

Maternal and Fetal Outcome in Eclampsia- A Hospital Based Study

Komisetty Sai durga Prasanna¹, Paidi Durga Kumari²

¹Post graduate in Obstetrics and Gynecology Siddhartha Medical College, Vijayawada.

²Associate Professor Obstetrics and Gynecology Siddhartha Medical College, Vijayawada

Corresponding Author: Paidi Durga Kumari (Associate Professor Obstetrics and Gynecology Siddhartha Medical College, Vijayawada)

Abstract:

Background: In 1619, Varandaeus coined the term Eclampsia- Eclampsia is defined as new onset of grandmal seizures and /or coma during pregnancy or postpartum in a woman with pre-eclampsia. Severe Maternal Outcome (SMO) which includes maternal deaths and near miss and perinatal deaths are analyzed in this study with an aim to reduce its incidence.

Objective: To evaluate the incidence of eclampsia and analyze the factors associated with maternal and fetal outcome.

Methods: This study is a prospective observational study of 64 eclamptic women over a period of one year from Jan 2018 to Dec 2018 at Government General Hospital, Vijayawada, Andhra Pradesh. The number of deliveries during this period is 7,727.

Results: The incidence of eclampsia was 0.82%. Eclampsia was most common in the age group 20-24 yrs (40.62%). Primigravida women had highest incidence (64.06%). Eclampsia was more common in women with low socioeconomic status and was seen in 60.93% cases. Antepartum eclampsia was the commonest presentation seen in 68.75% cases. Maternal deaths occurred in 3 cases (4.6%) and maternal near miss in 5 cases (7.8%). Perinatal deaths occurred in 14 cases (21.8%).

Conclusion: Eclampsia still continues to be a major concern. In spite of improvement in antenatal care, Severe Maternal Outcomes (SMO) and perinatal deaths due to eclampsia is still a challenge. Early referral and appropriately timed deliveries may help to reduce mortality and morbidity associated with eclampsia.

Key words: Eclampsia, severe maternal outcome, perinatal outcome, maternal death

Date of Submission: 22-12-2019

Date of Acceptance: 05-01-2020

I. Introduction

Hypertensive disorders of pregnancy (HDP) account for nearly 18% of all maternal deaths worldwide with an estimated 62 000–77 000 deaths per year [1]. HDP fall into four categories: chronic (pre-existing) hypertension, gestational hypertension, pre-eclampsia/eclampsia and pre-eclampsia superimposed on chronic hypertension [2].

In 1619, Varandaeus coined the term Eclampsia- Eclampsia is defined as new onset of grandmal seizures and or coma during pregnancy or postpartum in a woman with pre-eclampsia. Severe Maternal Outcome (SMO) which includes maternal deaths and near miss are analyzed in this study.

OBJECTIVE

To evaluate the incidence of eclampsia and analyze factors associated with maternal and fetal outcome

II. Materials And Methods

This study is a prospective observational hospital based study for a period of one year from January 2018 to December 2018 at GGH Vijayawada. The total number of deliveries during this period was 7727. 64 cases of eclampsia were included in the study. Most of the cases were unbooked and referred women with epilepsy, neurological disorders and other causes of convulsions were excluded from the study. Clinical data, number of convulsions, period at which convulsions occurred, glasgow coma scale at presentation, maternal complications, mode of delivery, and APGAR scores at birth, NICU admissions and perinatal deaths were recorded. Data was tabulated and analysed using SPSS version 24.

III. Results

TABLE 1 DEMOGRAPHIC DATA

DEMOGRAPHIC FACTOR	Number(n=64)	Percentage (%)
AGE		
< 19 yrs	9	14.06%
20-24 yrs	26	40.62%
25-29 yrs	13	20.31%
30-34 yrs	12	18.75%
> 35 yrs	4	6.25%
PARITY		
PRIMI	41	64.06%
MULTI	23	35.93%
SES		
BPL	39	60.93%
APL	25	39.06%
BPL APL		

The maximum cases were seen in the 20-24 year age group with 26 cases (40.62%) Eclampsia was most common in primigravida seen in 41cases (64.06%). 39 cases (60.93%) belonged to BPL.

TABLE 2 TYPE OF ECLAMPSIA

TYPE OF ECLAMPSIA	Number(n=64)	percentage
ANTEPARTUM	44	68.75%
INTRAPARTUM	8	12.5%
POSTPARTUM	12	18.75%
TOTAL	64	100

Antepartum eclampsia was the most common type of eclampsia and was seen in 44 cases (68.75%).

TABLE 3 Glasgow Coma Scale (GCS) at the time of admission

Glasgow Coma Scale(GCS)	Number(n=64)	percentage
<8	9	14.06%
8-13	17	26.56%
>13	38	59.37%
TOTAL	64	100%

Glasgow Coma Scale was above 13 in 38 cases (59.37%) and between 8-13 in 17 cases (26.56%) and less than 8 in 9 cases (14.06%)

TABLE 4 MATERNAL COMPLICATIONS

MATERNAL COMPLICATIONS	Number (n=64)	Percentage
ABRUPTION	15	23.43%
DIC	6	9.37%
PULMONARY EDEMA	7	10.93%
ARF	3	4.68%
PPH	4	6.25%
PRESS	2	3.21%
MATERNAL DEATHS	3	4.68%

Maternal complications associated with eclampsia are abruption in 15 cases (23.43%), DIC in 6 cases (9.37%), pulmonary edema in 7 cases (10.93%), ARF 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%).

TABLE 5 MODE OF DELIVERY

MODE OF DELIVERY	Number(n=64)	percentage
LSCS	31	48.43%
INSTRUMENTAL DELIVERY	23	35.93%
NORMAL VAGINAL DELIVERY	10	15.62%

LSCS was done in 31 cases (48.43%), instrumental delivery in 23 cases (35.93%) and normal vaginal delivery in 10 cases (15.62%).

