

DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20163861>

Original Research Article

A retrospective study of 100 cases of Eclampsia: perinatal outcomes

Avani Kannar, Manthan Patel*, Shetal Prajapati, Dolly Chavda

Department of Obstetrics and Gynecology, P.D.U. Medical College, Rajkot, Gujarat, India

Received: 28 August 2016

Accepted: 27 September 2016

***Correspondence:**

Dr. Manthan Patel,

E-mail: drmanthanpatel111@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 associated with devastating maternal and foetal complications. Eclampsia is a major cause of maternal morbidity and mortality in developing countries. Evaluation of factors contributing to occurrence of eclampsia and death of eclamptic mother is of paramount importance. The aim of the study was to determine the perinatal mortality rate in eclamptic women. To assess the perinatal outcome with respect to time between first convulsion and delivery, time of treatment and delivery. To assess the perinatal outcome and mode of delivery. In this study we have tried to know the relationship between maternal blood group and eclampsia.

Methods: A retrospective study of 100 cases of eclampsia was done in P.D.U. Medical College, Rajkot. Pregnant woman diagnosed as eclampsia during this period were included. The events and outcome of mother and fetus were recorded and analyzed.

Results: Around 60% of patients were primipara and 70% patients were from rural area. On evaluation of background characteristics, 65 patients were not booked, 48% patients were hypertensive and 40% were normotensive. Out of 14 maternal deaths, five had cerebral haemorrhage, 3 had pulmonary edema, 3 had renal failure and 2 developed PPH.

Conclusions: Majority of the patients were unbooked and young and primigravida. Fifteen percent of eclamptic women required cesarean delivery. Most common cause for neonatal death was prematurity and its attendant complications.

Keywords: Eclampsia, Edema, Preeclampsia, Primigravida

INTRODUCTION

Eclampsia is the occurrence of convulsion in a pregnant woman with preeclampsia. Eclampsia is a preventable complication of preeclampsia. Eclampsia is defined as the development of convulsions and/or unexplained coma during pregnancy or postpartum in patients with signs and symptoms of preeclampsia. Eclampsia is associated with serious maternal and perinatal complications.

Incidence of eclampsia varies between developing countries and developed countries. Though rare in developed countries incidence of eclampsia is not uncommon in India. Maternal death associated with hypertensive disorder of pregnancy contributes 10% of maternal death (Khan KS 2006 WHO).¹ Globally

eclampsia is the fourth most common cause of maternal death, accounting for 12% of maternal mortalities.² The incidence of eclampsia in developed countries range from 1 in 2000 to 1 in 3448 pregnancies which is much lower than in developing countries like India. The incidence of eclampsia in India has been quoted as 1.56%.² Majority of cases of eclampsia are young primigravidas and those with no prior antenatal care.

Eclampsia is still a major cause of maternal death in India (24.09%, FOGSI study).³ Preeclampsia with its complications is responsible for 15.8% of maternal deaths in tertiary care centre in Gujarat.⁴ It is essential to know the demographic background of women suffering from eclampsia, complication associated with eclampsia and factors influencing maternal and fetal outcome in order to

formulate effective strategy for reducing the number of cases of eclampsia and for improving outcome of mother and fetuses in eclampsia.

Though not all cases of eclampsia can be prevented, majority of cases can be prevented by early detection and effective treatment of preeclampsia, for which good ANC services are needed.

The objectives of this study were as following.

1. To evaluate the maternal outcome.
2. To document and analyze the demographic background of eclamptic women.
3. Evaluation of factors contributing to occurrence of eclampsia and death of eclamptic mother.

METHODS

This retrospective study of 100 cases was conducted in Obstetrics and Gynecology Department, P.D.U. Medical College Rajkot, India during Jan 2015 to July 2016. The present study aims to determine the factors affecting the maternal and perinatal outcome of eclamptic mothers. Women with other causes of convulsions were excluded.

Inclusion criteria was the patients developing eclampsia in second half of pregnancy or within ten days after delivery; and exclusion criteria was patients with convulsion due to epilepsy, cerebral cause, malaria or any other metabolic cause and patients presenting ten days or more after delivery.

Data were collected from records of labour room and Caesarean section operation theatre.

