



RETROSPECTIVE STUDY OF ECLAMPSIA AND TO STUDY PREDICTIVE FACTORS OF MATERNAL AND PERINATAL OUTCOMES

Obstetrics & Gynaecology

Dr. Bharti Maheshwari

Professor and head of department

Dr. Rishika Sachdeva

Jr3

ABSTRACT

Background Pre-eclampsia and eclampsia is a multifactorial disease. It is diagnosed by presence of hypertension associated with proteinuria manifested in a previously normotensive pregnant woman after the 20th week of gestation. The most frequent clinical symptoms, proteinuria and hypertension which first noted in antenatal period during labour or in the early puerperium, one of the outcomes of pre-eclampsia or eclampsia which is connected to seizures. **Objective** To study predictive factors of maternal and perinatal outcomes in retrospective study of eclampsia and to find out the incidence of eclampsia in tertiary care center. **Methodology** This retrospective case study was conducted in Department of Obstetrics and Gynaecology, Muzaffarnagar Medical College. Present study was conducted in 58 women, taken from outpatient area from tertiary care, taken consent before study. The medical records of women between June 2021 and June 2022. **Result** Eclampsia in maternal age 26-35 yrs (62%), 20-25 yrs (17%), >35 (12%). Ante partum eclampsia (51%), intra partum (17%), post partum (31%), Caesarian rates (51%) in eclampsia than normal delivery (48%). Cases treated by medical treatment (31%) than by other methods (68%). Maternal complications like renal failure (9%), CVA (2%), pulmonary edema (24%), HELLP (22%), Abruptio (31%), PPH (3%), death (5%). Perinatal complications are NICU admissions (9%), stillbirth (3%), neonatal death (7%), prematurity (55%), Baby Weight >2.5kg (10%) and >2.5kg (16%). **Result** Prenatal treatment should promote patient identification of warning signs for timely deliveries and many other factors to improve mother and perinatal success since eclampsia causes morbidity and mortality in pregnant women and fetuses for individuals who are socioeconomically disadvantaged. Early referral to tertiary primary care can aid to reduce the incidence of eclampsia-related mortality and morbidity.

KEYWORDS

INTRODUCTION

Pregnancy-related hypertensive diseases are estimated to be the cause of 62 000-77 000 maternal deaths annually or around 18 of all deaths globally. Pre-eclampsia, eclampsia, chronic hypertension with which was before on upper edge gestational hypertension and pregnancy-induced hypertension. PIH are the generally four types eclampsia is one of the subtypes of the pre-eclampsia syndrome, a significant contributor to maternal mortality and morbidity. Gestational hypertension, pre-eclampsia, eclampsia and HELLP, are the different names for the syndrome pregnant women. Increasing early detection before pregnancy, antenatal screening, and the use of magnesium sulfate to control convulsions will reduce the disorder and associated morbidity and mortality for both mother and fetus. 1 Eclampsia is one of the important causes of maternal and perinatal morbidity and mortality due to lack of proper antenatal care, low socio-economic status, and lack of education. 2

Early referral and appropriate timed deliveries may help to reduced mortality and morbidity associated with eclampsia. 3 The clinical symptoms are proteinuria and hypertension, are first noticed in the antenatal period, during labour, or in early puerperium. One of the outcomes of pre-eclampsia is eclampsia, which is connected to seizures. The exact incidence of eclampsia in India is still unknown. Improving ante-natal and emergency obstetric and neonatal care is mandatory to improve the outcome. 4

AIM AND OBJECTIVES

- 1 To find out the incidence of eclampsia in tertiary care center
- 2 To study the maternal and fetal outcome of patients with Eclampsia. 5

Inclusion criteria taken with patients with generalized tonic-clonic convulsions during pregnancy/labour/within 7 days of delivery were and exclusion criteria Women who were known case of epilepsy and seizures due to metabolic disturbances, space occupying lesions or intra cerebral infections.

MATERIALS AND METHOD

This hospital-based study conducted from June 2021 to June 2022 recruited pregnant and postpartum women at Muzaffarnagar Medical College who had been diagnosed with eclampsia. Inclusion criteria were any women diagnosed with eclampsia during pregnancy and the postpartum period between June 2021 and June 2022. All patients enrolled in the study were followed up to 6 weeks postpartum case

records of all eclamptic women were reviewed and data regarding maternal age, parity, booking status, gestational age, blood pressure and laboratory test parameters were collected and analysed.

