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Asymptomatic Bacteriuria in Pregnant Women

Dr. Pedapati Kasturi M.D

Associate Professor, Department of Microbiology, Rangaraya Medical College, Kakinada-533003, Andhra Pradesh India

Abstract: ***Asymptomatic Bacteriuria is bacteriuria without apparent symptoms of urinary tract infection. Thereby leading to lack of seeking medical advice leading to established risk for mother and baby during perinatal and post natal period.This study is done on 100 women attending antenatal clinic for routine checkup at Government general hospital, Kakinada. Urine samples collected aseptically as per standard procedure and tested for the presence of pathogen along with antibiogram.Out of 100 cases tested, were positive for presence of bacteria. Among which predominant organism is Escherichia coloi, followed by Klebsiella, Pseudomonas and others. Antibiotic sensitivity for gram negative organisms are for Amoxiclav, Nalidixic acid, Amikacin,3rd and 4th generation Cephalosporins, Piperacillin Tazobactum.…etc. for gram positive organisms linezolid, amoxiclav, cotrimoxazole etc.***

Keywords: Early Detection, LBW, Faeto Maternal Complications, Significant Bacteriuria.

1. Materials and Methods

This study is done in the department of Microbiology RangarayaMedical College Kakinada. For a period of 2 months that is May, June 2019.
100 pregnant women attending obstetric opare tested after informed consent.

Exclusion criteria
1) Patients with symptoms of UTI.
2) Patients who have taken antibiotics for the past 3 months.

Inclusion criteria
1) Pregnant women attending antenatal clinic for routine checkup without symptoms of UTI

Collection & Transport

Patient is advised to clean external genitalia with soap and water and asked to collect midstream urine sample by keeping labia apart in a clean sterile container.

The urine sample is immediately transferred to microbiology laboratory for processing for the fear of contamination as urine is proven rich source of nutrients for the growth of microorganisms.

Microscopic examination of the sample done as wet mount for presence of pus cells, bacteria, epithelial cells, RBC etc. All samples are cultured on Nutrient and Macconkeys agar by standard loop technique. After aerobic incubation for 24 hours, number of colonies are counted and total count /ml of urine is calculated as colony forming units. The organisms are identified by colony characters, Grams stain, Motility , Standard Biochemical reactions. Antimicrobial susceptibility testing is done by Kirby- bauer disc diffusion test. With antibiotics asper CLSI Guidelines

2. Results and Discussion

In present study out of 100 cases tested 26 cases [26%] are culture positive cases. The age distribution taken for this especially in study is 20-35 years, among which highest positive cases are found to be in age group 20-25 yrs14. [53.84%]. Followed by 25 to 30 yrs10 cases [38.46%] 30-35 yrs2 cases[7.6%]

In our study majority of positive cases are belonging to lower socioeconomic status 20[77%] and multigravida 15 cases[53.84%]. Especially in in second trimester 16 [61.5%] fallowed by third trimester10 cases [38.4%]. In our present study, the predominant organism isolated is Escherichia coli 8 cases [30.76%] fallowed by Klebsiella species6 cases [23.07%] and Staphylococcus aureus 6 cases[23.07%] , Pseudomonas aeruginosa2[7.69%]and proteus2 cases [7.69%]. Most of the gram negative isolates are sensitive to Norfloxacin, 3rd and 4th generation cephalosporins, Amikacin Amoxiclav, Piperacillin and Tazobactum. Gram positive isolates are sensitive to Nitrofurontoin ,Amoxiclav. Erythromycin, Amikacin, Norfloxacin.

Our study correlated with Sabharwal etal[1] Lavanya etal [2]Prasanna etal[3] as predominant organism isolated in all studies is Escherichia coli.in present study .Most of the cases are of low socio economic status due to poor Personal hygiene and lack of education. which correlated with Prasanna et al [3]

In our study infection is common in multi gravidas more prone to risk with 53.84% which has similarity with .Okonoetal[4]. More cases are reported in Second trimester [61.5%]. It is found that more common in age group 20-25.

Years of age group correlating with Sudha et al [5] Prasanna et al [3]. Our antibiotic sensitivity pattern for various isolates in our study, almost matched with rest of the studies.

Table 1

Study Group	N=100
Positives	26
Negatives	74

Age Group	Positives [N=26]
20-25 years	14
25-30 years	12
30 -35 years	2

Table 3

Socio Economic Status	N=26
lower	20
Lower middle	06

Table 4

GRAVIDA	%N=26
1	53.86%
2	38.46%
3	7.69%

Table 5

TRIMESTER	N=26
1ST TRIMESTER	2
2ND TRIMESTER	14
3RD TRIMESTER	10

Table 6

Organism isolated	N=26	%
Escherichia coli	8	30.76%
Staphylococcus aureus	6	23.07%
Klebsiella species	6	23.07%
Pseudomonas aureginosa	2	7.69%
Proteus vulgaris	2	7.69%
Proteus mirabilis	2	7.69%

3. Conclusion

Asymptomatic bacteriuria is not uncommon in general antenatal population. Howeverinfection is unnoticed due to asymptomatic in nature and thereby often neglected. This infection is common in lower socio economic class due to poor environmental conditions, poverty, lack of personal hygiene. Infection is morecommon in multigravida and younger agegroups especially in 2nd and 3rdtrimesters.where anatomical and physiological changes advance this leads to stasis of urine and encourage bacterial multiplication. So regular screening along with routine antenatal checkup is advisable for all women attending antenatal clinic to avoid comlications to mother and child like pre maturity, low birth weight, Preeclamsia, Septicaemia .However treatment with antimicrobials should always be evaluated over the risk for foetus with usage of them during pregnancy. This problem can be overcome by usage of drugs recommended safe in pregnancy by health care guidelines and prescribed by health care professionals.

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