Asymptomatic Bacteriuria in Pregnant Women

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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 postnatal 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, 26 cases [26%] were positive for presence of bacteria. Among which predominant organism is Escherichia coli, followed by Klebsiella, Pseudomonas and others. Antibiotic sensitivity for gram negative organisms are for Amoxiclav, Naldixic 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 Rangaraya Medical 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 as per 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 yrs.

In our study majority of positive cases are belonging to lower socioeconomic status [77%] and multigravida 15 cases [53.84%]. Especially in second trimester [61.5%] followed by third trimester 10 cases [38.4%]. In present study, the predominant organism isolated is Escherichia coli 8 cases [30.76%] followed 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 Nitrofurantoin, 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 .Okono etal [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

<table>
<thead>
<tr>
<th>Study Group</th>
<th>N=100</th>
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<tbody>
<tr>
<td>Positives</td>
<td>26</td>
</tr>
<tr>
<td>Negatives</td>
<td>74</td>
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</table>

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Positives [N=26]</th>
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<tbody>
<tr>
<td>20-25</td>
<td>14</td>
</tr>
<tr>
<td>25-30</td>
<td>12</td>
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<td>30-35</td>
<td>2</td>
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3. Conclusion

Asymptomatic bacteriuria is not uncommon in general antenatal population. However, infection 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 more common in multigravida and younger age groups especially in 2nd and 3rd trimesters 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 complications to mother and child like pre-maturity, low birth weight, Preeclampsia, 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.

References

[6] BAILEY AND SCOTTS DIAGNOSTIC MICROBIOLOGY. 13TH EDITION.