

DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20221293>

Original Research Article

Study of fetomaternal outcome in eclampsia

Amita Budhewar*, Sunita Ubale, Mamta Anand, Priti Naykodi, Jaynarayan Senapati

Department of Obstetrics and Gynaecology, RGMC, Kalwa Thane, Maharashtra, India

Received: 25 March 2022

Revised: 20 April 2022

Accepted: 21 April 2022

***Correspondence:**

Dr. Amita Budhewar,

E-mail: amitabudhewar25@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Eclampsia is preventable and treatable cause of maternal mortality and morbidity with poor fetomaternal outcomes in developing countries. Poor knowledge, lack of education, malnutrition and lack of antenatal care major causative factors for increase in eclampsia in developing countries.

Methods: This was a retrospective single center observational study including 106 pregnant women with eclampsia in antenatal, intranatal and postnatal period over period of one year in our institute.

Results: 106 women included in this study. In present study mean age of the study population was 25.41 years. 1 maternal death reported during study period. Antepartum eclampsia was commonest type 78%. Most of the patients were referred. In this study LSCS most common mode of deliveries. Perinatal mortality rate was 152/1000 live birth.

Conclusions: Eclampsia is important cause of maternal and Fetal mortality and morbidity. Prevention of eclampsia is not possible, whereas early diagnosis can be done through clinical signs and symptoms, so as to prevent complications leading to mortality and morbidity related to eclampsia. Improvement in antenatal care services quality, increasing patient awareness about warning symptoms, investigations timely delivery, intensive monitoring in intrapartum and postpartum period have potential to improve fetomaternal outcomes.

Keywords: Eclampsia, Fetomaternal outcome, Maternal mortality

INTRODUCTION

The word eclampsia derived from Greek word which means 'flashes of light'. Eclampsia is the occurrence of generalised tonic clonic convulsions or coma in a woman with preeclampsia which cannot be attributed to other causes.¹ It is usually seen in women having sign and symptoms of severe preeclampsia or imminent eclampsia like very high blood pressure, severe proteinuria, generalised oedema, headache, dizziness, visual disturbance and epigastric pain.²

Patient's age, educational status, regular antenatal care and socioeconomic status may affect the outcome of mother and foetus.³ Eclampsia is multi-system disorder. Maternal

mortality is 4-6 % and perinatal loss is up to 45 % in eclampsia in India. Incidence of eclampsia is 1 in 1500 to 1 in 2000 pregnancies in worldwide but it may be high as 1 to 5 % to all pregnancies in India.⁴

Eclampsia is preventable and treatable cause of maternal mortality and morbidity with poor fetomaternal outcomes in developing countries.⁵ Despite of development in level of health care, education and institutional obstetric care in our country, the delay in early diagnosis, transportation to proper health facilities and getting proper expert care are major problem to reduce complications. Accessible health facilities, health education and awareness regarding antenatal check-ups all women leads to early detection. Prompt management will improve outcomes. MRI studies of eclampsia describe this result of vasogenic oedema

induced by Vasospasm and other changes contributing to Patho physiology of eclampsia.⁶ Hence in our study we evaluate the eclampsia with imaging and determine the fetomaternal outcomes in antenatal women with eclampsia.

METHODS

This was a retrospective single center observational study including 106 pregnant women with eclampsia. This study was conducted in the department of obstetrics and gynaecology at a tertiary care center in Thane, Maharashtra over a period of one year from January 2021 to January 2022.

Inclusion criteria

All antenatal and postpartum women with eclampsia.

Exclusion criteria

Women who were known case of epilepsy. Seizure due to metabolic disturbances, space occupying lesion, infections, poisoning and trauma.

Data collection

We collected data from hospital records in a pre-designed proforma. Demographic details, antenatal history, medical history, drug history, detail history of convulsions taken, pregnancy outcome in term of mode of delivery and Fetal and maternal complications were noted.

Statistical analysis

The data were initially captured into predesigned proforma and then transferred to Microsoft Excel for analysis. Appropriate statistical tests were applied wherever required.