Anc examination increase in blood pressure when pregnant whether she was taking drugs, sort of convulsions. For neonate, mode of delivery, birth weight, Apgar score, intra uterine death, prematurity, need for NICU admission were recorded. 7 The particulars, history, investigations, examination details etc., were recorded at relevant time. The primary measure of outcome was severe maternal outcome 9, Symptoms indicating end organ damage such as headache, visual disturbances, epigastric pain, medical complications such as pulmonary edema, cerebral edema, acute renal failure, hepatic hematoma, and HELLP syndrome seen 8.

Magnesium sulphate (MgSO₄) drug that is an antihypertensive primarily labetalol or hydralazine, nifedipine and corticosteroids required for treatment. All subjects underwent the complete MgSO₄ therapy including loading dose of 4 g followed by 1 g hourly for 24-h monotherapy after delivery of pregnant women who is in labor.

Maternal and perinatal outcomes

Stroke, acute kidney trauma, HELLP syndrome, hemolysis, raised liver enzymes and low platelet count. Heart failure, pulmonary edema, coagulopathy, ICU admission, mortality or recovery within 6 weeks after delivery were maternal outcomes of particular interest. Neurological impairments and extended coma, haemorrhagic strokes, life-threatening sequel of preeclampsia and eclampsia. Still had renal function test, AKI based on a serum creatinine level.

Exceptionally for those eclamptic pregnant women who had contraindications is absent knee jerk, respiratory depression, urine output i.e. 30 ml/hour. After delivery the magnesium sulphate was stopped for 24 hours, obstetric management was followed after recovery.

RESULTS

Table 1 Maternal age

MATERNAL AGE	NO. OF CASES	%
20-25 YRS	10	17%
26-35 YRS	36	62%
>35 YRS	12	20%
TOTAL	58	

Table 2: Residence among the study subjects

RESIDENCE	NO. OF CASES	%
RURAL	46	79%
URBAN	12	20%
TOTAL	58	

Table 3 Parity among the study subjects

PARITY	NO. OF CASES	%
Primi	38	65%
Multigravida	20	34%
total	58	

Table 4 Booking Status

Booking status	NO. OF CASES	%
BOOKED	13	22%
UNBOOKED	35	60%
TOTAL	58	

Table 5 Type Of Eclampsia

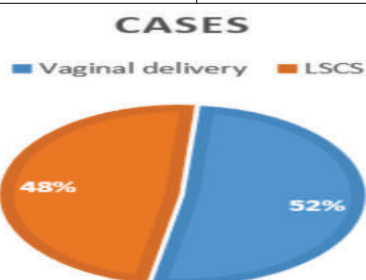
TYPE OF ECLAMPSIA	NO.OF CASES	%
ANTEPARTUM	30	51%
INTRAPARTUM	10	17%
POSTPARTUM	18	31%
TOTAL	58	

Table 6 Gestational Age

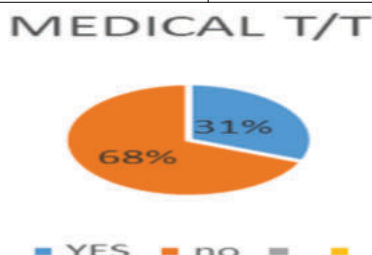
GESTATIONAL AGE	NO.OF CASES	%
<34WK	19	32%
28-37WK	28	48%
>37WK	11	18%
TOTAL	58	

Table 7 Mode of delivery

Mode of delivery	NO.OF CASES	%
LSCS	30	51%
Vaginal delivery	28	48%
TOTAL	58	

**Table Medical Treatment**

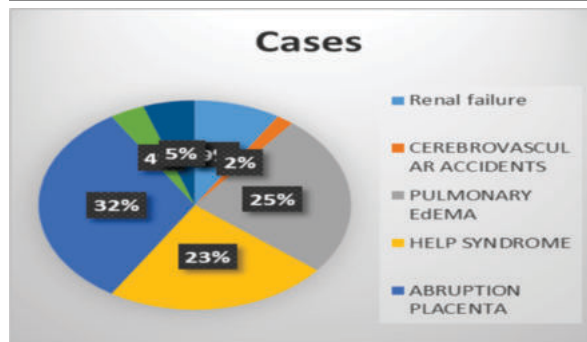
MEDICAL HISTORY	NO.OF CASES	%
YES	18	31%
NO	40	68%
TOTAL	58	

**Table 9 Maternal Morbidity**

MATERNAL MORBIDITY	NO. OF CASES	%
RENAL FAILURE	5	9%
CEREBROVASCULAR ACCIDENTS	1	2%
PULMONARY EdEMA	14	24%
HELP SYNDROME	13	22%
ABRUPTION PLACENTA	18	31%
PPH	2	3%
DEATH	3	5%
TOTAL	58	

