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Dr. Shazia Nisar
Senior Resident, Department of
Obstetrics and Gynecology,
SKIMS, Soura, Jammu and
Kashmir, India

Incidence of urinary tract infection in a sample of women attending antenatal OPD at a tertiary hospital and its pregnancy outcome

Dr. Shazia Nisar

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Abstract

Introduction: UTI is 2nd common complication following pregnancy first being anemia. Recurrent UTI is predisposing factor for anemia, preterm labour, PPROM, LBW. This mandates universal screening for UTI in pregnancy.

Results: Incidence of uti in our study is 15% Common age group of pregnant Patients with UTI is 20-30years, UTI in our study is common in primiparas most common organism responsible for UTI in our study is *E. coli*. Those with recurrent UTI face more pregnancy complications. Nitrofurantion is drug of choice for UTI.

Conclusion: Since UTI puts a great burden on outcome of pregnancy so it's universal screening is recommended in all pregnant women at their first antenatal check up.

Keywords: Urinary tract, OPD, pregnancy outcome

Introduction

Urinary tract infection is the second most common Complication in pregnancy ^[1]. Urinary tract infection in Pregnancy can present as asymptomatic bacteriuria, acute Cystitis and pyelonephritis. Asymptomatic UTI is the presence of actively multiplying pathogens in urinary tract without signs and symptoms of UTI ^[2]. Symptomatic UTI is the presence of more than 1000000 CFU/ml of urine. Asymptomatic UTI if not treated will lead to pregnancy complications like preterm labour, intrauterine growth retardation, anemia ^[3]. That is why routine screening for UTI is done at first ANC ^[4]. The most common organism responsible for UTI is *E. Coli*, others being klebsella, entrobacter, Proteus, puedomonnas, staphylococcus, streptococcus.

In presence of recurrent UTI staphylococcus saprophyticus should be ruled out. Incidence of UTI start to increase from 6 weeks and peaks at 22-24 weeks ^[5, 6, 7]. Risk factors for recurrent UTI are diabetes, low socioeconomic status, nulliparity, frequent sexual intercourse and structural abnormalities ^[8, 9, 10, 11]. Prevalance of asymptomatic bacteriuria in pregnant women is 5-10% ^[12]. Urine culture is gold standard for diagnosis of bacteriuria, it identifies the causative organism and helps in determing antibiotic sensitivity.

Methodology

This study prevelance of UTI in pregnant women attending antenatal old at tertiary hospital was carried over a period of one year from August 2017 to June 2018. This Study included 200 pregnant women with age group of 20-40 years. They were sent for routine urine analysis by midstream clean catch method for microscopy and culture of urine. Patients were allocated as UTI positive if they had 10,00000 CFU /ml with urine culture showing single uropathogen, Antibiotic sensitivity was also done and antibiotics were prescribed based on antibiotic sensitivity. Antibiotics they were given for 14 days and repeat culture was done after 2 weeks. Those patients were cultures were sterile were followed for repeat culture after 4 weeks till delivery for any relapse. All the patients were then followed for pregnancy complications like anemia, preterm labour, IUGR, mode of delivery. It was seen that Patients with recurrent episodes of UTI had more pregnancy complications.

Corresponding Author:
Dr. Shazia Nisar
Senior Resident, Department of
Obstetrics and Gynecology,
SKIMS, Soura, Jammu and
Kashmir, India

Results

Out of 200 patients attending our ANC opd 30 patients were labelled as UTI positive.

Thus incidence of UTI in our study was 15%.

Table 1: Total of patients= 200

UTI positive cases = 30
Incidence of UTI = 15%

Table 2: Most common age group in our study was 20-30 years (60%)

Age group	No. of patients	Percent
20-30	18	60%
30-40	12	40%

Table 3: In our study UTI was more common in primipara (56.6%)

Parity	No. of Patients	Percent
1. Primipara	17	56.6%
2. Multiparty	8	26.6%
3. Grandmulti	5	16.6%

Table 4: Following organisms were isolated from culture of UTI positive patients

Organism	No. of Cases	percent
1. <i>E.coli</i>	18	. 60%
2. <i>Klebsella</i>	6	20%
3. <i>Enterobacter</i>	3	10%
4. <i>Puedomonas</i>	1	3.3%
5. <i>Proteus</i>	1	3.3%
6. <i>Staphylococcus</i>	1	3.3%

E. Coli. Was most common organism isolated (60%)

Table 5: Adverse pregnancy outcomes seen in patients with recurrent attacks of UTI.

Adverse outcome	No. of patients	percent
1. Pyelonephritis	5	16.6%
2. Preterm labour	10	33.3%
3. PPROM	2	6.6%
4. Anemia	6	26.6%
5. Chorioamnionitis	3	10%
6. Low birth weight	2	6.6%

Discussion

Out of 200 patients allocated in our study, 30 patients turned out to be UTI positive, thus incidence of UTI in our study was 15%, this is quite high that justifies universal screening of pregnant women for UTI in our study. This increased incidence of UTI in our study is similar to study done by Delzell *et al.* [13] while in study by Esha Michael it's incidence is 9.8% [14]. The common age group with UTI was 20-30years (60%) this is similar to study done Bandyopadhyay *et al.* [15] and Esha Micheal [14].

Regarding parity UTI was most common in primiparas (56.6%) in our study, similar to study by Amit Ranjan *et al.* [16] The common uropathogen responsible for UTI in our study was *E. coli*. followed by *Klebsella*, *Enterobacter*, *Puedomonas*, *Proteus*, *Staphylococcus*. Nitrofurantion seems to be drug of choice for UTI in pregnancy [17]. Alternatively cephalosporins rather than short courses of antibiotics during pregnancy [18]. Regarding Pregnancy outcome in patients with recurrent UTI the most common complication was Preterm labour similar to study by Dawkins je *et al.* [19] other complications were pyelonephritis, anemia, PPROM, chorioamnionitis, low birth weight babies, this matches with the study [20]. Increased incidence of preterm

labour in UTI is explained on the basis of release of bacterial endotoxins that initiate uterine activity, similarly anemia occurs because of endotoxin mediated hemolysis.

Nulliparity and young age being risk factors for recurrent UTI in our study similar to Study [19].

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