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A PROSPECTIVE STUDY OF FETOMATERNAL OUTCOMES IN ECLAMPSIA PATIENTS IN A TERTIARY CARE CENTRE

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ABSTRACT

Background: Eclampsia is a severe and life-threatening complication of hypertensive disorders of pregnancy, characterized by the occurrence of generalized tonic-clonic seizures. It remains one of the leading causes of maternal and perinatal morbidity and mortality, particularly in developing countries. Despite advances in obstetric care, eclampsia continues to pose a significant challenge in clinical practice due to its unpredictable onset and associated complications. This study determines the various feto-maternal outcomes in eclampsia patients in a tertiary centre.

Materials & Methods: A prospective observational study of 70 cases of eclampsia (pregnant or postpartum) was conducted in the Department of Obstetrics and Gynaecology, Jorhat Medical College & Hospital, Assam over a period of one year from 1st November 2024 to 31st October 2025.

Results: In this study, majority of the patients belonged to the 21–30 years age group (54.3%), and most were primigravida (64.3%). A large proportion of cases were unbooked (71.4%) and from rural areas (68.6%). Antepartum eclampsia was the most common presentation (64.3%). Caesarean section was the most frequent mode of delivery (64.3%). Maternal complications included severe anemia (14.3%), pulmonary oedema (11.4%), HELLP syndrome (8.6%), and acute renal failure (7.1%). Maternal mortality occurred in 4.3% of cases. Regarding neonatal outcome, 91.4% of babies were born alive, while 8.5% of cases had stillbirth or intrauterine death. Low birth weight was observed in 42.9% of neonates.. Neonatal mortality was reported in 12.5 % of cases.

Conclusion: Our study highlighted the importance of regular antenatal check up, early detection of preeclampsia, timely referral, and prompt management to improve feto-maternal outcomes and to reduce complications associated with eclampsia.

Keywords: *High risk pregnancy, eclampsia, mortality, maternal complications, prevention.*

INTRODUCTION

Hypertensive disorders in pregnancy continue to be a leading cause of maternal and perinatal morbidity and mortality globally, more so in the developing nations. About 5–10% of pregnancies worldwide are complicated by hypertensive diseases. Preeclampsia and eclampsia represent the extreme end of the range of hypertensive diseases of pregnancy. Despite advances in obstetric care, eclampsia remains an unpredictable condition with potentially catastrophic outcomes for both mother and fetus [1,2]. The WHO reports that eclampsia and other hypertension diseases of pregnancy cause approximately 12–14% of maternal deaths globally, with low and middle-income nations bearing the brunt of this burden [3]. While the incidence of eclampsia in developed nations has declined significantly due to effective antenatal screening and timely intervention, it continues to occur frequently in resource-limited settings where access to quality antenatal care is inadequate [4]. Understanding the feto-maternal outcomes associated with eclampsia is essential for improving preventive strategies, strengthening antenatal care services, enhancing referral systems, and optimizing management protocols, which

will in turn help in reducing the brunt of the disease. and improving overall pregnancy outcomes in women affected by this serious obstetric condition.

AIMS AND OBJECTIVES

1. To evaluate the clinical presentations in women with eclampsia
2. To follow up the maternal & fetal outcomes in women with eclampsia

MATERIALS AND METHODS

A total of 70 eclampsia cases were included in this hospital-based prospective study. All were informed regarding the study and written consent taken. Ethical committee clearance was taken for the same.

Inclusion Criteria-

All pregnant or post partum women admitted with history of convulsion/coma with BP ≥ 140/90

Exclusion Criteria-

- Chronic hypertension
- Known epilepsy or other neurological disorders
- Thyrotoxicosis, SLE, Connective tissue disorders
- Chronic hepatic disease, Cardiac disease, Chronic renal disease
- Preeclampsia without convulsions

RESULTS AND OBSERVATIONS

In the present study, 70 cases of eclampsia were observed and treated. Following results were analysed at the end of the study.

