



ORIGINAL ARTICLE

Maternal and Perinatal Outcomes in Women with Preeclampsia: A Retrospective Cohort Study from a Tertiary Care Teaching Hospital in North Rajasthan

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ABSTRACT

Background: Hypertensive disorders of pregnancy classification given by task force of acog (2013) they are preeclampsia, eclampsia & chronic HTN & hypertension resolves by 12week postpartum. Pre-eclampsia & Eclampsia together constitutes a large percentage of maternal death in India. The Crucial elements in decreasing maternal mortality rate & improving fetal & maternal outcome are proper antenatal checkup, early detection of disease, careful Blood pressure monitoring & appropriate management.

Aim: 1. To study the pattern of fetal & maternal outcome & complications so that we can identify them earliest & manage them effectively and ensure a healthy outcome to both mother & baby.

2. Our aim is to study the total no. of pre-eclampsia patients, there inpatient Management and pregnancy outcome over the period of 6 months.

Methods: Total 120 women of Pre-eclampsia when included in the study. Our study was done from September 2023 to Feb. 2024 in GMC & Mahila Chikitsalya Hospital, Alwar in Obs & Gynae department. Patients were managed according to protocol. The antihypertensive drug of choice was labetalol & MgSO₄ was used as an Anticonvulsant.

Results: Maternal complications among Hypertensive disease of Pregnancy like Abruption placental was seen in 19.1% PPH in 9.16%, Maternal ICU admission was seen in 8.3%, HELLP syndrome was seen in 0.83%, 2 cases of still birth were seen, Normal fetal outcomes seen 94 cases (63.3%) and NICU admission were 20%.

Conclusion: In our study, patient management was done in proper way with use of MgSO₄ in eclamptic patient. Proper availability & implementation of emergency obstetrical services resulting in zero mortality and less ICU admissions.

Keywords: Preeclampsia, Eclampsia, Hypertension, Emergency obstetrical services, maternal mortality rate

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INTRODUCTION

The most common medical complication occurring in all pregnant women is hypertension in pregnancy. Hypertensive disorders of pregnancy classification given by task force of ACOG (2013) they are preeclampsia, eclampsia & chronic HTN & hypertension resolves by 12 week postpartum. [1] If there is new onset of elevated Blood Pressure at 20 weeks of pregnancy in primary normotensive with blood pressure >140/90 mmHg & ≥0.3 gm protein in 24-hour urine specimen. It is considered as severe pre-eclampsia if BP ≥ 160/110 mmHg & >5 gm protein in 24-hour urine specimen. [2] Symptom of end organ damage when a patient of *S. preeclampsia* has Generalized Tonic clonic seizures known as Eclampsia. Pre-eclampsia & Eclampsia together constitutes a large percentage of maternal death in India. Pathophysiology of Pre-eclampsia is when the Vascular Endothelial cells are damaged leading to multi systemic dysfunction. WHO estimated approximately 60,000 women

die each year from Pre-eclampsia worldwide. Delivery of the baby is the ultimate treatment for Pre-eclampsia to prevent maternal complication & improve maternal & fetal outcome. [2] Delivery of fetus depends on fetal maturity so that we can decrease perinatal mortality & morbidity & reduce NICU admissions. The first line antihypertensive drug is labetalol which acts as α & β adrenergic antagonists. WHO recommends Magnesium Sulfate for Eclampsia treatment. The Crucial elements in decreasing maternal mortality rate & improving fetal & maternal outcome are proper antenatal checkup, early detection of disease, careful Blood pressure monitoring & appropriate management. Complications associated with Preeclampsia are DIC, Abruption placentae, HELLP syndrome, eclampsia, pulmonary edema & maternal death. Fetal complication can occur like preterm delivery, still birth & no. of NICU admissions. Eclampsia is a greek word, which means like a flash of lightning. Eclampsia is a life

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threatening emergency & is a major Cause of maternal & perinatal mortality. Emergency obstetric services are offered to eclampsia patients at the time of admission to prevent maternal mortality. Our hospital is medical college attached to district hospital in Alwar receives many complicated cases as emergency from CHC, PHC, FRU, private clinics & nursing homes.

