loin pain).

Exclusion Criteria

Pregnant women on antibiotic within last 2 weeks

Sample Size

200 Patients

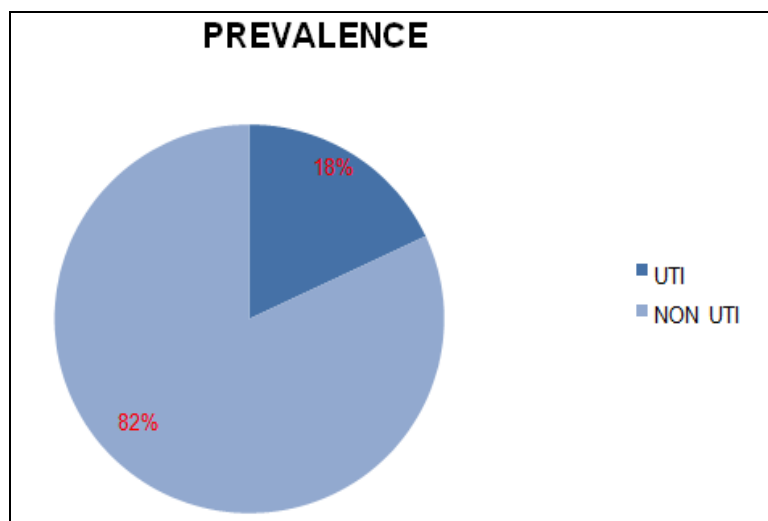
Pregnant women who satisfying the above mentioned inclusion criteria were informed about the study and the implications of their participation. They were trained to collect clean catch mid stream urine in a sterile bottle. These samples were then transported to the laboratory and processed within a hour. If immediate processing was not possible, the samples were promptly refrigerated at 4 °C. These urine samples were subjected to microscopy and, culture and sensitivity. Cultures were done with CLED agar. The microbes which were isolated were subjected to antibiotic sensitivity testing using disc diffusion technique.

Results

Table 1: Prevalence of UTI

Prevalence	Cases	Percentage
UTI	36	18%
Non UTI	164	82%
Total	200	100%

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Prevalence of UTI

Table 2: Age distribution

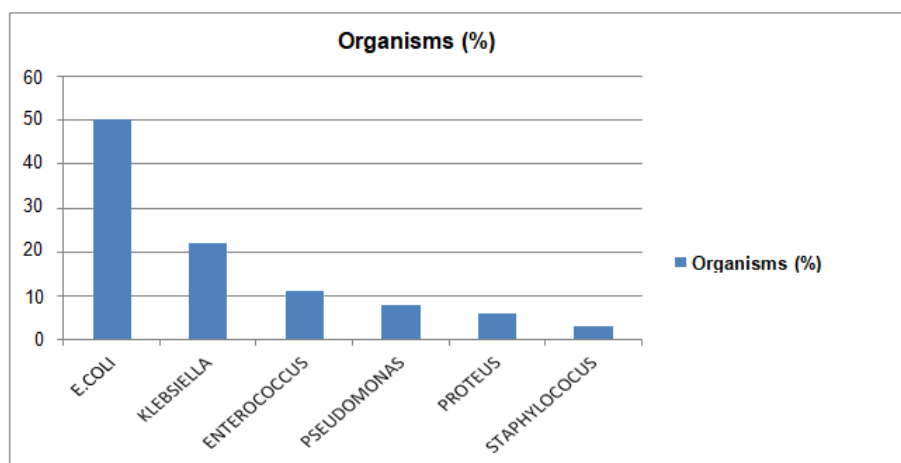
Age	No	%
21-25 Yrs	18	50
25-30 Yrs	10	28
30-35 Yrs	8	22

