



ORIGINAL RESEARCH PAPER

Gynaecology

STUDY OF MATERNAL AND FETAL OUTCOMES IN PREGNANCY INDUCED HYPERTENSION AND ITS COMPLICATIONS

KEY WORDS: pregnancy induced hypertension , preeclampsia, perinatal morbidity , prospective study

Dr. Vilas Kurude	M.S OBGY , Associate Professor and Unit head at GGMC & JJ Hospitals, Mumbai
Dr. Tamanna Vinaik*	M.S OBGY , Assistant Professor at GGMC & JJ Hospitals, Mumbai *Corresponding Author

ABSTRACT

Preeclampsia is one of the common conditions of unknown etiology which increases the risk of maternal and perinatal morbidity and mortality. The aim of the study was to determine the maternal and neonatal outcome in babies born to preeclamptic patients. A prospective study was carried out in the department of OBGY in tertiary care hospital in Mumbai .

Introduction:

Hypertensive disorder accounts for 12-22% of all pregnancy illnesses and is the most common medical complication.[4]

Hypertensive disorder of pregnancy complicates 5 to 8% of pregnancies and is a major cause of maternal and perinatal morbidity and mortality[1]. Pregnancy induced hypertension is a syndrome of hypertension appearing after 20 weeks of gestation without proteinuria. Preeclampsia is pregnancy complicated with hypertension and proteinuria[2].

Severe pre-eclampsia is considered when SBP \geq 160 mmHg and DBP \geq 110 mm Hg or proteinuria \geq 5 gm in 24 hour urine sample or oliguria, pulmonary edema, cerebral disturbances or visual disturbances, impaired liver function or thrombocytopenia is present This disorder is linked to defective placentation, oxidative stress with release of vasoactive substances, increased thromboxane and/or cytokines triggered vascular and organ dysfunction.

Preterm labor, Intrauterine growth retardation (IUGR), Intrauterine deaths (IUD), accidental hemorrhage, pulmonary edema, cardiac failure, HELLP syndrome, disseminated intravascular coagulation (DIC), renal failure, adult respiratory syndrome (ARDS) and cerebral hemorrhage are the various complications associated with pre-eclampsia.[5] In India, 24% of all maternal deaths are due to pre-eclampsia and eclampsia.[6] Abruptio placentae, hepatic rupture and eclampsia are the major complications leading to maternal deaths.

METHODS

This is a hospital based prospective study of maternal and perinatal outcome in pregnancy induced hypertension and preeclampsia.

Inclusion criteria

All pregnant women admitted in the hospital diagnosed as pregnancy induced hypertension and preeclampsia with or without associated complications

Exclusion criteria

1. Patients with previous seizure disorders
2. Patients with k/c/o APLA(Anti Phospholipid Antibody)
3. Patients with chronic hypertension

Method of study

This is a hospital based prospective study on 185 patients in period of one year . The outcome measures were maternal complications like eclampsia, HELLP, abruptio placenta, DIC, acute kidney injury, intracerebral haemorrhage, pulmonary oedema and perinatal complications like preterm births, foetal growth restrictions, low APGAR, still birth, meconium aspiration and neonatal death. Source of data is patients admitted to the department of obstetrics and gynaecology in a tertiary care teaching hospital.

Pregnant women admitted to the department of obstetrics and

gynaecology, in the tertiary care hospital, were categorize as pregnancy induced hypertension and preeclampsia and eclampsia as per the International society for the study of hypertension in pregnancy (ISSHP) classification criteria for the definitions of pregnancy induced hypertension and preeclampsia.

Pregnancy induced hypertension was defined as systolic blood pressure of at least 140 mmHg and/or diastolic blood pressure of at least 90 mmHg on 2 occasions at least 6 hours apart after the 20th week of gestation in women known to be normotensive before pregnancy and regressing after delivery. Preeclampsia is onset of hypertension after 20 weeks gestation with proteinuria of more than 300 mg/day and or oedema.

- Demographic and family histories were taken.
- BP was measured in supine position.
- Urine proteins were measured by dipstick method.

The following investigations were done for all patients: Hb%, PCV, blood group and Rh, VDRL, HIV, HBsAg PIH profile: serum creatinine, blood urea, serum uric acid, liver function test, fundoscopy, NST, and ultrasound scan. These patients were then followed up to study the maternal and perinatal outcome.

RESULTS:

A total of 2010 patients were admitted for delivery during the period Jan 2017 to Dec 2017. 185 patients were diagnosed as having preeclampsia. Thus , the incidence of preeclampsia is 9.2% in our institution. All cases of preeclampsia admitted in Dept. of OBGY were included in the study. Basic demographic data and obstetric data of the patients of the patients are given the Table 1 . Majority(55.6%) of preeclampsia patients were young and primiparous. The incidence of preterm deliveries was seen in 45.9% of cases. Severe PIH (>110 mmHg DBP) was seen in 34.59% of cases.

The results regarding the perinatal conditions showed a prevalence of 87.56% of live births. Low birth weight (<2.5 kg) was seen in 64.86% of cases. According to the APGAR score most presented a value of \geq 7 at 5 minute of life. There were 12.4% of stillbirths.Perinatal mortality rate increased as severity of preeclampsia increased . Neonatal intensive care unit admissions were seen in 22.1% of cases.

A total of 185 patients were included in the study out of which 55.6% were primigravida and the rest were multigravida.