Aim

- To study the pattern of fetal & maternal outcome & complications so that we can identify them earliest & manage them effectively and ensure a healthy outcome to both mother & baby.
- Our aim is to study the total no. of pre-eclampsia patients, their Inpatient Management and pregnancy outcome over the period of 6 months.

MATERIAL & METHODS

A retrospective cohort study was conducted for 6 months from September 2023 to Feb. 2024 in the Department of Obs & Gyne. in Govt. Medical College & Mahila Chikitsalya Hospital Alwar. Those patients whether booked or unbooked having pre-eclampsia at the time of admission were included in the study. On Admission detailed demographic personal, medical & surgical history were recorded. General physical examination, systematic abdominal examination was done. Blood investigation like CBC, Renal function test, Liver function test, coagulation profile & Urine albumin test was also done. Ultrasound

colour doppler study was done at the time of admission. Obstetric management was carried out according to protocol. If Gestationage ≤ 34 weeks then corticosteroids were given for lung maturity regarding timing & mode of delivery. Obstetrical Management was done, delivery was done either Vaginally or by Cesarean section. Mgso₄ by Pritchard's regimen was given to Eclamptic patient, Tablet labetalol 100 mg labeled was given as antihypertensive to control blood pressure. Multidisciplinary team work was also done along with physician & senior anaesthetist when the blood pressure was uncontrolled. Maternal & perinatal complications were noted down, data was collected, compiled and analysed.

RESULTS

Table 1 : It denotes Age of Pre-eclampsia patients, we found

Table 1: AGE Distribution

Age	No. of Cases	%
≤ 20 Yrs.	12	10%
21-25	27	22.5%
26-30	51	42.5%
31-35	22	18.3%
>35 Yrs.	8	6.6%

Table 2: Maternal Characteristic

Booking status	No. of Cases	%
Booked	54	45%
Unbooked	66	55%

Table 3: No. of Cases

	No. of Cases	%
Primigravidae	80	66.67%
Multigravidae	40	33.33%

Table 4: Gestational Age at which preeclampsia patient presented to us

Gestational Age	No. of Cases	%
<37 wks	56	46.6%
>37 wks	64	53.3%

Table 5: Mode of Delivery

Mode of Delivery	No. of Cases	%
Vaginal	40	33.33%
LSCS	80	66.67%

Table 6: Maternal Outcomes In Hypertensive Disorder Of Pregnancy

Maternal Outcome	No. of Cases	%
Uneventful	90	75%
Eclampsia	10	8.3%
ICU admission	10	8.3%
Maternal Mortality	0	0%
HELLP	1	0.83%
Abruption Placentae	23	19.1%
PPH	8	9.16%
Pulmonary edema	1	0.83%

Table 7: Perinatal Outcomes In Hypertensive Disorder Of Pregnancy

Parental Outcome	No. of Cases	%
Normal	94	63.3%
NICU Admission	24	20%
Still birth/IUD	2	1.6%

Table 8: Baby Weight At Birth

Birth Weight	No. of Cases	%
< 2.5 kg.	35	29.1%
≥2.5 kg.	83	69.1%

that maximum patient were in age group 26-30 yrs & were 42.5% (51) & least no. of patients were more than 35 yrs age (6.6%) is 8 cases only.

Table 2 : It denotes booking status, we found more than half percentage ie 55% (66 cases) were unbooked and booked cases were 45% (54 cases)

Table 3: There were 80 cases (66.67%) of preeclampsia who were Primigravidae & 40 cases (33.33%) who were multigravidae.

Table 4: It denotes preterm delivery which are 56 cases (46.6%) and term delivery were 64 cases (53.3%).

Table 5: Mode of delivery in pre-eclampsia patients were majority by cesarean section were 80 cases (66.67%) and vaginal delivery were 40 cases (33.33%).

Table 6: Maternal complication like PPH occurred in 8 cases (9.16%) eclampsia cases were 10 (8.3%), ICU admission were 10 (8.3%) Abruption Placentae cases were 23 (19.1%), Pulmonary edma cases was 1 only (0.83%) and 0 maternal mortality.

