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Research Article

**A STUDY ON THE OCCURRENCE OF ASYMTOMATIC
BACTERIURIA IN PREGNANT FEMALES IN ALLIED
HOSPITAL FAISALABAD**¹Dr Navaira Zahid, ²Dr Taimoor Javed, ¹Dr Sanea Shahzad¹Punjab Medical College Faisalabad²Federal Government Polyclinic Hospital Islamabad**Abstract:**

Objective: The aim of this research work is to examine the occurrence of the ASB (Asymptomatic Bacteriuria) in the females with pregnancy in the general population of Faisalabad.

Methodology: This was a prospective research work started in October 2017 to April 2019 and conducted in Allied Hospital Faisalabad. There were two groups of this research work. Group-A contained 200 females with pregnancy visiting the outpatient department of the Gynecology department for routine checkups and Group-B was the group of healthy controls contained 60 females of fertile age without pregnancy. We collected the midstream urine and incubated aerobically at 37°C on the CLED agar. We took the growth of greater than 1.0×10^5 CFU/mL as significant bacteriuria. The identification of the gram-negative bacteria carried out by the API 20-E and the identification of the gram-positive bacteria carried out by the standard routine procedures.

Results: The participants of both case and control groups were present with age-matched. The occurrence of the ASB was 4.18% (18 / 200) in the Group-A and 2.648% (2 / 60) in Group-B. The most common uro-pathogen in the participants of both groups were *E. coli* and the *Staph. Saprophyticus* was the 2nd most frequent in the patients of Group-A. The occurrence of the ASB remained the similar in the both females with pregnancy and without pregnancy by application of x2.

Conclusion: The occurrence of the ASB before the period of pregnancy remains during the period of pregnancy, if remain without treatment. Uro-pathogens were similar. There is need of the screening of the females with pregnancy for the prevalence of the ASB by culturing.

Key Words: Asymptomatic, Bacteria, Ram-Positive, Gram-Negative, Pregnancy, Occurrence, Prevalence.

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INTRODUCTION:

There is sterility in the urine which is present in the bladder. The availability of the bacteria inside urine is bacteriuria. ASB is the bacteriuria with no visible signs of the UTI (Urinary Tract Infections). The significance of the symptomatic bacteriuria lies in the intuition it is the cause of the symptomatic infections. ASB may present for very short term in the females without pregnancy but uncommonly resolves spontaneously in the duration of the pregnancy period. The incidence of the asymptomatic bacteriuria does not alter in the duration of pregnancy but there are alterations in the pathogenesis, which can take the baby and mother for complication risk because of the bacteriuria. Symptomatic urinary tract infections normally occur late in the period of pregnancy.

Asymptomatic bacteriuria in the duration of pregnancy is the reason of the symptomatic urinary tract infection, pre-mature delivery, intra-uterine retardation of the growth and mortality of baby and mother. Asymptomatic bacteriuria may continue for the complete duration of pregnancy and it leads to different complications. There are very low apparent values of the screening for the asymptomatic bacteriuria in youngsters with the exceptions prior to urologic operations and in the duration of the pregnancy. With the identification and proper treatment of the patients in any stage of asymptomatic bacteriuria, there can be prevention of the complications in future. This current research work aimed to design the screening of the females present with pregnancy for asymptomatic bacteriuria to know about its occurrence.

METHODOLOGY:

This research work carried out in Allied Hospital Faisalabad from October 2017 to April 2019. There were total 200 females with confirm diagnosis of pregnancy from 12 to 26 week of gestation visiting the gynecology department of the hospital. We took the interview from patients and recorded the information on

a Performa. There females with normal health and with no symptoms of the urinary tract infection were the part of this research work. Group-B was the group of controls which contained 60 females within age of fertility with normal health, with no symptoms of urinary tract infections and without pregnancy. The females present with diagnosed urinary infections, pyrexia, past history of two weeks with usage of medicines as well as Catheterization were not the participants of this research work.

We collected every one urine sample in a sterile hundred milliliter wide mouth container. We requested the midstream voided urine from 30 to 50 milliliter from every patient. We ensured the minimum four hours stay urine inside bladder before the collection of samples. We labelled the samples and then immediately transported the samples to laboratory for processing on the very day. If there was any delay, we refrigerated the samples at 4°C. The processing of the samples carried out in the laboratory for clinical examination, cell's microscopy and culturing carried out on the CLED agar with the support of the standardized platinum loop of two millimeters. Incubation carried out at 37°C aerobically for 16 to 42 hours. We defined the ASB as the availability of the greater than 1.0×10^5 CFU/per/ml of single organism in culture of midstream urine from patient with no signs of urinary tract infection. The discovery of the Gram-positive microbes carried out in accordance with the standard procedures. The identification of the Gram-negative organisms carried out with the procedure of API-20E. Chi square method was in use for the comparison of the results between two groups.

