



## A STUDY OF AETIOLOGY OF DYSURIA IN PREGNANCY

## Obstetrics &amp; Gynaecology

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## ABSTRACT

Dysuria in pregnancy causes pregnant women at high risk of serious complications. This study is conducted to investigate the incidence of dysuria among pregnant women attending antenatal outpatient department. 150 pregnant women were selected. Urine samples and vaginal swabs were taken in each case for investigation. After investigation 120 patients had either acute cystitis or acute vaginitis or both, and in 30 patients neither was the cause. Most cases were in the third trimester and were multigravida. Cause of urinary tract infections were Escherichia Coli (32.97%), Proteus sp. (17.02%), Klebsiella sp. (13.82%), Pseudomonas (11.07%) etc. Candida species and Trichomonas vaginalis were responsible for most of the cases of acute vaginitis. Amikacin and Levofloxacin were the most effective antibiotics against the bacteria isolated. Result indicated that the incidence of urinary tract infections were high among the pregnant women in study area. So urine culture and sensitivity test should be done in routine antenatal check up.

## KEYWORDS

Urinary Tract Infection, Pregnancy, Asymptomatic Bacteriuria, Dysuria.

## INTRODUCTION:

Dysuria means difficulty in urination. It is a common complaint in pregnant women. External dysuria is secondary to acute vulvovaginitis, while internal dysuria is due to acute cystitis or acute urethritis (Edward et al 1983). Pregnancy causes numerous changes in women's physiology. There is urine stasis and backflow of urine from bladder to ureters. These changes along with the short urethra increase the frequency of urinary tract infection in pregnant women (Johnson and Kim, 2012). In general, pregnant women are considered immunocompromised urinary tract infection hosts because of physiological changes associated with pregnancy (Ceisla, 2007). Urinary tract infection may be symptomatic or asymptomatic and common organisms are Escherichia Coli, Proteus, Klebsiella and others (Donald 1991). Microorganisms commonly involved in vulvovaginitis are Candida albicans and Trichomonas Vaginalis (Faro 1989). These clinical conditions can have long term effects on the health of the mother as well as the foetus or pregnancy outcome (Kriger 1986). Therefore, dysuria in pregnant women need proper investigation and evaluation for a preventive approach to maternal and foetal complications (Andriole, 1975).

## MATERIALS AND METHODS:

A total of 150 pregnant women attending antenatal clinic of Calcutta National Medical College and Hospital with symptoms of dysuria were selected for the study. After demographic information like age, parity, gravida, gestational period and antibiotic used in the past week etc; clean catch mid-stream urine sample and vaginal swabs were obtained from each case. Urine routine examination and culture sensitivity done. Vaginal swabs were examined for Candida albicans and Trichomonas vaginalis by direct microscopy. Candida species were isolated on Sabaraud's dextrose agar and identified by germ tube test and cornmeal agar morphology.

## OBSERVATIONS:

Among 150 patients studied, 120 patients had a definite etiological agent which causes dysuria. Out of these 120 patients, 87 patients had acute cystitis, 26 had acute vaginitis and rest 7 patients had both. In 30 patients, no definite etiological agent detected. Among these 30 patients, 18 had non-significant bacteriuria and in 12 patients, no microorganism isolated. Maximum number of cases seen in third trimester (Table-1), younger age group and multigravida. Incidence of acute cystitis as well as acute vaginitis is more common in multigravida and elderly groups (Table 2 & 3). Various bacteria isolated from urine samples are shown in Table-4. Microorganisms showed maximum sensitivity to Amikacin and Levofloxacin while minimum sensitivity against Amoxycillin and Cotrimoxazole (Table-5). Among 33 cases of acute vaginitis, candida was isolated in 18 cases

and Trichomonas in 15 cases and in one case both were present.

## DISCUSSION:

Urinary tract infections as well as vaginitis are common complications of pregnancy. 40% of women with bacteriuria develop acute pyelonephritis which could be prevented by proper treatment in early pregnancy (Kass 1960). In the present study, acute cystitis was more common than acute vaginitis as a cause of dysuria. The incidence of acute cystitis and acute vaginitis was maximum in the patients in third trimester, in older age groups as well as in multigravida women. Similar findings have also been reported by Stuart Cummins (1965) and Mc neelis (1977). Increase in pressure effect of the enlarging gravid uterus on ureters is basically responsible for increase in significant bacteriuria with an increase in gestational age. The effect of parity and gestational age can be explained due to acquisition of drug resistance to the routinely used antibiotics. Vaginitis due to candida is common during pregnancy due to high levels of reproductive hormones which provide higher glycogen content in the vaginal environment providing an excellent carbon source for Candida to grow and germinate (Mc Cowitie et al 1981).

**Table-1: Acute bacterial cystitis and acute vaginitis according to the period of gestation**

Serial No.	Period of Gestation	Total number of cases	Number of cases with acute cystitis	Number of cases with acute vaginitis
1.	First Trimester	7	3(42.85%)	0
2.	Second Trimester	63	36(49.31%)	10(15.87%)
3.	Third Trimester	80	48(60%)	16(20%)
Total	150	87(58%)	26(17.33%)	

**Table-2: Relation of Acute Bacterial Cystitis and Acute vaginitis**

Serial No.	Age group in years	Total number of cases	Number of cases with acute cystitis	Number of cases with acute vaginitis
1.	16-25	79	43(54.43%)	12(15.18%)
2.	26-35	64	39(60.93%)	12(18.75%)
3.	36 & above	7	5(71.42%)	2(28.57%)
Total		150	87(58%)	26(17.33%)

**Table-3: Relation between Acute Cystitis and Acute Vaginitis to gravida**

Serial No.	Gravida	Total number of cases	Number of cases with acute cystitis	Number of cases with acute vaginitis
1.	Primi	48	23(47.9%)	4(8.33%)
2.	Multi	102	64(62.74%)	22(21.56%)
Total		150	87(58%)	26(17.33%)

**Table-4: Various bacterial species isolated from urine in 94 cases of acute cystitis**

Serial No.	Bacterial species	Number of isolates
1.	Escherichia Coli	31
2.	Proteus species	16
3.	Klebsiella spp.	13
4.	Pseudomonal spp.	11
5.	Enterococci	9
6.	Citrobactor spp.	6
7.	Staphylococcus aureus	5
8.	Staphylococcus epidermidis	3

**Table-5: Drug sensitivity of various bacterial species isolated from urine in 94 case of acute cystitis**

Serial No.	Drugs	Number of sensitivity
1.	Amikacin	38
2.	Levofloxacin	26
3.	Norfloxacin	18
4.	Amoxycillin	7
5.	Cotrimoxazole	5

**CONCLUSION:**

1. Dysuria cases observed in patient study reveals the clinical and epidemiological significance that urinary tract infection and vaginitis has attained in pregnant women.
2. Therefore, it is necessary to thoroughly investigate cases of dysuria during pregnancy in order to prevent the complications which ensue during pregnancy.
3. This calls for the need to include compulsory urinary tract infection diagnosis especially by urine culture and sensitivity for pregnant women as a part of their routine antenatal visit for early detection and treatment.
4. There is the urgent need for the education and creation of awareness on the importance of personal hygiene particularly during pregnancy.

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