RESULTS

In present study, we analysed the data of 106 pregnant women with eclampsia who were managed at our center.

Demographic status

In present study mean age of the study population was 25.41 years. Age varies from 18 to 40 years. As mentioned above most of them were primigravida (58.49%). Most of study population were referred (98.11%).

Obstetric outcome

In present study caesarean section was the most common route of delivery in 62% of patients. Most common indication was Fetal distress followed by unfavourable cervix.

Perinatal outcome

In our study 15% antenatal mother delivered with IUFD and 12% neonatal death noted. Birth weight of all neonate irrespective of outcome recorded. 32 neonate were with birth weight less than 2 kg. Mean weight 2.40 ± 140 kg.

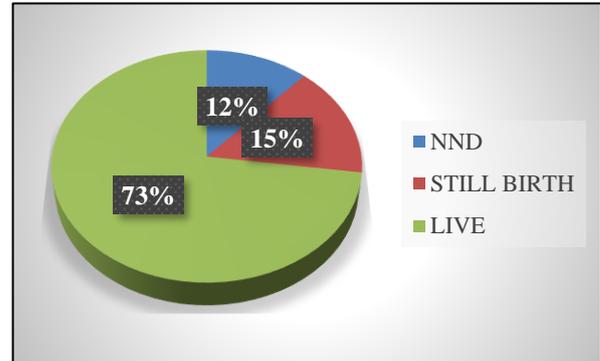


Figure 1: Perinatal outcome.

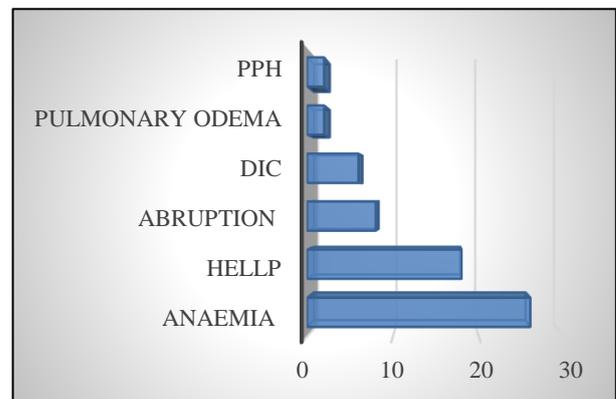


Figure 2: Maternal complications.

There were 75 live births among 106 eclampsia patients. 32 of 106 live birth were small for gestation. 14 small for gestational age were admitted in NICU. 6 were preterm babies including 1 twin. 12 neonatal deaths were reported. Most common reason for neonatal death were preterm with respiratory distress.

Maternal complications

The most common complications anemia 24.52 % followed by HELLP syndrome 16.98%. One maternal death was reported during study period due to pulmonary odema. Fundoscopy done in all patients 2 patients were diagnosed with papilodema and one 1 had cortical blindness.

MRI findings

In our study MRI done in patients who had multiple episodes of convulsions. Most common lesion seen posterior reversible encephalopathy syndrome followed by cortical and caudate nucleus hemorrhage.

Table 1: Demographic status of study population.

| Attribute | No. of patients | Percentage |
|----------------------------|-----------------|------------|
| Age | | |
| <20 years | 6 | 5.66% |
| 20-35 years | 98 | 92.45% |
| >35 years | 2 | 1.88% |
| Gravida score | | |
| Primigravida | 62 | 58.49% |
| Multigravida | 44 | 41.50% |
| Referral status | | |
| Referred | 104 | 98.11% |
| Non referred | 2 | 1.88% |
| Registration status | | |
| Registered | 98 | 92.45% |
| Unregistered | 8 | 7.54% |
| Demographic | | |
| Rural | 96 | 90.56% |
| Urban | 10 | 9.43% |

Table 2: Obstetric outcome.

| Mode of delivery | Study population | Percentage |
|------------------|------------------|------------|
| FTND | 30/106 | 28.30% |
| LSCS | 66/106 | 62.26% |
| PTVGD | 10/106 | 9.43% |

