

Perinatal Findings in Pregnancy Induced Hypertension: A Study in a Tertiary Teaching Hospital in Dhaka City

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Abstract

Background: Hypertensive disorders are common complication occurring during pregnancy which are responsible for maternal and fetal mortality and morbidity. **Objective:** The purpose of the present study was to determine the perinatal outcome in pregnancy induced hypertension. **Methodology:** This study was designed as cross-sectional study and was conducted from April 2013 to September 2013 for a period of six (06) moths. Patients admitted in the Department of Obstetrics and Gynaecology at Shaheed Suhrawardy Medical College Hospital, Dhaka. Data were collected by interview, physical examinations (blood pressure, pulse rate, oedema, heart and lungs auscultation) and lab investigations using a structural questionnaire. **Result:** Majority of the women belonged to age group 21-25 year. Maximum were (56%) primigravida. The mean gestational age was 34.6 weeks with the range from 28 to 40 weeks. Hyperurecaemia was frequent among patients with pregnancy induced hypertension. Intrauterine growth retardation (IUGR) was secondary to pregnancy induced hypertension which was associated with significantly increased perinatal mortality. **Conclusion:** In this study, prematurity is frequent in pregnancy induced hypertension and convulsion in nonresponsive patients is associated with significantly increased perinatal mortality. [Journal of National Institute of Neurosciences Bangladesh, January 2016;2(1): 10-13]

Keywords: Perinatal findings; pregnancy induced hypertension; IUGR; IUD;

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Introduction

Pregnancy induced hypertension (PIH) is the second most common medical disorder seen during pregnancy. These contribute greatly in maternal morbidity and mortality along with hemorrhage and infection¹. World health organization (WHO) estimates that at least one woman dies every seven minutes from complications of hypertensive disorders of pregnancy². Hypertensive

disorders during pregnancy are associated with increased risk of adverse fetal and maternal outcomes including preterm birth, IUGR, perinatal death and antepartum haemorrhage (APH) with increased maternal mortality and morbidity³⁻⁵.

In Bangladesh maternal mortality survey (BMMS), the major causes of over half of the maternal death are due to haemorrhage (29.0%) and eclampsia (24.0%) and it

has been reported that very substantial declines have occurred in both these cases, causing a 35.0% reduction in haemorrhage and 50% reduction in eclampsia⁶. Severe pre-eclampsia was associated with 3 to 4 folds perinatal mortality⁷. Delivery is the ultimate tertiary treatment; however, management aimed at benefiting mother may be detrimental to the fetus because premature birth is a significant cause of morbidity and mortality⁸. Therefore the purpose of the present study was to determine the perinatal outcome in PIH.

Methodology

This was designed as cross sectional study and was conducted from April 2013 to September 2013 for a period of six (06) months. This present study was carried out in the Department of Obstetrics and Gynaecology at Shaheed Suhrawardy Medical College and Hospital, Dhaka. Patients with pregnancy induced hypertension admitted in the Department of Gynaecology & Obstetrics were selected as study population. Women presented with gestational hypertension with or without proteinuria, ante-partum eclampsia, blood pressure more than 140/90 mm of Hg on at least two occasions, at least six hours apart in left lateral position if previous BP is not known, increase in single systolic BP more than 160 mm Hg or increase in diastolic BP more than 110 mm Hg in a single sitting were included in this study. Women presented with known case of uncontrolled diabetes mellitus, essential hypertension, heart disease, systemic lupus erythromatosus (SLE), tuberculosis, endocrine diseases, hyperlipidaemia, HTN due to systemic diseases were excluded from this study. Data were collected by interview, physical examination and lab examination using a structural questionnaire containing all the variables of interest. Statistical analysis was performed by using Statistical Package for Social Science (SPSS) version 21.0 for Windows. Quantitative variables were expressed as mean and standard deviation. Categorical variables were expressed as proportions and percentage.

Results

A total number of 50 patients with PIH were taken in this study. Majority of the study population were in the age group of 21 to 25 years which was 23(46.0%) cases followed by 16 to 20 Years and 26 to 30 Years age group which were 12(24.0%) cases and 11(22.0%) cases respectively (Table 1).

Table 1: Distribution of patients according to Age Group (n=50)

Age Group	Frequency	Percentage
16 to 20 Years	12	24.0
21 to 25 Years	23	46.0
26 to 30 Years	11	22.0
More than 30 Years	4	8.0
Total	50	100.0

*Mean±SD=27.5±3.45 (Range 19 to 37 years)

In this study 46% patients were under regular antenatal checkup. But they developed pregnancy induced hypertension. It means that it is not a preventable disease (Table 2).

Table 2: Distribution of patients by Ante-Natal Care(ANC) (n=50)

Ante-Natal Care	Frequency	Percentage
Regular	23	46.0
Irregular	17	34.0
No ANC	10	20.0
Total	50	100.0

Primi gravida patients were 56%. It means primi gravid women have increased risk (Table 3).

Table 3: Distribution of Patients by Gravida (n=50)

Gravida	Frequency	Percentage
Primi	28	56.0
2 to 4	20	40.0
≥5	2	4.0
Total	50	100.0

In this study 66% patients delivered premature baby which was a significant risk factor for increased the perinatal mortality (Table 4).