Magnesium sulphate was used to control convulsion as per Pritchard regimen in all cases.

RESULTS

Table 1: Demographic profile of patients in present study.

Age group	Number of patients (N=100)
<21	23
21-30	67
>30	10
Parity	
Primi	59
Multipara	41
Residence	
Urban	30
Rural	70

Out of 100 eclamptic mothers in study, majority belongs to 21-30 age group, 23 patients belongs to <21 years. Around 60% of patients were primipara and 70% patients were from rural area.

Table 2: Background characteristics of eclamptic patients.

Booking status	Variable N=100
Booked	35
Not booked	65
Antenatal BP	
Normotensive	40
Hypertensive	48
Not known	12
Antenatal proteinuria	
Present	33
Absent	36
Not known	31
Gestational age	
Preterm	72
Term	28
Occurrence of fits (seizures)	
Antepartum	73
Intrapartum	09
Postpartum	18

On evaluation of background characteristics, 65 patients were not booked, 48% patients were hypertensive and 40% were normotensive. 33% patients had antenatal proteinuria and in 31% patient's proteinuria was not checked. Around 3 out of 4 patients in our study were preterm. Occurrence of fits in antenatal, intranatal and postpartum period was 73%, 09% and 18% respectively.

Table 3: Maternal complications in present study.

Complications	Frequency
Acute renal failure	13
Maternal stroke	16
DIC	09
Pulmonary oedema	11
HELLP syndrome	19
Abruptio placenta	02

Table 4: Perinatal outcome in eclampsia.

Perinatal outcome	Frequency
Live birth	68
Still birth	27
Undelivered	05
Birth weight	
Low birth weight <2.5 K.G.	67
Normal birth weight >2.5 K.G.	33
Maternal outcome	
Alive	86
Dead	14
Mode of delivery	
vaginal	80
C- section	15
undelivered	05

Nineteen patients developed HELLP syndrome, 16 had stroke and 13 had acute renal failure. Pulmonary edema was observed in 11 patients in present study. Only two patients had abruption placentae with eclampsia (Table 3).

68% live births, 27% still births observed during the study. 67% of neonates had low birth weight. Fourteen maternal births observed during study. 80% patients delivered vaginally and 15 patients require C-section (Table 4).

Table 5: Causes of maternal mortality in eclampsia.

Cause of death	Percentage
Cerebral hemorrhage	05
Pulmonary edema	03
Acute renal failure	03
PPH with shock	02
Cardiac failure	01
Total	14

Out of 14 maternal deaths, five had cerebral haemorrhage, 3 had pulmonary edema, 3 had renal failure and 2 developed PPH.

Table 6: Relationship between blood pressure and perinatal outcome.

	No. of patients	Perinatal deaths
Systolic bp ≥ 160 mm of hg	58	18
Systolic bp < 160 mm of hg	42	08
Diastolic bp ≥ 110 mm of hg	56	16
Diastolic bp < 110 mm of hg	44	07

DISCUSSION

Eclampsia is a devastating complication of pregnancy. It is life threatening to the mother and the foetus. In the western countries the incidence of eclampsia has fallen due to the improved antenatal care. However the incidence of eclampsia is still high in the subcontinent. Since preeclampsia is known to recur it makes it all the more important to give the best possible obstetric management in the available settings. This study was done in the view to identify certain factors which could help in improving the perinatal outcome in eclampsia.

Majority were nulliparous (59%) and in the age group less than 30 years (90%). 72 % eclampsia cases occurred in women at 36 weeks of gestation or lesser. Amongst the women with eclampsia, 67 patients delivered babies with birth weights < 2.5 kg and 33 with birth weights > 2.5 kg. Thus the average birth weight was 1.825 kg which is much lower than the overall average of 2.6 kg over the

same duration. Low birth weight baby is common among eclamptic mothers.