Table 3: Neonatal status.

| Gestational age on admission | No. of patients | Percentage |
|------------------------------|-----------------|------------|
| 21-28 weeks | 6/106 | 5.66% |
| 28-34 weeks | 10/106 | 9.43% |
| >34 weeks | 90/106 | 84.90% |
| Birth weight | | |
| <500 gms | 0 | 0 |
| 500-900 gms | 4/106 | 3.77% |
| 1-2 kg | 28/106 | 26.41% |
| 2.1-3 kg | 62/106 | 58.49% |
| 3.1 above | 12/106 | 11.32% |

Table 4: MRI findings.

| MRI findings | No. of patients | Percentage |
|--------------------------------|-----------------|------------|
| Normal | 42/106 | 39.62% |
| PRES | 40/106 | 37.73% |
| Intracranial hemorrhage | 12/106 | 11.32% |
| Meningitis | 2/106 | 1.88% |

DISCUSSION

This study analyze the fetomaternal outcome in patients with eclampsia treated at our hospital in the period of August 2021- January 2022.

Eclampsia was more common in the age group of 21-35 years (92.45%), similar findings reported in the studies conducted by Agarwal et al, Mahalaxmi et al and Kannar et al study.⁷⁻⁹ Mean age of patient was 25.41 years whereas Mahale et al and Jadhav et al study mean age was 22.76 years which indicates young age is an important risk factor for developing eclampsia.¹⁰⁻¹²

In present study most of the cases were primigravida similar to Mahale et al study, Agrawal et al study, Sibai et al and Efetie et al study.^{10,7,4,13} Majority of patients were unregistered. Lack of antenatal care is important risk factor for development of eclampsia. This indicates that proper antenatal visits will lead to early diagnosis of preeclampsia that will, prevent further. In this study most of the women were from low socioeconomic status and from rural area According to Arup et al 82% belongs to poor socioeconomic status which is largely related with health consciousness and understanding of health and family welfare in people.¹¹ This indicates that low socioeconomic status poor nutrition and inadequate antenatal care have close relation with eclampsia. In our study majority cases i.e., 78% were Antepartum eclampsia similar results were shown by Mahale et al 82.11% Baha et al 53% and Suman et al 90.95%.^{10,4,14}

In this study LSCS was most common mode of delivery 62.26% followed by vaginal delivery 37.74% these results were similar to Pritchards and Pritchard Chelsey which favours caesarean section to reduce maternal and perinatal mortality, on other hand Mahale et al, Arup et al and Sardesai et al vaginal delivery is most common mode of delivery.^{10,11,16}

In present study prematurity was most common cause of neonatal morbidity. In Mahale et al birth asphyxia is the most common cause for neonatal morbidity and mortality, whereas in Agrawal et al prematurity and Intra uterine growth restrictions were most common cause of morbidity and mortality.^{10,7} In this study perinatal mortality was 152/1000 live birth, whereas Mahale et al had 361/1000, Arupkumar et al had 399/1000 Savita et al had 367/1000, these values suggest that perinatal mortality is more with eclampsia mothers.^{10,11,17}

In this study anemia is most common complication whereas hypertensive crisis was most common complication in other studies Agrawal et al Mahale et al.^{7,10} Maternal mortality was 1.88% whereas in Mahale et al 2.08% Arupkumar et al 11.28% Sardesai et al 2.63% Sumansomegovada et al 5.44% Savita et al 8%.^{10,11,14,16,17} Maternal mortality and perinatal mortality are important indicators for assessing management of eclampsia. it has been found that PRESS posterior reversible encephalopathy syndrome was most common finding in MRI followed by hemorrhagic lesion in caudate nucleus and basal ganglia. This typical radiological involvement of brain and their clinical correlation is very important when dealing with eclampsia. In present study most of the patients referred and they are unregistered or they had less

antenatal visit. These factors can affect the fetomaternal outcome.

