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# PERINATAL MORTALITY IN HYPERTENSIVE DISORDERS WITH PREGNANCY

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## ABSTRACT

**Background:** Preeclampsia is one of the common conditions of unknown etiology which increases the risk of maternal and perinatal morbidity and mortality.

**Objective:**

1. To find out Perinatal Mortality Rate in cases of hypertensive disorders with pregnancy.
2. To compare Perinatal Mortality Rate in Booked and Unbooked cases in cases of hypertensive disorders with pregnancy.
3. To compare Perinatal Mortality Rate in patients receiving Early and Late treatment in cases of hypertensive disorders with pregnancy.

**Materials and Methods:** A comparative prospective Study was performed at Dept of OBS & Gynec, P D U Medical College, Rajkot over a period of June 2011 to May 2012. All the patients admitted with the diagnosis of hypertensive disorders with pregnancy were included in the study. A detailed history, with clinical symptoms and sign, laboratory investigations, diagnosis, and neonatal outcome were recorded in the predefined questionnaire proforma. Up to seven-day neonatal follow up was done.

**Results:** Perinatal mortality rate in cases of hypertensive disorders with pregnancy of our study was 327/1000 live births (36 out of 110 cases).

In our study, we found 54 booked cases and 56 unbooked cases; out of which perinatal mortality was in 9(16%) cases in booked case while 27 (48%) cases in unbooked cases. So, Perinatal Mortality Rate in booked cases was 166 / 1000 live birth while in unbooked cases it was 482 / 1000 live birth. Perinatal mortality rate was three times higher in unbooked cases (P = 0.0004).

Perinatal mortality rate in patients early diagnosed and treated was 127/1000 live births, while in delay diagnosed and treated was 476/1000 live births. So, perinatal mortality rate was three & half times higher in cases delay diagnosed & treated cases (P = 0.0001).

**Conclusion:** We studied impact of hypertensive disorders with pregnancy on Perinatal outcome and found Perinatal mortality rate of 327/1000 live births. PMR was significantly high in unbooked and cases with delayed treatment. So, we concluded that early diagnosis and treatment of hypertensive disorders with pregnancy can improve perinatal outcome.

**Key Words:** Perinatal Mortality Rate, hypertensive disorders with pregnancy

## INTRODUCTION

Hypertensive disorders of pregnancy have been identified as a major worldwide health problem, associated with increased perinatal morbidity and mortality. Pregnancy induced hypertension (PIH) is one of the most common causes of both maternal and neonatal morbidity. [1]

It is estimated that globally 6-8% of pregnancies are complicated by hypertension regarding population and the diagnostic criteria [2, 3, 4].

Five classes of hypertensive disorders were identified according to the latest classification system described by the National High Blood Pressure Education Working Group (2000) including Preeclampsia, Eclampsia, Transient Hypertension of pregnancy, Chronic Hypertension and Preeclampsia superimposed on Chronic Hypertension [5].

Risk factors for preeclampsia include medical conditions with the potential to cause microvascular disease (e.g., diabetes mellitus, chronic hypertension, vascular and

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connective tissue disorders), antiphospholipid antibody syndrome, nephropathy, twin pregnancies, primiparity, previous PE and obesity. A family history of PE increases the women's risk, suggesting a possible genetic predisposition [6, 7, 8].

Hypertensive disorders of pregnancy predispose women to acute or chronic uteroplacental insufficiency, resulting in ante or intrapartum asphyxia that may lead to fetal death, intrauterine growth retardation and/or preterm delivery [9].

The perinatal mortality and stillbirth rates for India according to National Family Health Survey-3 (2005-06) are 48.5 per 1000 live births and 19.2 per 1000 pregnancies, respectively [10]

## MATERIAL AND METHODS

A comparative prospective Study was performed at Dept of obs & gynec, P D U Medical College, Rajkot over a period of June 2011 to May 2012. All the patients admitted with the diagnosis of hypertensive disorders with pregnancy were included in the study.

We divided patients in to booked and unbooked categories. Those who have two or more antenatal visits at OBGY Dept, PD.U Medical College, Rajkot were considered booked patients and others into unbooked categories.

We also divided patients into early and delayed treatment categories. If any time of admission patient has been diagnosed as hypertensive disorder of pregnancy and treatment has been started considered early treatment categories else included in delayed category.

Convulsion controlled by inj. MgSo<sub>4</sub> both IM &/IV doses and hypertension controlled by antihypertensive drugs like Cap. Nifedipine /Methyldopa /Labetelol .Vaginal delivery aimed but when indicated delivery by caesarian section.