Table 3: Parity

Gravida	No	%
Primi	7	19
Multi	29	81

Table 4: Pathogenic species

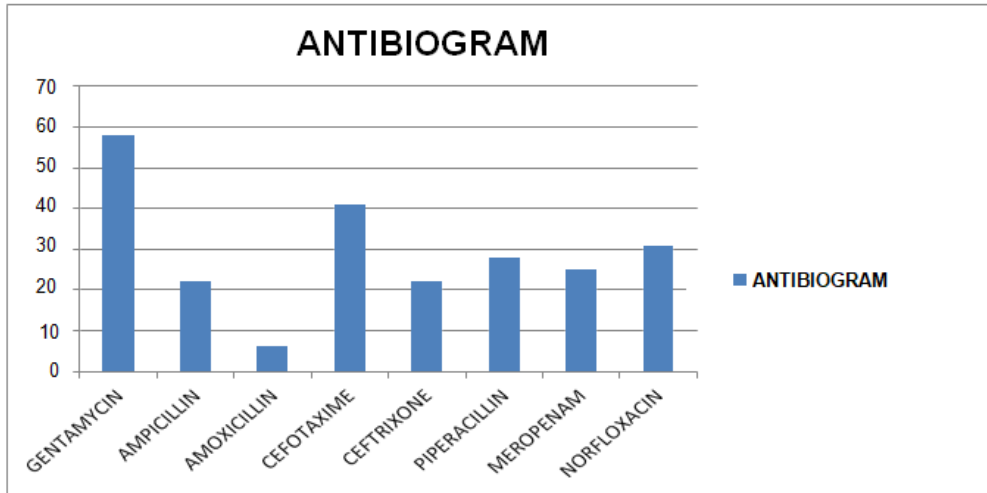
Pathogen	No	%
<i>E Coli</i>	18	50%
<i>Klebsiella pneumonia</i>	8	22%
<i>Enterococcus fecalis</i>	4	11%
<i>Pseudomonas aeruginosa</i>	3	8%
<i>Proteus mirabilis</i>	2	6%
<i>Staphylococcus</i>	1	3%
Total	36	100%



Organisms

Table 5: Antibioqram

Antibiotic Sensitivity	No	%
Gentamycin	21	58%
Cefotaxim	15	41%
Norfloxacin	11	31%
Piperacillin	10	28%
Meropenam	9	25%
Ceftriaxone	8	22%
Ampicillin	8	22%
Amoxycillin	2	6%



Antibiogram

Table 6: Maternal & Fetal complications

Complications	%
Abortion	1%
Preterm Labour	6.5%
Prom	2%
Low Birth Weight	4%
Anemia	9%

Discussion

Urinary tract infections are one of the common infections occurring during pregnancy. A total of 200 pregnant women are included in the study. The proportion of pregnant women with UTI in our study was 18%.The prevalence of UTI in the age group 21-25 years in our study was 50 %. UTI was most common in the second trimester. It was also slightly higher in multips compared to primi gravidae indicating multiparity had increased risk for developing bacteriuria in pregnancy.

The most prevalent organisms isolated from culture in our study was E. coli (50%) followed by Klebsiella pneumonia (22%) & Staphylococcus saprophyticus (3%).This finding is consistent with many of the previous studies which said that E. coli was the most common pathogen causing urinary tract infection. In our study antibiogram showed Gentamycin to be the most sensitive antibiotic followed by cefotaxime, norfloxacin & meropenam. The complications like abortion, preterm labour, PROM, low birth weight & anemia were associated with UTI in pregnancy in our study.

All complications of UTI in pregnancy can be reduced by appropriate antimicrobial treatment. This study also shows that UTI in pregnancy and its associated effects on the maternal and neonatal may be influenced by confounding factors such as age, parity, socioeconomic status.

Results

Prevalence of urinary tract infection during pregnancy is high and it contributes significantly to maternal and perinatal morbidity. Hence all pregnant women should be screened for UTI in pregnancy. Early treatment with antibiotics will significantly reduce maternal and neonatal complications. The goal of early diagnosis and treatment of UTI during pregnancy is to prevent complications to the mother and the fetus. Further, more studies are needed to identify low cost, feasible and accurate methods of UTI screening.

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