Table 10 Perinatal Outcome

PERINATAL OUTCOME	NO. OF CASES	%
NICU ADMISSIONS	5	9%
STILL BIRTH	2	3%
NEONATAL DEATH	4	7 %
PREMATURITY	32	55%
Baby Weight >2.5kg	6	10%
Low birth weight <2.5kg	9	16%
TOTAL	58	

**Table 11 Apgar Score**

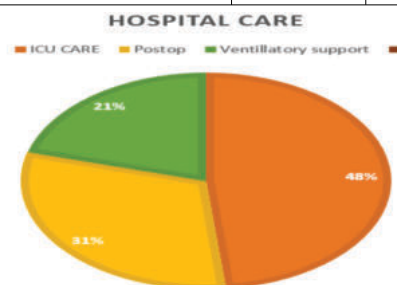
Apgar score	No. of babies	%
>7	22	37 %
4-6	16	27%
<3	12	20%
Total	58	

Table 12 Neonatal Complications

Neonatal complications	ECLAMPSIA	
	N	%
IUGR	18	31%
Respiratory Distress syndrome	16	27%
IUD	6	10%
Prematurity	15	25%
Neonatal Death	3	5%
Total	58	

Table 13 Hospital care

Hospital care	Cases	%
ICU CARE	28	48 %
Postop	18	31%
Ventilatory support	12	20%
Total	58	



DISCUSSION

This research aimed to evaluate the risk factors for maternal and perinatal outcome of eclampsia to rule out predictive factors of maternal morbidity and mortality. Out of 300 deliveries 58 patients found to be ectopic. The information regarding each patient was kept confidential as was not revealed at any point of time..

In our study maternal age 26-35yrs age pregnant women eclamptic (62%) and other study Shrestha, et 2021 5 study 17% eclamptic in 21-30yrs age., similar studies seen in Manju Agarwal, Akanksha Gautam 2020 study the age 21-30yrs (56%) eclamptic

In our study it has been found that 46 cases (79%) found to eclamptic in rural group than in urban group 12 (20%). In Irene et al 6 2021 study found that 21 (87%) women in rural group than urban group 3 (12%).

In our study 68% cases belong to primigravida in eclamptic patients but in other studies like Manju Agarwal, Akanksha Gautam* 2 2020 study 65 % (58) patients likely to come in primigravida in eclamptic patients. In this 2022 study Budhewar A et al 10 58 % are primigravida than 41% in multigravida

In our study 51% antepartum patients are antepartum eclamptic, 18 % are postpartum and 10% are intrapartum but in other studies Agarwal M et al 2 2020 study Antepartum eclampsia (80.6%) was more than intrapartum (6.9%) and postpartum (12.5%) combined. Similar study

Komisetty Sai durga Prasanna, Paidi Durga Kumari 3 antepartum eclampsia (44%) more than postpartum eclampsia (18%) In Manjusha Jindal*, Dweep Jinda 8 2021 study 74.4% patients had antepartum, 9.14% intra partum and 16.46% postpartum eclampsia.

In my study majority of the patients 48 % are 28-37wk 32% belong to <32wk, 18% more than 37wk. In similar article Khalil, S Abbasi, R Parveen et al 4 2019 study the majority (60.3%) patients were term pregnancy (>37 weeks of gestational age) and 119(37.9%) were preterm pregnancy (<37 weeks of gestational age). In other study it has been found that the gestational age found to be eclamptic in 28-37 wk (48%) but in other studies Manju Agarwal, Akanksha Gautam 2020 study 2 (36.3%) patients between 34-37 wk. in similar study 2021

Shrestha, et al 5 68.18% cases had gestational age 34-37 weeks in eclamptic patients. In our study 51% patients delivered by LSCS in eclampsia than 48% patients delivered by vaginally. In 2021 study Shrestha, et al 5 cases 17 (77.27%) underwent caesarean section and only 5 (22.72%) patients delivered vaginally. In Chaudhuri, S., Giri, D.K., Mondal, A. et al. 9 2021 study 60 women (32.97%) had vaginal delivery and 122 (67.03%) had cesarean delivery. In this 2022 study Budhewar A et al 10 LSCS was most common mode of delivery 62.26% followed by vaginal delivery 37.74%