Age wise distribution of the study population showed that majority of participants belonged to the 21–30 years age group (54.3%), followed by the 31–40 years age group (25.7%). [Table 1]

Table 1: Age Distribution of Study Subjects

Age Group (Years)	Frequency (n=70)	Percentage (%)
≤20	12	17.1%
21–30	38	54.3%
31–40	18	25.7%
>40	2	2.9%

Antenatal Booking Status- Majority of the participants in the study were un-booked (71.4%) and only 28.6% had received antenatal care and thus categorized as booked cases

Residence (urban vs rural)- In the present study, majority of the participants belonged to rural areas (68.6%). 31.4% of the participants were from urban areas.

Socioeconomic Status- In the present study, the socioeconomic status of the participants was assessed using the Kuppuswamy classification. Majority of the study subjects belonged to the low socioeconomic class (62.9%) which was followed by the middle socioeconomic class (31.4%). Only a small proportion of participants (5.7%), belonged to the upper socioeconomic class. [Table 2]

Table 2: Showing distribution of cases according to the Socioeconomic Status (Kuppuswamy Classification)

Socioeconomic Status	Frequency (n=70)	Percentage (%)
Low	44	62.9%
Middle	22	31.4%
Upper	4	5.7%

Gravida Distribution

In the present study, it was seen that majority of the cases (64.3 %) were primigravida with the rest being multigravida.

Gestational Age at Presentation- In the present study, it was seen that majority of cases (37.1%) were in the 37–<40 weeks gestational age group during their presentation. This was followed by the 34–<37 weeks group (28.6%), and the 28–<34 weeks group (20.0%). [Table 3]

Table 3: Showing distribution of cases according to the Gestational Age at Presentation

Gestational Age	Frequency (n=70)	Percentage (%)

20–<28 weeks	6	8.6%
28–<34 weeks	14	20.0%
34–<37 weeks	20	28.6%
37–<40 weeks	26	37.1%
40–<42 weeks	4	5.7%

Distribution of Blood Pressure Levels- 71.4% of the study population had presenting blood pressure less than 160/110 mmHg and 28.6% presented with blood pressure level greater than or equal to 160/110 mmHg.

Time of Onset of Convulsions- Majority of convulsions occurred during the antepartum period (64.3%), followed by postpartum convulsions in 18.6% cases. 17.1% however developed convulsions during the intrapartum period. [Table 4]

Table 4: Showing distribution of cases according to the time of Onset of Convulsions

Time of Onset of Convulsion	Frequency (n=70)	Percentage (%)
Antepartum	45	64.3%
Intrapartum	12	17.1%
Postpartum	13	18.6%

Mode of Delivery- Majority of the participants underwent LSCS as the mode of delivery (64.3 %) with 28.6% delivered vaginally (non-instrumental). Only 7.1% required instrumental delivery. [Table 5]

Table 5: Showing distribution of cases according to the mode of delivery

Mode of Delivery	Frequency (n=70)	Percentage (%)
Non-Instrumental Vaginal Delivery	20	28.6%
Instrumental Vaginal Delivery	5	7.1%
LSCS	45	64.3%

Maternal Complications- Majority (52.9%) of the subjects had no major complications. Amongst those who developed complications, severe anaemia was the most common (14.3%), followed by pulmonary oedema (11.4%). Other complications were HELLP syndrome (8.6%), acute renal failure (7.1%) and septicaemia (5.7%). 4.3% ended up in mortality. [Table 6]

Table 6: Showing distribution of cases according to the maternal complications

Maternal Complication	Frequency (n=70)	Percentage (%)
Pulmonary Oedema	8	11.4%
HELLP Syndrome	6	8.6%
Acute Renal Failure	5	7.1%
Severe Anaemia	10	14.3%
Septicaemia	4	5.7%
No Major Complication	37	52.9%
Mortality	3	4.3%

Neonatal Mortality- Majority of neonates were born alive (91.4%) and 8.5% of cases resulted in stillbirth and intrauterine death. Out of all live births, 87.5% babies survived and rest died in NICU giving rise to 12.5% neonatal mortality. [Table 7]

Table 7: Showing distribution of cases according to the fetal outcome

Baby outcome	Frequency (n=70)	Percentage (%)
Live born	64	91.4%
Stillborn + IUFD	6	8.5%
NICU death	8	12.5%