A detailed history, with clinical symptoms and sign, laboratory investigations, diagnosis, and neonatal outcome were recorded in the predefined questionnaire proforma. Up to seven-day neonatal follow up was done.

## RESULTS

We have done a prospective observation study of Perinatal mortality in case of hypertensive disorders with pregnancy. Total 110 patients included during the study period. Patients of different age group, parity, area of residence, socioeconomical class, literacy level, religion and gestational age were included.

We found out of total 110 cases in 36 cases Perinatal mortality were noted. So, Perinatal Mortality Rate was 327/1000 live birth.

In our study, out of 54 booked cases perinatal mortality in 9 cases (means 16%) and Perinatal Mortality Rate in booked cases was 166 / 1000 live birth, while out of 56 unbooked cases perinatal mortality in 27 cases. (means 48%) and Perinatal Mortality Rate in unbooked cases was 482 / 1000 live birth. Chi square test suggests that perinatal mortality significantly increases in unbooked than booked cases [P = 0.0004 (4.23 E - 4)].

In our study, 47 cases received early treatment & perinatal mortality was in 6 cases (means 13%) and Perinatal Mortality Rate early diagnosed & treated cases was 127 / 1000 live birth, while 63 cases received delay treatment and perinatal mortality in 30 cases (means 48%). Perinatal Mortality Rate in delay diagnosed & treated cases was 476 / 1000 live birth. Chi square test suggests that perinatal mortality significantly increases in delay treated cases than early treated cases [P = 0.0001 (1.16 E - 4)].

Out of 110 cases 11(10%) belongs to still birth while 99(90%) belongs to live birth at time of delivery.

In our study, low birth weight was the most common cause of early neonatal death (most commonly due to iugr followed by preterm) while second most common cause was severe birth asphyxia & third was meconium aspiration syndrome.

**Table 1: General observations:**

	Cases	Perinatal mortality
Age		
<20	8	1
20-30	80	27
>30	22	8
Parity		
1	66	19
2	18	8
≥3	26	9
GES AGE(WKS)		
PRETERM(<37)	24	17
TERM(37-42)	84	19
POST TERM(>42)	2	0

**Table 2: Birth**

SR	BIRTH	NO.OF CASES	% OF CASES
1	LB - LIVE BIRTH	99	90
2	SB - STILL BIRTH	11	10
	TOTAL	110	100

**Table 3: Comparison of Perinatal Mortality in Booked and Unbooked cases**

PERINATAL MORTALITY	BOOKED CASES	UNBOOKED CASES	TOTAL
PRESENT	9	27	36
ABSENT	45	29	74
TOTAL	54	56	110

**Table 4: Comparison of Perinatal Mortality in early and delayed treatment cases**

PERINATAL MORTALITY	EARLY TREATED	DELAY ED TREATED	TOTAL
PRESENT	6	30	36
ABSENT	41	33	74
TOTAL	47	63	110

## DISCUSSION

Out of total 110 cases in 36 cases perinatal mortality were noted. So, Perinatal Mortality Rate was 327/1000 live birth. Perinatal Mortality Rate in unbooked cases was 482 / 1000 live birth While Perinatal Mortality Rate in booked cases was 166 / 1000 live birth. Perinatal Mortality Rate in delay diagnosed & treated cases was 476 / 1000 live birth while Perinatal Mortality Rate in early diagnosed & treated cases was 127 / 1000 live birth.

Many studies have been published about effects of hypertensive disorders with pregnancy on perinatal outcome. Zenebe Wolde et al, evaluated hypertensive disorders of pregnancy in Jimma University specialized hospital and noted perinatal mortality rate in the study was 317.1 / 1000 births [11] almost same to our study while in study of J. Nadkarni et al perinatal mortality rate was 159/1000 births [12].

20% of births needed to be delivered by Cesarean section in our study lesser compared to similar study by Chappell et al [13].

In our study Perinatal Mortality Rate in unbooked cases was 482 / 1000 live birth While Perinatal Mortality Rate in booked cases was 166 / 1000 live birth While J. Nadkarni et al reviewed perinatal mortality rate in booked cases was 86.9/1000 births compared to 185.6/1000 births in mothers with emergency admission [12].

## CONCLUSION

We studied impact of hypertensive disorders with pregnancy on Perinatal outcome and found Perinatal mortality rate of 327/1000 live births. Out of 110 cases 11(10%) belongs to still birth while 99(90%) belongs to live birth at time of delivery. PMR was significantly high in unbooked and cases with delayed treatment. So, we concluded that early diagnosis and treatment of hypertensive disorders with pregnancy can improve perinatal outcome.

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