Majority of the patients were unbooked patients and did not have regular antenatal care. This indicates that a lack of awareness regarding the antenatal care was there in these patients. 74.48% were primigravida. This is similar to the other studies.⁵⁻⁷

The perinatal outcome was poor in those babies who were less than 2 kgs. This has not shown to correlate in another study.⁹ However perinatal deaths were less in those babies whose weight was above 2.5kgs. Perinatal deaths were least in those patients who delivered within 6 hours of the first convulsion. This emphasizes the importance of swift and prompt management of these cases. It also helps the obstetrician to decide the mode of delivery. This shows that those patients who delivered within 6 hours of starting the treatment had a better perinatal outcome than those who delivered after 12 hours. This also emphasizes the importance of early delivery. Early delivery has been shown to correlate with reduced perinatal mortality in other studies.⁹

Perinatal deaths have been seen to be higher in those patients who had a urine albumin more than 2+. Systolic Blood pressure of ≥ 160 mm of Hg and a diastolic blood pressure of ≥ 110 mm of Hg were associated with a higher perinatal death. Similar results have been shown in other studies.^{9,10}

In the recent years, caesarean section has been opted for the mode of delivery especially in salvageable babies. This has resulted in a better perinatal outcome. Other studies have reported a similar outcome with caesarean section in comparison to the vaginal route.¹¹⁻¹³ None of the mothers experienced any major anaesthetic or surgical complications.

CONCLUSION

Majority of the patients were unbooked and young and primigravida. Fifteen percent of eclamptic women required caesarean delivery. Most common cause for neonatal death was prematurity and its attendant complications.

Perinatal mortality was high in patients who had a systolic Blood Pressure of ≥ 160 mm of Hg, a diastolic Blood Pressure of ≥ 110 mm of Hg, babies less than 2 kgs, urine albumin $> 2+$.

Perinatal mortality was low in those patients who had delivered within 6 hours of convulsion, in patients who delivered within 6 hours of commencement of treatment, babies delivered by caesarean section and in babies above 2 kgs.

Funding: No funding sources

Conflict of interest: None declared

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

REFERENCES

1. Khan KS, Wojdyla D, Say L, Gülmezoglu AM, Van Look PF. WHO analysis of causes of maternal death: a systematic review. *Lancet.* 2006;367(9516):1066-74.
2. Andersgaard AB, Herbst A, Johansen M. Eclampsia in Scandinavia: incidence, substandard care, and potentially preventable cases. *Acta Obstet Gynecol Scand.* 2006;85(8):929-36.
3. Konar H, Chakraborty AB. Maternal Mortality: A FOGSI Study (Based on Institutional Data). *The Journal of Obstetrics and Gynecology of India.* 2013;63(2):88-95.
4. Patel M, Goswami K, Prajapati S, Chavda D. A five years retrospective analytic study of maternal deaths at tertiary care centre, Gujarat, India. *Int J Reprod Contracept Obstet Gynecol.* 2016;5:2823-7.
5. Abdullah A, Shaikh AA, Jamro B. Maternal and perinatal outcome associated with eclampsia in a teaching hospital, Sukkur. *Rawal Medical Journal.* 2010;35(1).
6. Waarden M, Euerle B. Pre-eclampsia (Toxaemia of pregnancy). *Emer Med* 2003 updated April 5 2002.
7. Agida ET, Adeka BI, Jibril KA. Pregnancy outcome in eclamptics at the University of Abuja Teaching Hospital, Gwagwalada, Abuja: A 3 year review. *Niger J Clin Pract.* 2010;13(4):394-98.
8. Alam IP, Akhter S. Perinatal Outcome of Eclampsia in Dhaka Medical College Hospital, Dhaka. *Bangladesh J Obstet Gynaecol.* 2008;23(1):20-4.
9. Dhananjay BS, Dayananda G, Sendilkumaran D, Murthy N. A Study of factors Affecting Perinatal Mortality in Eclampsia. *JPBS.* 2009;22(2):2-5.
10. George IO, Jeremiah I. Perinatal Outcome of Babies Delivered to Eclamptic Mothers: A Prospective Study from a Nigerian Tertiary Hospital. *International Journal of Biomedical Science.* 2009;5(4):390-4.
11. Onwuhafua PI, Oguntayo A. Perinatal mortality associated with eclampsia in Kaduna, Northern Nigeria. *Niger J Med.* 2006;15(4):397-400.
12. Kamilya G, Barracharrya SK, Mukherji J. Changing trends in the management of eclampsia from a teaching hospital. *J Indian Medical Association.* 2005;103(3):132,134-35.

Cite this article as: 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;5:3898-3901.