

Fetal Outcome of Preeclamptic Mother in a Tertiary Care Level Hospital

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Abstract

Background: Hypertension is the most common diagnostic sign of preeclampsia, although some women present with convulsions, abdominal pain or general malaise. Preeclampsia occurs in 5 to 7 percent of all pregnancies. Although its pathogenesis is incompletely understood, it is a major cause of maternal and neonatal morbidity and mortality.

Objectives: The aim of the study was to evaluate the fetal outcome in preeclamptic mothers in a tertiary Hospital.

Methodology: The Study was conducted in the department of obstetrics and gynecology of Sylhet MAG Osmani Medical College Hospital, Sylhet, Bangladesh to find out the common indications of fetal outcome of preeclamptic mother. 120 cases were randomly selected for the study whose common indication of fetal outcome of preeclamptic mother. Clinical examination and evaluation were done from July 2006 to June 2007. Other necessary investigations were done if clinically indicated and to prepare the patient for anesthesia. Statistical analysis of the results was obtained by using window-based computer software devised with Statistical Packages for Social Sciences (SPSS-22). **Results:** Comparison of mean (\pm SD) age (24.30 \pm 4.03 and 24.654.41 years) and height (61.43 \pm 1.80 and 61.92 \pm 1.52 cm) did not show any significant difference. However, comparison of mean (\pm SD) weight (71.20 \pm 4.38 and 69.27 \pm 2.86 kg), blood pressure (systolic: 154.83 \pm 9.48 and 112.33 \pm 11.10; diastolic: 102.58 \pm 9.94 and 71.33 \pm 6.23 mmHg), gestational age (36.12 \pm 2.45 and 38.42 \pm 1.03 weeks) and gravidity (1.45 \pm 1.13 and 1.10 \pm 0.30) showed significant differences between case and control groups. **Conclusions:** To avoid and/or reduce fetal and neonatal morbidity and mortality among preeclamptic women, careful examination and investigations are required for early detection and thus to reduce. Maternal and fetal morbidity and mortality.

Keywords: Fetal Outcome, Preeclamptic Mother.

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INTRODUCTION

Hypertension is associated with proteinuria greater than 0.3 g/L in a 24-hour urine collection or greater than 1 g/L in a random sample, generalized oedema, greater than 1 + pitting oedema after 12 hours of rest in bed or a weight-gain of 5 lbs or more in one week, or both after 20 weeks of gestation is called preeclampsia [1]. Preeclampsia is defined as gestational blood pressure elevation with proteinuria that develops after 20 weeks gestation. The other three conditions that comprise the hypertensive complications of pregnancy

include gestational hypertension, chronic hypertension and chronic hypertension with superimposed preeclampsia. Preeclampsia occurs in 5 to 7 percent of all pregnancies. Although its pathogenesis is incompletely understood, it is a major cause of maternal and neonatal morbidity and mortality [2]. Preeclampsia is twice as common in primigravid women as in women having second- or later pregnancies. However, with a change of partner, the risk in a multiparous woman increases - which suggest that primipaternity is important. Particular men seem to have an increased risk of fathering a preeclamptic pregnancy. Women

who become pregnant with donor eggs have a higher frequency of preeclampsia than women pregnant with their own eggs [3].

Hypertension is the most common diagnostic sign of preeclampsia, although some women present with convulsions, abdominal pain or general malaise. Because there are no specific diagnostic investigations, the initial diagnosis of preeclampsia remains clinical. The classification of severity is mainly based on the blood pressure value and the presence of proteinuria, and further characterization is based on the other accompanying signs [4]. The fetal morbidity and mortality rates are increased in the presence of preeclampsia, which is the result of prolonged uteroplacental insufficiency, the risk of placental abruption, declining maternal health, and the frequent need for premature delivery. Worsening maternal condition or the inability of the fetus to tolerate the in-utero environment may necessitate preterm delivery [2]. The present study was carried out at MAG Osmani Medical College and Hospital, Sylhet, to find out the fetal outcome of preeclamptic mothers at a tertiary hospital.

OBJECTIVES

The aim of the study was to evaluate the fetal outcome in preeclamptic mothers in a tertiary Hospital and to compare the outcome of preeclampsia and normotensive pregnancy.