RESULTS:

The average ages of the females in Group-A and Group-B were 23.328 ± 3.808 and 25.818 ± 4.178 years correspondingly (Table-1), with ranges of age from 16 to 42 years in Group-A and from 17 years to 40 years in Group-B.

Group	Ages (Years)	P value
	Mean \pm SD	
A (No = 200)	23.328 ± 3.808	>0.0300
B (No = 60)	25.818 ± 4.178	

Table-2 shows the age wise distribution of the patients in the Group-A and Group-B. There were 100 from Group-A in age group of 16 to 26 years while 30 females from Group-B, with average ages of 20.0 ± 2.33 and 20.328 ± 2.518 years correspondingly. In the age groups of 24 to 33 years and 34 to 43 years, the amount of the patients is available separately. We found no disparity in the average age of the patients in all groups.

Age Group (Years)	Group A		Group B		P value
	Mean \pm SD	No	Mean \pm SD	No	
16-22	20 \pm 2.33	100	20.31 \pm 2.50	20	>0.048
24-33	18.7 \pm 2.5	80	28.1 \pm 31	30	>0.048
34-43	38 \pm 2.50	20	37.69 \pm 5	10	>0.048

Out of total 200 females with pregnancy, there were 18 urine samples (4.2%) and only 2 patients out of 60 (2.82%) were present as positive for ASB in second group. There was not much statistical significance among the females of both groups. Among the positive sample of patients in Group-

Groups	No. of Cases Tested	Positive Culture		P value
		No	Percentage	
A	200	18	4.2	>0.048
B	60	2	2.83	

A, the most common bacteria was *E. coli* (36.66%), followed by *S. Saprophyticus* and *Enterobacter Spp* each 14.478% (1/18 patients), whereas *Staph. Aureus*, *Agalactiae*, *Proteus Mirabilis*, *C. Albicans* and *Serratia Marcescens* were 3.32% each (1/18 patients). These findings are present in Table-4.

Pathogen Isolated	No	Percentage
<i>Escherichia coli</i>	7.0	36.688%
<i>Enterobacter spp.</i>	3.0	14.478%
<i>Staph. saprophyticus</i>	3.0	14.478%
<i>Staph. aureus</i>	1.0	3.330%
<i>Streptococcus agalactiae</i>	1.0	3.330%
<i>Proteus mirabilis</i>	1.0	3.330%
<i>Serratia marcescens</i>	1.0	3.330%
<i>Candida albicans</i>	1.0	3.330%
Total	18.0	98.00%

DISCUSSION:

There are many infections in the duration of the pregnancy which are asymptomatic. It is very difficult to diagnose these bacteria. It can remain in the whole duration of the pregnancy. The Mean \pm SD of ages in the participants of the Group-A was 23.328 \pm 3.608 which is in accordance with the research work conducted by Bachman [15] who displayed average age of the pregnant females as 28.20 \pm 4.50 years. In this research work, the incidence of the ASB was 6.20% among females present with pregnancy. This outcome is similar to the 6.0% occurrence of the Abyad. The outcome of the other research works was 3.58% and

3.88%. Our findings are lower than 8.0% but greater than 2.28%. There was no disparity in the occurrence of the disease regarding the social and economic status of the females. The outcome of this complication in the females with no pregnancy was 3.0% but in current research work it was just 2.648%.

In current research work, pathogen *E. coli* (36.688%) in young females, was most common but it differs from other research works which have stated as 70.0%, 78.0% and 58.0%. Nathaniel discovered *E. coli* to be 28.0% in females with fertility but without pregnancy. The 2nd most frequent isolate from urine discovered was

S. Saprophyticus (14.260%), which is in accordance with Stamm and Hooton as 3.0% to 13.0% and by Nathaniel as 15.0%. Bailey separated 14.68% *S. Saprophyticus* as the first and *S. Epidermidis* (7.0%) as the 2nd frequent pathogen of urine. The findings of this current research work of *S. Saprophyticus* as the 2nd most frequent isolate from urine are same with the results of the Masteron who stated *K. Pneumonia* as 2nd most common isolate from urine (10.27%). There is high difference in the rate of occurrence and distribution of the 3rd most common isolate from the urine.

CONCLUSION:

This current research work showed the 4.2% ASB in females with pregnancy on culture screening. There was not any significant disparity in the occurrence of the ASB in the females with pregnancy or without pregnancy. Other research works with same occurrence of the ASB propose that there is need of the screening of the pregnant females with the culture. The most common isolates from the samples were *E. coli*, *S.*, and *Saprophyticus* and *Enterobacter Spp.*

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