Table 4: Distribution of Patients by Gestational Age (n=50)

GA (week)	Frequency	Percentage
36 or < 36 preterm	33	66
37 to 40 term	17	34
Total	50	100.0

*Mean±SD=34.6(±2.44); GA=Gestational Age

Only 16% developed eclampsia which means+ it is a preventable condition (Table 5).

Table 5: Distribution of the Patients by Diagnosis (n=50)

Diagnosis	Frequency	Percentage
Gestational hypertension	14	28
Pre eclampsia	28	56
Eclampsia	8	16
Total	50	100.0

Injection MgSO₄ was the treatment of choice in severe pre eclampsia and eclampsia which was responded in 35(70.0%) cases (Table 7). In this study 76% patients responded to the treatment given which means proper management can prevent perinatal mortality (Table 8).

Table 6: Blood Pressure Level among the Study Population (n=50)

Blood Pressure	Frequency	Percentage
Systolic (mm Hg)		
160 or <160	31	62
>160	19	38
Diastolic (mm Hg)		
110 or <110	28	56
>110	22	44

Discussion

In addition to hypertension, there are several symptoms of pre-eclampsia which includes proteinuria and oedema. If this condition progresses to eclampsia, life threatening convulsion and coma can occur. Pregnancy induced hypertension (PIH) affects 10% of pregnancy and pre-eclampsia complicates 2 to 8% of pregnancy³. Patient with pre-eclampsia develops hemolysis, elevated liver enzymes, and low platelet count (HELLP) syndrome in 5 to 10% cases⁴. Eclampsia occurs in approximately 0.2% of pregnancy and miscarriage occurs in 1 in 1000 pregnancies⁵. It is more common in multiple pregnancies and in woman who had pregnancy induced hypertension (PIH) in previous pregnancy as well as other risk factors including pre-existing connective tissue disease, vascular disease and family history of pre-eclampsia and eclampsia⁵.

Table 7: Types of Different Treatments Given to Patient (n=50)

Types of Treatments	Frequency	Percentage
Rest and sedation	2	4.0
Rest and sedation and single antihypertensive drug	8	16.0
Rest and sedation and more than 1 antihypertensive drug	5	10.0
Inj MgSO ₄ and antihypertensive drug	35	70.0
Total	50	100.0

Patients presented with gestational hypertension, pre-eclampsia and ante-partum eclampsia were enrolled in this study. In this study, it was observed that majority of the women belonged to age group of 21 to 25 years. Most of the cases (62%) came from rural areas and 24% of them were illiterate. It was also observed that maximum number of the patients were

primigravida (56%). It is also known that pre-eclampsia is a disease of nulliparous. Parmar et al¹⁰ observed that primigravida constituted 55% of total PIH which is comparable with the current study.

Table 8: Response to Treatment (n=50)

Response	Frequency	Percentage
Positive	38	76
None	10	20
Expired	2	4
Total	50	100.0

In this study, it was observed that 66% of the patients had preterm gestational age. The mean gestational age was found 34.6 week with the range of 28 to 40 week. Regular ANC was received by 46% of the patients; however, 34% received irregular ANC and 10% were reported without ANC. Bengal et al¹¹ showed that majority (80%) cases were unbooked. This disease is related to positive family history, history of hypertension and recurrence in subsequent pregnancies. Patients were treated with bed rest, sedation, anti-hypertensives and anti-convulsants. A total number of 76% patients were responded by treatment. Out of 50 patients, 2 patients were expired, 10 patients showed no response to treatment and immediate interventions were needed.

Table 9: Maternal Mortality among the Study Population (n=50)

Cause of Death	Frequency	Percentage
Pulmonary oedema	1	2.0
PPH	1	2.0
Total	2	4.0

Out of 50 patients, 27 patients delivered vaginally, 9 had spontaneous onset and 18 had required induction; however, 43.0% patient needed cesarean section due to uncontrolled BP, failure to progress to labour, fetal distress, previous cesarean section, CPD, mal-presentation and abruption placentae. Eclampsia is a common complication of hypertensive disorder of pregnancy. Two patients died due to pulmonary oedema and PPH which was consistent with other studies¹²⁻¹⁴. Babies were term in 31.3% cases and preterm was in 35.4% cases, IUGR was in 20.8% cases, stillborn was 4.2% cases and intra uterine death (IUD) was in 8.3% cases. The complications due to hypertensive disease in pregnancy have steadily declined with better management, health education and good ante natal care.

Conclusion

In this study, prematurity is frequent in pregnancy induced hypertension and convulsion. Nonresponsive patients are associated with significantly increased perinatal mortality. Maximum patients are in preterm gestational age which is a real challenge to face. Maternal mortality is the concern as the severity of the disease is subsequently reduced after delivery of the baby. Even regular antenatal checkup is not enough to overcome the disaster. It is not a preventable disease but early detection and treatment will keep hypertensive disorder under control and will reduce the incidence of severe pre eclampsia and eclampsia. Proper antenatal intervention can reduce the morbidity and mortality significantly.

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