Table 7: Perinatal Outcome was Uneventful is 94

cases (63.3%), IUD were just 2 cases and NICU admission found to be 24 cases (20%).

Table 8: Low birth weight babies were 35 cases (29.1%) and Normal birth weight were 83 cases (69.1%).

DISCUSSION

Hypertensive disorder of pregnancy are major health problem, which can cause increased risk of maternal and perinatal mortality. There were 120 cases of pre-eclampsia admitted & studied in the hospital. It was found that Antenatal Care, Early detection & prompt intervention improves pregnancy outcome. Primigravidae is widely seen as a risk factor for pre-eclampsia and Eclampsia In our study, we found 80 patients (66.67%) were Primigravidae and 40 patients (33.33%) were Multigravidae. In Dasari *et al* study, 45 cases (63.4%) were primigravide having pre-eclampsia & 26 cases (36.6%) were multigravidae had pre-eclampsia. In our study 51 patients (42.5%) were in age group of 26-30 yrs and only 8 patients (6.6%) were more than 35 yrs of age. In our study 55% patients were unbooked whereas 45% were booked. In Naz Mket'al study higher incidence of preeclampsia patients were seen in unregistered women which were 35 cases (74.5%) which show us the need of routine and proper ANC care should give to the patient. In our study preterm birth delivery were 56 cases (46.6%) and term babies were 64 cases (53.3%). In Sitaram *et al* study, preterm deliveries were 57 cases (40.43%) & term deliveries were 89 cases (59.53%). Our study was relatively similar to Sitaram *et al* study. In our study, total no. of cesarean section done for pre-eclampsia & eclampsia patients were 80 cases (66.67%) & vaginal deliveries were 40 cases (33.33%). In Sitaram *et al* study, incidence of C. section among pre-eclampsia cases were 100 cases (70.92%) indication of C. section were fetal distress, severe pre-eclampsia & eclampsia, poor Bishop score and other obstetrical indications & vaginal deliveries were done in 41 cases (29.08%). In Dasari *et al* study, LSCS cases were 39 (56.5%) and vaginal deliveries were 43.5% (30 cases). In our study, placental Abruption found to be in 23 cases (19.1%) which was similar to a study by Sitharam *et al* which was 16 cases (11.35%). In our study, HELLP syndrome was seen in 1 case (0.83%) which was similar to a study by Sitharam *et al* which was 0.71%. In our study, 10 cases (8.3%) of preeclampsia got convulsion. In our study, there were zero maternal mortality cases. 90 cases (75%) were Uneventful with good maternal outcome. Maternal complications included PPH in 8 cases (9.1%) & Pulmonary edema 1 case (0.83%) and ICU admission cases were 10 (8.3%). In our study Uneventful ie healthy fetal outcome was seen in 94 cases (63.3%) similar to Abhinaya

et al study in which Uneventful fetal outcome was 67.85% (38 cases). Also in Naz MK et al study good fetal outcome found in 58.5% (38 cases) of severe preeclampsia patients. In our study, NICU admission were 24 cases (20%) & still birth/IUD were 2 cases (1.6%) similar to Desari et al study in which 4 IUD/still birth cases were (5.6%) found. In our study live birth with birth weight more than or equal to 2.5 kg. were 83 cases (69.1%) and low birth weight babies were 35 cases (29.1%) which was similar to Sitharam et al when low birth weight babies were 51 cases (36.17%)[1-6].

CONCLUSION

Preeclampsia & eclampsia is one of the major public health problem in India. Mortality & morbidity of mother and baby can be reduced with early detection and prompt treatment. Proper antenatal care education awareness among people is the need of the hour. In our study, patient management was done in proper way with use of $MgSO_4$ in eclamptic patient. Proper availability & implementation of emergency obstetrical services resulting in zero mortality and less ICU admissions. When unbooked patient with eclampsia and preeclampsia came to us, emergency obstetrical services were offered & management done.

ETHICAL APPROVAL

Not required

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