Birth Weight Distribution- The distribution of birth weight among the study population (n = 70) showed that majority of the neonates (50%) had a birth weight between 2.5–3.5 kg. 21.43% of the babies were Low birth weight (LBW) babies, 14.29% of neonates were classified as very low birth weight (VLBW) and 7.14% were extremely low birth weight. 7.14% of neonates however had a birth weight greater than 3.5 kg. Overall, a considerable proportion (42.86%) of the study population fell under the low birth weight spectrum (<2.5 kg). [Table 8]

Table 8: Showing birth weight distribution

Birth Weight	Frequency (n=70)	Percentage (%)

Extremely Low Birth Weight (<1.0 kg)	5	7.14%
Very Low Birth Weight (1.0–1.5 kg)	10	14.29%
Low Birth Weight (1.5–2.5 kg)	15	21.43%
>2.5–3.5 kg	35	50.00%
>3.5 kg	5	7.14%

DISCUSSION

In the present study, maximum number of patients belonged to the age group of 21-30 years (54.3%), which is comparable to the study done by Priyanka et al[5] (54%), Rahman et al[6] (55%) and Swain et al[7] (58%). Women in the early reproductive age group being predominantly affected may be due to their increased fertility rates. Additionally, younger women have less awareness regarding antenatal care, contributing to delayed diagnosis and progression to eclampsia. Majority of the cases were also un-booked (71.4%), which is comparable to study done by Agarwal et al.,[8] (64.77%) and Priyanka et al.,[5] (74.5%). These studies highlight that unbooked cases had a higher risk of developing severe complications due to delayed diagnosis and inadequate monitoring during pregnancy.

Primigravida comprised 64.3% of study subjects. This is comparable to the study done by Agarwal et al.,[8] (65.9%), Kapadiya et al,[9](65.92%) and Patel et al.,[10] (65.7%). This similarity in findings reinforces that primigravidity is a significant risk factor for the development of eclampsia and its associated complications.

Majority of patients (71.4%) also had blood pressure less than 160/110 mmHg. However, in a study by Agarwal et al.,[8], majority of the study subjects had BP greater than 160/110 mmHg at admission (68.18%). A plausible explanation for this could be that most of the patients in the present study were referred cases from periphery where they had been given antihypertensive before being referred to tertiary centre.

In the present study, majority (64.3%) of the convulsions occurred during the antepartum period. This is consistent with the study by Agarwal et al.[8] (80.6%) and Patel et al.[10] (80%). Agarwal et al.[8] emphasized that the higher incidence of antepartum eclampsia may be attributed to inadequate antenatal care, delayed diagnosis of preeclampsia, placenta in situ and poor compliance with treatment.

Majority of the subjects in this study delivered by LSCS (64.3%). These findings are consistent with the study by Agarwal et al.[8], where a similar higher rate of caesarean section was observed among women with eclampsia. The authors reported this could be due to LSCS being preferred as the predominant mode of delivery, primarily undertaken to expedite delivery and reduce maternal and fetal complications. Vaginal delivery was less frequent and generally reserved for cases with favourable obstetric conditions.

Majority of the participants in the study did not develop any major maternal complications. Among those who developed complications, severe anaemia was the most common (14.3%), followed by pulmonary oedema (11.4%), HELLP syndrome (8.6%) and ARF (7.1%). The least common complication was septicaemia (5.7%). In a study by Jido et al., common complications were ARF, HELLP, aspiration pneumonia, pulmonary oedema, etc.[11] In a study by Agarwal et al.[8], most frequent maternal complications were HELLP syndrome and pulmonary oedema. Similarly, in a study by Budhewar et al [12], anaemia was the most common maternal complication, followed by HELLP syndrome and placental abruption. Severe anaemia being most common complication encountered in this study could be due to genetic factor like increased prevalence of hemoglobinopathies, tea garden community vulnerability, nutritional factor, low socio-economic status and malaria endemicity in the particular region. Maternal mortality was 4.3% attributed to causes which included severe anaemia, pulmonary oedema, HELLP syndrome, acute renal failure and septicaemia.

