



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

ASYMPTOMATIC BACTERIURIA IN REPRODUCTIVE AGE GROUP FEMALES.

KEY WORDS: Asymptomatic Bacteriuria, Asymptomatic Bacteriuria during pregnancy

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ABSTRACT

Background: Asymptomatic bacteriuria is one of the important causative factors for premature or low-birth infants, postpartum urinary tract infections and higher fetal mortality rates in pregnant women **Methods:** Thirty-two asymptomatic females from the antenatal clinic, twenty-five females admitted to the post-natal ward and ten non-pregnant females were randomly selected. Clean-catch midstream urine sample was collected and processed for culture and sensitivity as per standard guidelines. **Results:** Overall incidence of asymptomatic bacteriuria was 11.9%. The incidence of asymptomatic bacteriuria in pregnant females was 3.1% whereas the incidence in post-natal females was 40%. None of the non-pregnant females had asymptomatic bacteriuria. **Conclusion:** Screening of antenatal and post-partum females is required to avoid adverse outcomes.

INTRODUCTION

Asymptomatic bacteriuria is the presence of bacteria in the properly collected urine of a patient who has no signs or symptoms of a urinary tract infection. Asymptomatic bacteriuria is very common in clinical practice and its incidence increases with age. Studies reveal that about 5% of young healthy women suffer from it^[1]. It appears to be associated with adverse outcomes in some groups, such as pyelonephritis or preterm delivery in pregnant women^[2].

Pregnancy is a distinctive state where both anatomical and physiological alterations occur in the urinary tract. Even though there is almost no difference between incidence rates of bacteriuria in pregnant and non-pregnant women, the risk of the former progressing to acute pyelonephritis is significant^[3]. As per Whally et al, bacteriuria detected early in pregnancy persisted for months after delivery in many untreated patients and pyelographic abnormalities were found in many of these patients^[4]. Moreover, studies reveal an increased occurrence of bacteriuria in the immediate postpartum period which is partially related to routine catheterization after delivery^[5].

Keeping these in mind this study was conducted to estimate a load of asymptomatic bacteriuria in our study population.

MATERIALS & METHODS

This is a cross-sectional study done in a tertiary care hospital. Reproductive age group females who did not show any signs and/or symptoms of urinary tract infection were only included in the study. A few female patients of the reproductive age group were selected randomly from Out Patient Department (OPD) while others were randomly selected from the post-natal ward of the Obstetrics & Gynaecology department.

Clean-catch midstream urine sample was collected from each patient into a sterile universal container that was covered with tight-fitting lids and was sent to the central laboratory. In the laboratory, urine samples of each patient were centrifuged at 3000rpm for 10-15 minutes, the supernatant was discarded and the deposit was examined microscopically at high magnification for pus cells, red blood

cells, epithelial cells, casts, crystals, yeast-like cells and Trichomonas vaginalis. The samples were also processed for culture and sensitivity by using standard microbiological procedures. Samples were inoculated on standard culture media using a calibrated loop by the standard loop method and the plates were incubated aerobically at 37°C overnight. Culture results were interpreted as significant and insignificant according to the standard criteria. Colony counts yielding bacterial growth $\geq 10^5$ CFU/ml of pure isolates were regarded as significant for infection. Isolates were identified by colony morphology and biochemical tests, and antimicrobial susceptibility testing was done by using the Kirby-Bauer method as per standard guidelines.

OBSERVATION & DISCUSSION:

Among randomly selected asymptomatic women, 32 females were from the antenatal clinic, 25 were admitted to the post-natal ward of the Obstetrics & Gynaecology department and 10 were from OPD. Among them, significant bacteriuria was found in only 5 cases whereas 60 samples were sterile with no growth. Only one out of the 32 asymptomatic antenatal cases was culture positive making the incidence of asymptomatic bacteriuria 3.1%. In the asymptomatic puerperium cases, significant bacteriuria was found in 4 out of 10 cases giving an incidence of 40%. None of the non-pregnant asymptomatic females had significant bacteriuria. Thus, the overall incidence of asymptomatic bacteriuria is 11.9%.

Similar to this study, several studies reveal the prevalence rate of asymptomatic bacteriuria in pregnancy to be 2% - 11% with the majority of investigators reporting it to be between 4% to 7%^[12,13,14,15,16,17]. Certain studies also reveal a higher incidence of asymptomatic bacteriuria (16.7% - 18%)^[10,18].

Similar to our study, the prevalence of postpartum bacteriuria in other studies varied between 22.5% in catheterized patients and 36.8% in non-catheterized patients^[11]. As per the study done by F.A. Orrett, about 34.5% of postpartum cases had asymptomatic bacteriuria^[11]. Another study revealed that Fifteen women who had untreated asymptomatic bacteriuria during pregnancy were studied 3 to 18 months after delivery; Nine of the women had histories of previous urinary tract infections; Twelve of the women had abnormal intravenous

pyelograms^[19].

In general, urinary tract infections are common in females. Moreover, due to the morphological and physiological changes taking place in the genitourinary tract, UTI is more common during pregnancy^[6,7]. Women who have bacteriuria have a 20-50 fold increased risk of developing pyelonephritis as compared to women who do not have bacteriuria^[8,9].

CONCLUSION

Asymptomatic bacteriuria of pregnancy needs special attention, due to the lack of symptoms and its adverse consequences in pregnancy. Hence screening of antenatal and post-partum females is required to avoid adverse outcomes.

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