Original Article

Factors Associated with Pregnancy Induced Hypertension with Maternal and Fetal Outcome in a Tertiary Care Hospital, Dhaka

Rahima Khatun[1], Tania Noor[2] , Shahnaz Akhtar[3], Nasrin Sultana[4], Kazi Morjina Begum[5], Banika Biswas[6], Nilufar Jahan[7]

ABSTRACT

Background: Pregnancy induced hypertension is a common medical disorder occurring during pregnancy which is responsible for maternal and fetal mortality and morbidity. Though the condition is on decline, still stands a public health problem. The aims of the study were to know the clinical presentation among PIH patients and to find out maternal and fetal outcome.

Methods: All patients beyond 20 weeks of pregnancy with pregnancy induced hypertension admitted in Ad-din women's Medical College and Hospital during the six months study period were enrolled in the study. The objective of the study was to analyze the cases of gestational hypertension, pre-eclampsia and eclampsia and their maternal and fetal outcome in terms of mode of delivery and complications. Perinatal outcome in relation to birth weight, APGAR and complications was also studied. The mean and standard deviation for socio-demographic variables, risk factors and symptomatology variables were analyzed.

Results: A total of 153 pregnant women with PIH were enrolled in this study with inclusion-exclusion criteria, out of which gestational hypertension were 15 (9.8),severe pre-eclampsia 92(60.13%), Pre-eclampsia 13(8.49%) and eclampsia 33 (21.56%). Commonest maternal complication was eclampsia 33 (21.56%), HELLP syndrome 10 (6.5%) and abruptio placenta 16(10.45%).Total number of preterm deliveries were 111 (72.9%), IUGR 38 (24.8%), LBW 39 (25.5%), IUD 30(19.6%). Perinatal mortality was seen in 15 (9.8%).

Conclusions: Pregnancy induced hypertension is a common medical disorder during pregnancy. Though the incidence of pre-eclampsia and eclampsia is on the decline, still it remains the major contributor to poor maternal and fetal outcome.

Keywords: Gestational hypertension, Pre-eclampsia, Eclampsia, Maternal outcome, fetal outcome.

1. Assistant Professor, Department of Obstetrics and Gynaecology, Ad- din Womens Medical College and Hospital
2. Assistant Professor, Department of Obstetrics and Gynaecology, Ad- din Womens Medical College and Hospital
3. Assistant Professor, Department of Obstetrics and Gynaecology, Ad- din Womens Medical College and Hospital
4. Assistant Professor, Department of Obstetrics and Gynaecology, Ad- din Womens Medical College and Hospital
5. Associate Professor, Department of Obstetrics and Gynaecology, Ad- din Womens Medical College and Hospital
6. Associate Professor, Department of Obstetrics and Gynaecology, Ad- din Womens Medical College and Hospital
7. Assistant Professor, Department of Obstetrics and Gynaecology, Ad- din Womens Medical College and Hospital

Correspondence: Rahima khatun, Assistant Professor, Department of Obstetrics and Gynaecology, Ad- din Womens Medical College and Hospital, Email: anisdoc14@yahoo.com

Received Date : 15 November, 2020

Accepted Date : 05 June, 2021

Introduction

Hypertension is one of the common medical emergency of pregnancy and contributes significantly to maternal and perinatal morbidity and mortality. Hypertension is a sign of an underlying pathology which may be pre-existing or appears for the first time during pregnancy. Pre-eclampsia is a multi system disorder of unknown etiology characterized by development of hypertension to the extent of 140/90 mm of Hg or more with proteinuria after the 20th week in a previously normotensive and non- proteinuric woman. The identification of clinical entity and effective management play a significant role in outcome of pregnancy, both for the mother and the baby[1]. Hypertensive disorders of pregnancy affect 6-8% of all pregnancies, with wide variation as per different geographical areas[2].

World Health Organization estimates that at least one woman dies every seven minutes from complications of hypertensive disorders of pregnancy[3]. Pregnancies complicated with hypertensive disorders are associated with increased risk of adverse fetal, neonatal and maternal outcome including preterm birth, intrauterine growth retardation (IUGR), perinatal death, ante partum haemorrhage, postpartum haemorrhage and maternal death[4, 5].

Though maternal mortality has been reduced significantly in the advanced countries, it still remains high in the developing world .The perinatal mortality still remains very high even in the developed countries (7-10%). In the developing countries, the perinatal mortality remains to the extent of about 20%, about 50% of which being stillborn[1].

The management of gestational hypertension, pre-eclampsia and eclampsia has gone through many changes and has achieved good results with the introduction of newer anti-hypertensives, different regimes of anticonvulsants and also increased awareness among the population[6].

The present study was conducted to find out associated factor for pregnancy induced hypertension and its maternal and fetal outcome.

METHODS

Prospective analytical study was done at Department of Obstetrics and Gynaecology, Ad-din women's Medical College and Hospital, between January 2021 to June 2021.

Inclusion criteria

Patients beyond 20 weeks of pregnancy with pregnancy induced hypertension.

Exclusion criteria

Chronic hypertension, chronic renal disease, coarctation of aorta, endocrine disorders (diabetes mellitus, pheochromocytoma, thyrotoxicosis), connective tissue diseases (lupus erythematosus) and patient refusal.