CONCLUSION

Eclampsia is important cause of maternal and Fetal mortality and morbidity. Prevention of eclampsia is not possible, whereas early diagnosis can be done through clinical signs and symptoms, so as to prevent complications leading to mortality and morbidity related to eclampsia. Improvement in antenatal care services quality, increasing patient awareness about warning symptoms, investigations timely delivery, intensive monitoring in intrapartum and postpartum period have potential to improve fetomaternal outcomes. Educational and empowerment of woman accessible health care services especially in rural and backward areas is need of hour.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Chesley LC. Ashort history of eclampsia. *Obstet Gynecol.* 1974; 43:500-602.
2. Khushk IA, Qazi RA. Maternal mortality: A priority issue in reproductive health. *J Coll Physicians Surg Pakistan.* 2006;2:48-9.
3. Mahran A, Fares H, Elkhateeb R, Ibrahim M, Bahaa H, Sanad A et al. Risk factors and outcome of patients with eclampsia at a tertiary hospital in Egypt. *BMC pregnancy and childbirth.* 2017;17(1):1-7.
4. Ghulmiyyah L, Sibai B. Maternal mortality from preeclampsia/eclampsia. *In Seminars in perinatol.* 2012;36(1):56-9.
5. Lo JO, Mission JF, Caughey AB. Hypertensive disease of pregnancy and maternal mortality. *Cur Opin Obst Gynecol.* 2013;25(2):124-32.
6. Dahiya K, Rathod M, Rohilla S, Dahiya P. Correlation between neuroimaging and clinical presentation in eclampsia. *Int J Obstet Gynaecol Res.* 2016;3(6):375-84.
7. Agarwal M, Gautam A. Study of fetomaternal outcome in eclampsia. *Int J Reprod, Contracept, Obst Gynecol.* 2020;9(10):4155-60.
8. Eswari S. Study on Correlation between Neuroimaging and Neurological Presentation in Antepartum and Postpartum Eclampsia and Its Maternal Outcomes (Doctoral dissertation, Government Mohan Kumaramangalam Medical College, Salem).
9. Kannar A, Patel M, Prajapati S, Chavda D. A retrospective study of 100 cases of Eclampsia: perinatal outcomes. *Int J Reprod Contracept Obstet Gynecol.* 2016;5:3898-901.
10. Mahale RS, Gadappa SN. Study of maternal and fetal outcome in eclampsia at Government Medical college, Aurangabad, Maharashtra, India. *Int J Reprod, Contracept, Obst Gynecol.* 2019;8(3):932-41.
11. Majhi AK, Chakraborty PS, Mukhopadhyay A. Eclampsia–Present scenario in a referral medical college hospital. *J Obstet Gynecol Ind.* 2001;51(3):143-7.
12. Jadav PK. Fetomaternal Outcome in Pregnancy with Eclampsia in Tertiary Care Hospital. *J Med Sci Clin Res.* 2015;3(7):6630-5.
13. Eftie ER, Okafor UV. Maternal outcome in eclamptic patients in abuja, nigeria a 5 year review. *Nig J Clin Pract.* 2007;10(4):309-13.
14. Gaddi SS. Somegowda. Maternal and perinatal outcome in eclampsia in a district hospital. *J Obst Gyn Ind.* 2007;57(4):324-26.
15. Pritchard JA, Cunningham FG, Pritchard SA. The Parkland Memorial Hospital protocol for treatment of eclampsia: evaluation of 245 cases. *Am J Obst Gynecol.* 1984;148(7):951-63.
16. Sardesai S, Dabade R, Deshmukh S, Patil P, Pawar S, Patil A. Posterior reversible encephalopathy syndrome (PRES): evolving the mystery of eclampsia!. *J Obst Gynecol Ind.* 2019;69(4):334-8.
17. Singhal SR, Anshu D, Nanda S. Maternal and Preinantal outcome in severe Pre-Eclampsia and Eclampsia. *South Asian Federation of Obstet Gynecol.* 2009;1(3):25-8.

Cite this article as: 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.