In our study the patients who are eclamptic has past history of hypertension (31%) and 68% patients have no case record of medical history. But in other studies it is found that 2021 study Irene et al 6 found that there is 95% patients have no case record of hypertension

In my study maternal complication related to eclampsia related to 31% has abruptio placenta, 24% belong to pulmonary edema, 22% underwent HELLP syndrome, 9% has renal failure, 5% maternal death, 3% PPH due to eclampsia

In 2019 study Addisu Yeshambel Wassie Walelign Anmut 1 found that pulmonary edema (1.7%), had an acute renal failure (5%) and 4.2% had HELLP syndrome, 17 (12.4% of HELLP complicated with renal failure (6.6%), nine (7.4%) with postpartum hemorrhage) and Addis Ababa 12 (HELLP syndrome (39.5%), pulmonary edema (17.5%) and abruptio placentae (15.3%))

In other studies 2020 study Komisetty rPrasanna, Paidi Durga Kumari maternal complications associated with eclampsia are abruptio 15 cases (23.43%), DIC in 6 cases (9.37%), pulmonary edema in 7 cases (10.93%), acute renal failure in 3 cases (4.68%), PPH in 4 cases (6.25%) and PRESS in 2 cases (3.21%), maternal death occurred in 3 cases (4.68%).

In Roy M et al 2021 study 7 found that 12.7% of the cases developed pulmonary edema, 10.9% HELLP syndrome and 9.1% post-partum haemorrhage. Posterior reversible encephalopathy syndrome (PRES), pleural effusion and acute renal failure were some other complications 38.2% (95% CI: 25.7-52.3%) of the mothers who were admitted with eclampsia had maternal complications. The other maternal complication found to be pulmonary edema followed by HELLP syndrome, PPH and PRES.

In my study 9% has renal failure, 2% cerebrovascular accident but in so other study like Agarwal M et al 2 2020 study acute renal failure was present in 3% cases, cerebrovascular accident was (2.27%)

Perinatal outcomes study- 55 % are premature, 9% admitted in NICU, 3 % still birth. In my study neonatal complications 31% IUGR, 27% are respiratory distress syndrome, 25 % premature, 10 % intrauterine death, 5 % neonatal death

In other studies Agarwal M et al 2 2020 study perinatal mortality (14.77%) in current study, 9.09% of stillbirths and 5.68% neonatal deaths

In other studies 2020 study Komisetty Sai durga Prasanna 1, Paidi Durga Kumari 3 perinatal deaths was seen in 14 cases (21%) and in my study it is 7% perinatal death.

Shrestha, et al. 5 2020 study found that were 3 (13.63%) perinatal death and 27% NICU admitted

In Agarwal M et al 2 study 2020 Prematurity (46.66%), Intrauterine growth restriction (20%) and birth asphyxia (13.33%) perinatal mortality was (14.77%) which included still births (9.09%, 7 were intrauterine fetal death on admission) and neonatal death (5.68%)

In my study 16 % have low birth weight <2.5kg and 19% have baby weight >2.5kg but in other studies Shrestha, et al. 5 2020 study Thirteen (59.09%) babies born were low birth weight and 9 (40.90%) had birth weight >2.5kg.

In this study Roy M et al 7 2021 study, we observed 44 (73.3%) of the newborns to have low birth weight and 10% stillbirth In Irene et al 6 cases 2021 study found that the low birth weight <2.5kg 45 cases than 8 cases in the birth weight >2.5kg

In my study APGAR score is >7 in 37% cases and 27% in 4-6 apgar score, <3 in 20% cases respectively. But in other studies Komisetty Sai durga Prasanna 1, Paidi Durga Kumari 3 2020 study found that APGAR scores less than 5 was seen in 11 cases (17.18%), 5-7 in 21 cases (32.81%), 8-10 in 32 cases (50%) cases.

In my study 48% patient in ICU, 31% postoperative care, 20% on ventilator support. But in other study Shrestha, et al 5 2020 study 54% patient in postop room, 45% ICU care, 275 on ventilator support

CONCLUSION

Intensive monitoring throughout pregnancy is to spot potentially dangerous early signs and symptoms as well as their complications that can be prevented and pose a threat to our lives. Prenatal treatment should promote patient identification of warning signs for timely deliveries and many other factors to improve mother and perinatal success since eclampsia causes morbidity and mortality in pregnant women and fetuses. Early referral to tertiary primary care can aid to reduce the incidence of eclampsia-related mortality and morbidity. Educational and empowerment of woman accessible health care services especially in rural and backward areas is need of hour. 10

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