A total number of 153 cases of pregnancy induced hypertension (gestational hypertension, pre-eclampsia and eclampsia) admitted to Ad-din Women's Medical College and Hospital during the study period were enrolled after obtaining written informed consent. All patients were subjected to detailed history taking, general physical examination, thorough systemic and obstetric examination. Blood pressure was measured using the auscultatory method with a standard caliberated, validated instrument. An appropriate sized cuff was used to ensure accuracy, korottkoff sound 5 was taken to measure diastolic BP. The necessary investigations were sent. The patients were categorized into Gestational hypertension, pre-eclampsia and eclampsia. Antihypertensive, anticonvulsants if necessary, were started and obstetric management was done according to the standard protocol[6].

In present study Hypertension in pregnancy is defined as blood pressure ≥140/90 mm Hg. When hypertension in pregnancy accompanied by proteinuria (urinary excretion of 300 mg protein in a 24 hour specimen $^{+}$using random urine dipstick evaluation) it is known as preeclampsia. The diagnosis of preeclampsia in absence of proteinuria highly suggestive when hypertension is accompanied by headache, blurring of vision, abdominal pain or low platelet count and elevated liver enzyme either alone or in combination. Eclampsia is defined as occurrence of new onset grand mal seizure in women with preeclampsia that cannot be attributed to other causes[4].

All the sociodemographic variables were noted and the maternal outcomes were analyzed in all the cases in terms BMI, mode of delivery, maternal complications like HELLP syndrome, acute renal failure, postpartum hemorrhage, abruptio placenta, pulmonary edema and cerebral hemorrhage. Intrapartum and postpartum complications were also observed. Neonatal assessment was done by APGAR score at one minute and 5 minutes. Birth weights, IUD, IUGR, stillbirth and other complications were noted. This information was subjected to computer analysis using SPSS (statistical package for social science) system. The mean and standard deviation for Socio demographic, risk factors and symptomatology variables were analyzed.

Result:

A total number of 8024 deliveries were conducted during this period. Out of these 153 women had pregnancy induced hypertension and participated in this study. We noted the following observation in our study.

Table - I

Distribution of the socio-demographic factors (n=153)

Factor	No of cases (n)	Percentage %	P value
Age			
< 20 years	16	10.45%	
20-30 years	99	64.7%	
31-35 years	21	13.7%	
> 35 years	17	11.1%	
BMI			
<19	0	0	-
19- 24.9	13	8.49%	0
25- 29.9	50	32.67%	0.0299
≥ 30	90	58.82%	0.0478

In our study higher percentage of PIH was noted among 20-30 years of age group 64.7% followed by 31-35years age group 13.7% and >35 years age group 11.1%. Majority 90 cases (58.82%) were BM I and p value <0.05 and 50 cases (32.67%) were BMI 25-29.9 and p value <0.05.

Table II

Different types of pregnancy induced hypertension (n=153)

Types of PIH	No of cases (n)	Percentage %	P value
Gestational hypertension	15	9.8%	0.41
Severe Pre-eclampsia	92	60.13%	0.025
Pre-eclampsia	13	8.49%	0.2524
Eclampsia	33	21.56%	0.5201
Total	153	100%	

We observed that gestational hypertension were 15 cases (9.8%), severe preeclampsia 92cases (60.13%) and p value < 0.05, pre-eclampsia 13 cases (8.49%) p value > 0.05, and eclampsia 33 cases (21.56%) and p value >0.05.

Table-III

Distribution of pregnancy induced hypertension diagnosed according to gestational age

Gestational age	No of cases (n=153)	Percentage (%)
< 28wks	46	30.06%
28-32wks	67	43.79%
32-36 Wks	29	18.95%
> 37wks	11	7.18%

In present study shows majority 67 cases (43.79%) diagnosed PIH at her 28-32 weeks of pregnancy and 46 cases (30.06%) diagnosed at her <28 weeks of pregnancy.

Table IV

Distribution of cases according to maternal complication during pregnancy

Complication	No of cases (n=153)	Percentage (%)
Abruptio placenta	16	10.45%
HELLP	10	6.5%
Eclampsia	33	21.56%
PROM	9	5.88%
Preterm labour	8	5.2%
Heart failure	2	1.3%
Pulmonary edema	3	1.9%
Cerebral hemorrhage	2	1.3%
Acute renal failure	0	0%

Eclampsia was common maternal complication in our study seen in 33 cases (21.56%) followed by abruptio placenta 16 cases (10.45%), HELLP 10 cases (6.5%), PROM 9 cases (5.88%).

Table V

Distribution of cases according to mode of delivery (n=153)

Mode of delivery	No of cases (n)	Percentage (%)	P value
Vaginal delivery	39	25.49%	0
Caesarian section	114	74.5%	0.224
Total	153	100%	

We observed that majority of cases114 (74.5%) terminated by caesarian section followed by vaginal delivery was done 39 cases (25.49%). P value >0.05.

Table VI

Distribution of cases according to complication during operation

Complication during pregnancy	No of cases (n=74)	Percentage %
Haemorrhage	42	56.8%
Eclamsia	8	10.1%
Pulmonary odema	0	0
Anesthetic hazard	2	2.7%
Need for ICU	22	29.7%