Most common presenting symptom was headache (72.83%) followed by blurring of vision (23.45%), convulsions (14.5%), oliguria (0.04%), epigastric pain (0.03%), hematuria (0.024%) and ascitis (0.0123%).

Renal and liver functions were deranged in 5.87% and 10.51% patients respectively.

Commonest mode of induction was with PGE2 cerviprime gel . Out of 52.4% vaginal deliveries, 6.1% were ventouse assisted, 2% were forceps assisted and 2.46% were assisted breech. 6.48% (12) were multiple pregnancies. 47.5% women were delivered by lower segment caesarean section (LSCS) and the indications were non-progress of labour (13.6%) , 25% had foetal distress , 18.1% had CPD, 17.04 % accounting to meconium stained liquor, 19.3% were post caesarean section and 6.8% had malpresentation. Average hospital stay was 2 weeks.

incidence of PPH (2.7%), HELLP Syndrome (1.08%), APH (2.70%), renal dysfunction (1.08%), DIC (3.7%), intracerebral bleed in 0.54%, 2.7% had fundoscopic changes and pulmonary complications in (1.08%). There were two cases of maternal mortality. One due to Intracranial bleed leading to midline shift and other due to pulmonary edema .

Maternal complications were high as there was increased

Perinatal complications were due to increased incidence of prematurity , low birth weight , very low birth weight , IUGR, birth asphyxia and low APGAR Score. Perinatal mortality was 13.5%, out of which 11.8% were IUD, 1.62% were neonatal deaths.

TABLE : BASELINE DATA

Parameter		No. of cases	Percentage
Maternal age in years	<20years	41	22%
	20-35years	87	47%
	>36years	57	31%
Severity of PIH	Mild	64	34.59%
	Severe	121	65.4%
Gravida	Primi gravida	103	55.6%
	Multi gravida	82	44.3%
Multiple pregnancies		12	6.48%
Booked visits	Registered	38	20.5%
	Unregistered	147	79.4%
Gestational age at delivery in weeks	Preterm (<37weeks)	85	45.94%
	Term (> 37weeks)	100	54%
Mode of delivery	Vaginal	97	52.4%
	LSCS	88	47.5%
Indications of LSCS	1. non-progress of labour	12	13.6%
	2. foetal distress	22	25%
	3. meconium stained liquor	15	17.04%
	4. previous caesarean section	17	19.3%
	5. malpresentation	6	6.8%
	6. CPD	16	18.1%
Viability	Live born	162	87.56%
	Still born	23	12.43%
Mean birth weight	<1.5 Kg	38	20.54%
	1.5-2.5 Kg	82	44.3%
	>2.5 Kg	55	29.7%
NICU admission		41	22.1%
Perinatal mortality (%)		3	1.62%
Maternal complications (%)			
a. Eclampsia		27	14.5%
b. Renal complication		02	1.08%
c. DIC		07	3.7%
d. Pulmonary edema		02	1.08%
e. Abruption		05	2.7%
f. Intracerebral haemorrhage		01	0.54%
g. Fundoscopic changes		05	2.7%
h. PPH		05	2.7%
i. Maternal mortality		02	1.08%
j. HELLP		2	1.08%

DISCUSSION :

Pre-eclampsia and eclampsia still remains the leading cause of maternal morbidity and mortality throughout the world. Despite the advent of recent advances, it still remains a common problem in developing countries also due to illiteracy poverty, lack of health care education and poor antenatal care.

In our study, most patients were primigravida (55.6%) whereas Ketz et al reported 70% women as primigravida.[7]

Both pre-eclampsia and eclampsia are known to lead to prematurity. In our study (45.94%) had preterm delivery whereas Tuffnell et al had (65.3%).

Headache was the most common antecedent symptom present in 72.83% of the patients followed by blurring of vision (23.45%), convulsions (14.5%), oliguria (0.04%), epigastric pain (0.03%), hematuria (0.024%) and ascitis (0.0123%). Douglas et al also reported headache as the most common antecedent symptom followed by epigastric pain and blurring of vision in 50%. 19% and

19% patients respectively. Vaginal delivery was present in 52.4% whereas 47.5% had LSCS, while Tuffhell et al , Al Inizi et al, Sibai et al reported caesarean section rate or 72.1%,54% and 49% respectively which is much higher than present study.[8-10]

In our study, PPH was found in 2.7 % , HELLP Syndrome in 1.08%, APH in 2.70%, renal dysfunction in 1.08 % , DIC in 3.7 % and pulmonary complications in 1.08% respectively. There were two cases of maternal mortality.

However Tufnell et al reported pulmonary edema in 2.3%, renal dysfunction in 0.55%, embolism in 0.28% and no maternal mortality.[9] Perinatal mortality was 13.5%, out of which 11.8% were IUD, 1.62% were neonatal deaths.

CONCLUSION

Preeclampsia is largely a preventable condition and is responsible for high morbidity and mortality. Perinatal mortality rate increases as the severity of preeclampsia increases. The causes for high perinatal mortality are mainly prematurity and low birth weight.

Proper antenatal care must be given to all pregnant women to prevent and screen for preeclampsia. Diagnosis at an early stage and proper prenatal supervision helps prevent eclampsia and appropriate treatment will help in bringing down the aftermaths of pre-eclampsia and eclampsia to improve the maternal and perinatal outcome. Public health awareness, education of primary health care workers and improvement of socio-economic circumstances can help to improve maternal and neonatal prognosis.

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