



INCIDENCE OF HYPERTENSIVE DISORDERS IN PREGNANCY IN A TERTIARY CARE HOSPITAL IN WESTERN INDIA

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ABSTRACT

Background: Hypertensive disorders may exist prior to pregnancy or manifest as new onset hypertension at or more than 20 weeks of gestation.

Methods: The retrospective study was conducted at department of obstetrics and gynecology at a tertiary care hospital, by reviewing all the labor room records of pregnant women with hypertensive disorders admitted and delivered from January 2019 to December 2019.

Results: A total of 2490 women delivered in the study period, out of which 239 pregnant women were diagnosed with hypertensive disorders. The incidence of hypertensive disorders in pregnancy is 9.6%, out of which gestational hypertension constituted 154 cases (6.2%), preeclampsia 61 cases which includes 5 cases of eclampsia (2.4%), chronic hypertension 19 cases (0.8%) and preeclampsia superimposed on chronic hypertension 5 cases (0.2%). Out of 239 cases 179 are primigravida and 60 cases are multigravida with incidence hypertensive disorders 7.2%, 2.4% in primi and multigravida respectively. Admissions to HDU and ICU is 7 cases (0.3%) which includes 1 case (0.04%) of maternal mortality.

Conclusions: Incidence of hypertensive disorders is high and one of the leading cause of direct and indirect cause of maternal morbidity and mortality.

KEYWORDS : Hypertension, Pregnancy, Incidence, Preeclampsia.

INTRODUCTION:

Hypertensive disorders in pregnancy is one of the leading causes of maternal morbidity and mortality with 10-15% of maternal deaths, especially in developing world.¹ Hypertensive disorders complicate 5-10% of pregnancies and together with hemorrhage and sepsis forms the deadly triad contributing greatly to maternal morbidity and mortality.² In a WHO systemic analysis published in 2014, hypertensive disorders accounted for 14% of maternal deaths.³

ACOG classified hypertensive disorders of pregnancy into four groups

1) Gestational hypertension: defined as a new onset of hypertension (SBP \geq 140 mmHg \pm DBP \geq 90 mmHg)

at \geq 20 weeks of gestation in the absence of proteinuria or new signs of end-organ dysfunction. The blood pressure readings should be documented on at least two occasions and with a minimum gap of four hours.⁴

2) Preeclampsia refers to new onset of hypertension and proteinuria or hypertension and significant end organ dysfunction with without proteinuria after 20 weeks of gestation in a previously normotensive woman and may also be noted postpartum.

In 2013, American College of Obstetricians and Gynecologists removed following:

1. Proteinuria as an essential criteria for diagnosing preeclampsia
2. Massive proteinuria (5 g/24 hours) as a possible feature of severe disease it has poor correlation with outcome.
3. Fetal growth restriction as a feature of severe disease as it is managed similarly whether or not preeclampsia is diagnosed.
4. Oliguria as a characteristic of severe disease.

The International Society for the Study of Hypertension in Pregnancy (ISSHP) continues to include fetal growth

restriction as one of the criterion to establish the diagnosis of preeclampsia in woman with new onset hypertension after 20 weeks of gestation as both preeclampsia and growth restriction are manifestations of primary placental disorder.⁵

3) Eclampsia: defined as new development of grandmal seizures in a woman with preeclampsia in the absence of any neurologic conditions that could account for the seizure.

4) Chronic hypertension/Preexisting hypertension: It is defined as hypertension that antedates pregnancy or present on at least two occasions before 20th week of gestation or hypertension that persists longer than 12 weeks postpartum. It can be primary or secondary to a variety of medical disorders.

5) Pre-eclampsia superimposed on Chronic hypertension: defined by new onset of proteinuria/ a significant increase in proteinuria if prior proteinuria is present or Significant end-organ dysfunction or both after 20 weeks of gestation in a woman with chronic /Preexisting hypertension.⁶

The main maternal and fetal risks associated with hypertensive disorders of pregnancy include HELLP syndrome, abruptio placenta, pulmonary edema, postpartum hemorrhage, acute renal failure preterm delivery, fetal growth restriction and perinatal death.⁷ The outcome of these complications depends on the severity of hypertension, gestational age at the onset of hypertension, and at the time of delivery. Moreover, IUGR and placental abruption are more common in preterm deliveries. Mothers who have had a history of preeclampsia (17.9%) are at a greater risk than nulliparous women (5.3%) ($p < 0.00001$).⁸ Hypertensive mothers usually give birth to preterm babies, who will most likely need Neonatal Intensive Care Unit (NICU) care as a result of IUGR and low birth weight (LBW).⁹

Primary objective: To know the incidence of hypertensive disorders in pregnancy in a tertiary care hospital in Western Maharashtra.