METHODOLOGY

The Study was conducted in the department of obstetrics and gynaecology of Sylhet MAG Osmani Medical College Hospital, Sylhet, Bangladesh to find out the common indications of fetal outcome of preeclamptic mother. 120 cases were randomly

selected for the study whose common indication of fetal outcome of preeclamptic mother. Out of these 120 women 60 population (case) were eclamptic and 60 population (Control) normotensive. Clinical examination and evaluation were done from July 2006 to June 2007. Inclusion criteria were preeclamptic pregnant women for case study and hospitalized normotensive pregnant women for control study. Exclusion criteria were mother having disease such as essential hypertension, chronic renal, DM, smoking habit, multiple pregnancy and thyroid disorder. Other necessary investigations were done if clinically indicated and to prepare the patient for anesthesia. Statistical analysis of the results was obtained by using window-based computer software devised with Statistical Packages for Social Sciences (SPSS-22).

RESULTS

Table I shows comparison of some basic data between case and control groups. Comparison of mean (\pm SD) age (24.30 ± 4.03 and 24.65 ± 4.41 years) and height (61.43 ± 1.80 and 61.92 ± 1.52 cm) did not show any significant difference. However, comparison of mean (\pm SD) weight (71.20 ± 4.38 and 69.27 ± 2.86 kg), blood pressure (systolic: 154.83 ± 9.48 and 112.33 ± 11.10 ; diastolic: 102.58 ± 9.94 and 71.33 ± 6.23 mmHg), gestational age (36.12 ± 2.45 and 38.42 ± 1.03 weeks) and gravidity (1.45 ± 1.13 and 1.10 ± 0.30) showed significant differences between case and control groups. Significantly higher number of women (55%) delivered prematurely in case group in comparison to control group (1.7%). Term deliveries were 27(45%) in case group and 59(98.3%) in control group (Table-II). Table III Shows that there were 48(80.0%) livebirths, 5(8.3%) IUDs and 7(11.7%) stillbirths in case group in comparison to 95% livebirths, 2 (3.3%) IUDs and 1(1.7%) stillbirth in control group.

Table-I: Demonstrated the distribution of study patients according to basic data

Parameters	n=60 (Case) Mean \pm SD	n=60 (Control) Mean \pm SD	P-Value
Age (years)	24.30 ± 4.03	24.65 ± 4.41	$> 0.50^{ns}$
Height (cm)	61.43 ± 1.80	61.92 ± 1.52	$> 0.10^{ns}$
Weight (kg)	71.20 ± 4.38	69.27 ± 2.86	$< 0.01^{**}$
Blood Pressure (mmHg) Systolic	154.83 ± 9.48	112.33 ± 11.10	$< 0.001^{***}$
Blood Pressure (mmHg) Diastolic	102.58 ± 9.94	71.33 ± 6.23	$< 0.001^{***}$
Gestational age (weeks)	36.12 ± 2.45	38.42 ± 1.03	$< 0.001^{***}$
Gravidity	1.45 ± 1.13	1.10 ± 0.30	$< 0.05^*$

Table-II: Demonstrated the distribution of study patients according to Gestational age

Gastational age (weeks)	(Case Group)		(Control Group)		P-Value
	n=60	%	n=60	%	
< 37 (Premature)	33	55.0	1	1.7	$> 0.10^{ns}$
≥ 37 (term)	27	45	59	98.3	$< 0.01^{**}$

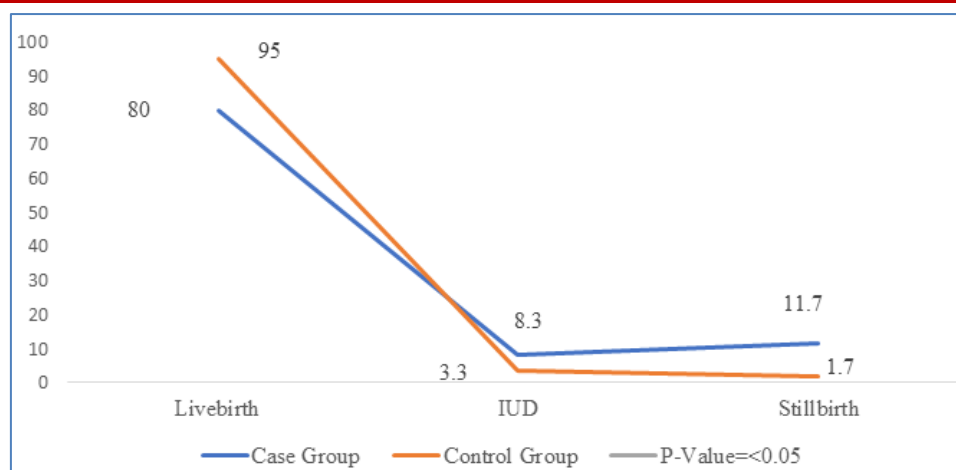


Fig-I: Demonstrated the distribution of study patients according to Fetal Outcome