In this study, a considerable proportion (42.86%) of the study population fell under the low-birth-weight spectrum (<2.5 kg), indicating a significant burden of LBW infants in the study group. Budhewar et al[12] reported most neonates to having normal or near-normal birth weight (2.1–3 kg). This was followed by a considerable proportion of LBW infants (1–2 kg). These findings indicate that low birth weight remained a significant concern in high-risk pregnancies. Need for NICU admission was observed in a considerable proportion of neonates (35.7%). In other studies NICU admission was found to be 27.27% in Shrestha A et al.,[13] 34.1% in Kapadiya L D et al.,[9] 34.09% in Agarwal et al.,[8] and 58.82% in Nazida et al.,[14] Thus, even though majority of neonates did not require intensive care, a considerable number of newborns required admission to the NICU due to sepsis, birth asphyxia, RDS, prematurity, neonatal jaundice and MAS for further management and monitoring. Perinatal mortality was also notably higher in high-risk pregnancies such as those complicated by eclampsia, primarily due to prematurity, low birth weight, and fetal distress

CONCLUSION

Eclampsia continues to be a significant obstetric emergency associated with considerable maternal and neonatal morbidity and mortality. A big load of this can however be prevented by regular antenatal check-ups, encouraging women literacy, timely interventions and strengthening referral services, especially in rural areas.

REFERENCES

1. Chesley LC. Hypertensive disorders in pregnancy. J Nurse Midwifery. 1985;30:99–104. doi:10.1016/0091-2182(85)90116-8 PubMed PMID: 3850947.
2. Williams Obstetrics, 26e | Access Medicine | McGraw Hill Medical [Internet]. [cited 2026 Jan 20]. Available from: https://accessmedicine.mhmedical.com/book.aspx?bookid=2977
3. Trends in maternal mortality 2000 to 2020: estimates by WHO, UNICEF, UNFPA, World Bank Group and UNDESA/Population Division [Internet]. [cited 2026 Jan 20]. Available from: https://www.who.int/publications/i/item/9789240068759
4. Duley L. Pre-eclampsia and the hypertensive disorders of pregnancy. Br Med Bull. 2003;67:161–76. doi:10.1093/bmb/ldg005 PubMed PMID: 14711762.
5. Priyanka P, Bharti A. A prospective study of fetomaternal outcomes in patients with eclampsia in a tertiary care hospital in Jharkhand. New Indian J OBGYN. 2024;10:372–7. doi:10.21276/obgyn.2024.10.2.24
6. Rahman S, Nessa K, Kaisar K, Laila R. Fetomaternal Outcome of Eclampsia in Shaheed Suhrawardy Medical College and Hospital, Dhaka, Bangladesh. Asian Res J Gynaecol Obstet. 2022;49–57.
7. Swain S, Ojha KN, Prakash A, Bhatia BD. Maternal and perinatal mortality due to eclampsia. Indian Pediatr. 1993;30:771–3. PubMed PMID: 8132257.
8. Agarwal M, Gautam A. Study of fetomaternal outcome in eclampsia. Int J Reprod Contracept Obstet Gynecol. 2020;9:4155–9. doi:10.18203/2320-1770.ijrcog20204305
9. Kapadiya LD, Patel HM, Patel RM. Study of fetomaternal outcome in eclampsia. Vol. 5. 2016;5:1858–62.
10. Patel PC, Kathawadia KK, Saini HB. A STUDY OF FETOMATERNAL OUTCOME IN ECLAMPSIA - A CASE CONTROL STUDY. Natl J Med Res. 2017;7:5–8.
11. Jido TA. Ecalmpsia: maternal and fetal outcome. Afr Health Sci. 2012;12:148–52. doi:10.4314/ahs.v12i2.11 PubMed PMID: 23056020; PubMed Central PMCID: PMC3462530.
12. Budhewar A, Ubale S, Anand M, Naykodi P, Senapati J. Study of fetomaternal outcome in eclampsia. Int J Reprod Contracept Obstet Gynecol. 2022;11:1555–8. doi:10.18203/2320-1770.ijrcog20221293
13. Shrestha A, Shrestha P, Shrestha R. Fetomaternal outcome in eclampsia. Vol. 11. 2013;11:269–
14. Begum N, Yasmin F, Akhtar N. Fetomaternal outcome in eclampsia patients in a tertiary care hospital. Vol. 30. 2018;30:58–62.