Secondary objectives:

1. To study the obstetric outcome and maternal outcome.

2. To study fetal outcome in terms of Stillborn, LBW and NICU admissions.

Inclusion criteria:

1. Delivered at our institute
2. Existence of adequate data in the labor room records.
3. Diagnosed to have hypertension HTN

Exclusion criteria:

1. Pregnant women with convulsions due to causes other than eclampsia .
2. Pregnant women with other associated medical disorders who had abortion .

METHODS:

The study is a retrospective study conducted by collecting data from labor room records of hospital after clearance from HoD and Institutional Ethical Committee.Data of all the women who were admitted for diagnosis, evaluation, further management and delivered at our hospital during the period of one year from January 2019 to December 2019and who fulfill the criteria below.

RESULTS:

A total of 2490 pregnant women were delivered at our institute over a period of one year from January 2019 to December 2019. Out of which 239 cases (9.6%) were diagnosed with hypertensive disorders of pregnancy.

In the study gestational hypertension is most common with 154 cases (6.2%), pre-eclampsia and eclampsia 61 cases (2.4%) is second most common , Pre-eclampsia superimposed on chronic hypertension 19 cases (0.8 %) and chronic hypertension only 5 cases(0.2%).

Table1: Prevalence of hypertensive disorders in the study population.

Types of Hypertensive Disorders in Pregnancy	No of cases	% of total deliveries	% distribution of hypertensive disorders
Gestational hypertension	154	6.2	64
Preeclampsia	61	2.4	25.5
Chronic hypertension	19	0.8	7.9
Pre-eclampsia superimposed on chronic hypertension	05	0.2	2.1

In theage distribution of hypertensive disorders highest incidence is in the age group of 20-29 years of age with 51%,followed by 35% in the age group of 30-39years .Among pregnant women with hypertensive disorders, 179 cases were primigravida with an incidence of hypertensive disorders of 7.2% and 60 cases were multigravida with incidence of 2.4%. Primigravida and multigravida constituted 75% and 25 % of cases respectively

Table 2: Age and Parity distribution of the study population:

Age	No: of cases	%
< 20	26	11
20- 29	122	51
30-39	84	35
≥40	7	3
Parity		
Gravid status	No: of cases	Incidence of HODP
Primi	179	7.2%
Multi	60	2.4%

Commonest route of delivery in the study group was vaginal with 141 Cases (59%),with4 cases (1.5%) of Instrumental delivery and 94 cases (39.5%) of caesarean delivery.In this study abruption was the most common maternal outcome encountered with 9.2%, followed by PPH 6.3%. This study

shows that in the fetal outcome, majority 69.8% of newborn weighed normal for gestation and 27.6% were LBW , 2 were stillborn and 4 were IUD.Out of stillborn and IUD , 5 cases were diagnosed among cases of early onset severe preeclampsia complicated by abruption. NICU admission was 34%.

Table 3: Mode of delivery, maternal and neonatal outcome in study population

Mode of delivery	No of cases	%
Vaginal	141	59
Instrumental	4	1.5
Caesarean	94	39.5
Maternal Outcome		
Maternal outcome	No : of cases	%
ICU/HDU Admissions	7	2.3
Maternal mortality	1	0.4
HELLP	11	4.6
Abruption	22	9.2
Eclampsia	5	2.1
PPH	15	6.3
Pulmonary edema	4	1.7
ARF	1	0.4
DIC	1	0.4
Fetal Outcome		
Fetal Out come	No of cases	%
Normal for gestation	167	69.8
LBW	66	27.6
Still born/IUFD	6	2.5
NICU admissions	81	34

DISCUSSION:

In this study the incidence of hypertensive disorders of pregnancy is 9.6 %, with gestational hypertension 6.2%, pre-eclampsia 2.4%,chronic hypertension 0.8 %, severe pre-eclampsia superimposed on chronic hypertension 0.2% which is less than Indian figures of 5 – 15%¹⁰

CONCLUSION :

Hypertensive disorders of pregnancy are major medical disorder in pregnancy and major cause

contributing to maternal and fetal morbidity and mortality. Gestational hypertension cannot be prevented but development of pre-eclampsia and its complications can be prevented through early diagnosis, thorough evaluation and management, which will reduce maternal morbidity and mortality. Early detection, proper antenatal checkup at all levels of health care, prompt initiation of anti-hypertensive, steroid exhibition , magnesium sulfate ,proper judgment on time of termination can overcome adverse maternal outcome and along with vigilance in post-partum period can reduce maternal and fetal morbidity and mortality and a positive outcome.

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Conflict of interest: None declared

Ethical approval: The study was approved byinstitutional ethics committee of our institution

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