DISCUSSION

Preeclampsia is usually diagnosed in the presence of hypertension associated with proteinuria [14-16]. Accurate diagnosis of preeclampsia depends on precise blood pressure measurements, which is important in obese women. Studies have shown that urinary dipstick determination as well as random protein-co-creatinine ratios correlate poorly with the amount of proteinuria found in 24-hour urine samples of women with gestational hypertension [15-18]. Preeclampsia remains one of the major obstetrical problems in less-developed countries, and the cause is still unknown [10]. Preeclampsia is a multisystem disorder, of unknown aetiology, usually associated with raised blood pressure and proteinuria. Although outcome for most women and their babies is good, it remains a major cause of morbidity and Mortality [13]. In this study we tried to compare fetal outcome of 60 preeclamptic patients with babies of 60 normotensive patients. Preeclampsia is one of the significant causes of maternal and fetal morbidity and even mortality. The fetal morbidity and mortality are mainly due to prematurity and low birth weight.

In the present study, majority of the preeclamptic women belonged to age group ≤ 25 years (68.3%). Some study majority of the women belonged to age group 21-30 years (52%). The mean (\pm SD) age of our eclamptic women was 24.30 ± 4.03 years, Begum? found it as 26.97 ± 4.36 years and found at as 24.11 ± 4.93 years. Presenting complaints among the preeclamptic women were headache (56.7%), lower abdominal pain (33.3%), blurring of vision (8.3%), swelling of leg/body (10%), less fetal movement (8.3%) an history of Caesarean section (3.3 %). Moderate urinary protein level (+ +) was found in 47 (78.3 %) and severe urinary protein level (+ + +) was found in 13 (21.7 %) preeclamptic patients. Out 60 preeclamptic mothers, vaginal delivery was achieved in 25 (41.7%) and 35 (58.3 %) required Caesarean section mostly due to fetal distress (60%). Some study out of 50 preeclamptic mothers, 16 (32%) women delivered

vaginally and 34 (68 %) required Caesarean section. Out of 60 preeclamptic mothers, 33 (55 %) delivered prematurely, but some study found it to be 22 percent (11 women) out of 50.

Among preeclamptic mothers, there were 48 (80%) livebirths, 5 (8.3%) IUDs and 7 (11.7 %) stillbirths, and early neonatal death were 9 (18.8 % out of 48 livebirths). Some study the fetal outcome was 48 (96%) livebirths, 2 (4%) IUDs and no stillbirth, and neonatal death were 2 (4%). In the preeclamptic group, out of 48 livebirths, 7 (14.6%) babies were asphyxiated, and in some study out of 50 pregnancies, 9 (18%) babies were asphyxiated.

In this study, out of 48 livebirths in the preeclamptic group, 37 (77.1 %) babies had low birth weight (< 2.5 Kg), in a similar study out of 30 livebirths. 10 (33.3 %) babies had low birth weight. It may be concluded that preeclampsia is major cause of fetal/early neonatal morbidity and mortality.

CONCLUSION

To avoid and/or reduce fetal and neonatal morbidity and mortality among preeclamptic women, careful examination and investigations are required for early detection and thus to reduce. Maternal and fetal morbidity and mortality.

RECOMMENDATIONS

In order to reduce fetal complications, all pregnant women should be encouraged to avail antenatal care facilities regularly. Pregnant women should be screened by appropriately trained physician, trained health personnel with relevant technology to identify risk factors and to provide antenatal care and care during labour. Strengthen maternal and child health programme by proper activation of health infrastructure, trained manpower, starting from village up to district and above level. Create awareness of health problems and highlight the risk factors during pregnancy and encourage the pregnant women to seek

healthcare facilities. Establish effective referral system and increase hospital facilities for managing high-risk pregnancies.

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