

Association of Asymptomatic Bacteriuria and Preeclampsia in El Shatby University Hospital

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INTRODUCTION

- Hypertensive disorders of pregnancy (which include pre-eclampsia) are one of the most common causes of death due to pregnancy.
- Pre-eclampsia is a multisystem disorder that complicates 3%-8% of pregnancies worldwide.
- Preeclampsia is associated with high maternal-fetal and newborns morbidity and mortality.
- Pre eclampsia is still being debated as a 'disease of theories'.
- One of these theories assume that infection and inflammation have a role in development of pre eclampsia.
- In studies that search for the connection between maternal infection and PE, it was found that the risk of preeclampsia was increased in women with urinary tract infection and periodontal disease.
- Urinary tract infections are considered the most common bacterial infection in pregnancy.
- Asymptomatic bacteriuria occurs in 2-10% of all pregnancies.
- Asymptomatic bacteriuria can cause many adverse obstetric outcomes such as prematurity, low birth weight, preterm amniotic sac rupture, higher incidence of recurrent pregnancy loss and higher fetal mortality rates.
- Chronic sub-clinical infections may increase maternal cytokine levels sufficient to affect vascular endothelial function, and so prime individuals for the subsequent development of preeclampsia.

AIM OF THE WORK

- To estimate the incidence of asymptomatic bacteriuria among study group at El-Shatby maternity antenatal care clinic and to investigate the association between asymptomatic bacteriuria and the risk of pre-eclampsia in pregnant women attending the antenatal care clinic at El-Shatby maternity university hospital.

PATIENTS

- The study was conducted on 80 pregnant women attending to El Shatby Maternity University antenatal care clinic ; 40 were suffering from pre eclampsia as cases and 40 were healthy as control from march 2019 to march2020.

METHODS

- A case- control study was conducted on pregnant women attending antenatal care clinic at Alshatby hospital, Alexandria University, Egypt between march 2019 to march 2020. All pregnant women were evaluated by blood pressure, haemoglobin concentration, urine analysis and urine culture as a gold standard for diagnosing asymptomatic bacteriuria, sensitivity tests were done for detecting antimicrobial susceptibility.

RESULTS

- 24\80 pregnant women (30%) in this study had asymptomatic bacteriuria
- 15 (37%) out of 40 pre eclamptic cases had asymptomatic bacteriuria and 9 (22%) out of 40 healthy (control) had asymptomatic bacteriuria with no significant difference.
- Out of 15 preeclamptic cases with ASB, 9 (60%) were severe cases while 5 (20%) of preeclamptic cases without ASB were severe with significant difference.
- Out of 24 cases with ASB, 10 cases (41.7%) showed growth of *E.coli*, 5 (20.8%) had klebsiella 4 (16.7%) had staphylococcus saprophyticus, 3 (12.5%) had enterococcus fecalis, 1 (4.2%) had staphylococcus aureus , 1 (4.2%) had acinetobacterspp.

Comparison between the two studied groups as regards the presence of asymptomatic bacteriuria

	Total (n = 80)		Group I PET (n = 40)		Group II control (n = 40)		p
	No.	%	No.	%	No.	%	
Asymptomatic bacteriuria							
No	56	70.0	25	62.5	31	77.5	0.143
Yes	24	30.0	15	37.5	9	22.5	

Comparison between cases with ASB and cases without ASB as regards the degree of severity of PE in cases group

	Negative ASB (n = 25)		Positive ASB (n = 15)		P
	No.	%	No.	%	
Severity of preeclampsia					
Mild	20	80.0	6	40.0	0.010*
Severe	5	20.0	9	60.0	

CONCLUSIONS

- Despite the results of this study showed no significant difference between preeclamptic cases and control cases as regard presence of ASB but this results does not exclude there is association between PE and ASB so more studies need to be done on larger number of pregnant women to fully understand the link between both of them .



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