TABLE 6 NUMBER OF CONVULSION

NUMBER OF CONVULSION	Number (n=64)	Percentage
1	35	54.68%
2-4	23	35.93%
>4	6	9.37%

The number of convulsions at the time of admission was more than 4 in 6 cases (9.37%), 2-4 in 23 cases (35.93%) and 1 in 35 cases (54.68%).

TABLE 7 CONVULSION DELIVERY INTERVAL

CONVULSION DELIVERY INTERVAL	Number (n=64)	SMO	perinatal deaths
<12 hours	12(18.75%)	-	1
12-24 hours	38(59.37%)	3	4
>24 hours	14(21.8%)	5	9
TOTAL	64	8	14

Convulsion delivery interval was more than 24 hours in 14 cases (21.8%) and severe maternal outcome (SMO) was seen in 5 cases and perinatal deaths in 9 cases. In cases with convulsion delivery interval of 12-24 hours seen in 38 cases (59.37%) SMO was seen in 3 cases and perinatal deaths in 4 cases.

TABLE 8 PERINATAL OUTCOME

PERINATAL OUTCOME	Number (n=64)	Percentage
APGAR SCORE AT BIRTH		
<5	11	17.18%
5-7	21	32.81%
8-10	32	50%
BIRTH WEIGHT		
<1.5 kg	17	26.56%
1.5-2 kg	26	40.62%
2-2.5 kg	9	14.06%
>2.5 kg	12	18.75%
NICU ADMISSIONS	31	48.43%
PERINATAL DEATHS	14	21.8%

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%). Birth weight <1.5 kg was seen in 17 cases (26.56%) , 1.5 -2 kg seen in 26 cases (40.62%) and >2.5 kg in 12 cases(18.75%). NICU admissions was seen in 31 cases (48.43%) and perinatal deaths was seen in 14 cases (21.8%)

IV. Discussion

Incidence of eclampsia in developing countries is 0.94-1.8% and in the present study was 0.82%. In the study by Bhalerao A et al incidence of eclampsia was 0.9% [3] and in the study by Jain R et al was 1.3% [4]. Eclampsia was more common in the age group 20 - 24 years (40.62%) in the present study, similar finding was reported in the studies by Jain R et al, G. Mahalaxmi et al and Aparna Khan et al [4, 5, 6]. Primigravida were more commonly affected with eclampsia. In the present study, 64.06% were primigravida similar to study by Jain R et al (62.9%) and Sasmita Swain et al [7] and Prabhakar Gawandi et al [8].

Antepartum eclampsia was the most common presentation in the present study seen in 68.75% cases, similar to Bhalerao et al (70.91%), Jain Ret al (59.67%) ,Runjun Doley et al [9] and Hema Kanta Sharma et al [10]. LSCS was the most predominant mode of delivery. LSCS was done in 48.43% in the present study similar to studies by Sunitha TH et al [11], Shahara HA et al [12].

Maternal complications like abruption(23.43%), DIC(9.37%), PRESS(4.68%),pulmonary edema(10.93%) were responsible for severe maternal outcome(12.5%).Maternal deaths occurred in 3 cases(4.68%) similar to study by Jain R et al (7.25%) and Pannu D et al [13]and maternal near miss in 5 cases(7.8%).Perinatal deaths were seen in 14 cases(21.87%). Maternal and perinatal outcomes were dependant on convulsion-delivery interval and may be the single most important factor in determining maternal and fetal outcome.

V. Conclusion

Eclampsia still continues to be a major concern. In spite of improvement in antenatal care Severe Maternal Outcomes (SMO) and perinatal deaths due to eclampsia have to be reduced .Early referral and appropriate timed deliveries may help to reduced mortality and morbidity associated with eclampsia.

References

- [1]. Khan KS, Wojdyla D, Say L, Gulmezoglu AM, Van Look PF. WHO analysis of causes of maternal death: a systematic review. *Lancet* 2006;367:1066-74.
- [2]. National High Blood Pressure Education Program Working Group on High Blood Pressure in Pregnancy. Report of the national high bloodpressure education program working group on high blood pressure in pregnancy. *Am J Obstet Gynecol* 2000;183:S122.
- [3]. Bhalerao A, Kulkarni S, Ghike S, Kawthalkar A, Joshi S, Somalwar S. Eclampsia: Maternal and fetal outcome. *J South Asian Feder Obst Gynae* 2013;5(1):19-21.
- [4]. Jain R, Bindal J. Maternal and perinatal outcomes in eclampsia: a retrospective analysis in a referral hospital. *Int J Reprod Contracept Obstet Gynecol* 2017;6:2806-11.
- [5]. Mahalakshmi G, Krishnaveni A, Nimma W, Vinusha K. The study of maternal and perinatal outcome of eclampsia in a tertiary hospital. *IOSR J Dental Med Sci*. 2016;15(4):123-8.
- [6]. Khan A, Ghosh A, Banerjee PK, Mondal TK. Profile and outcome of eclampsia in a rural tertiary hospital. *Int J Recent Trends Sci Tech*. 2014;10(3):526-9.
- [7]. Swain S, Singh S, Das L, Sahoo B. Maternal and perinatal outcome of eclampsia in a tertiary care center. *Int J Reprod Contracept Obstet Gynecol*. 2016;5(2):384-90.
- [8]. Gawandi P, Shinde MA, Jadhav CA. Clinical study of eclampsia patients at Dr. V. M. Government medical college Solapur, India. *IOSR J Dental Med Sci*. 2014;13(7):10-16
- [9]. Doley R, Pegu B, Hazarika D. Clinical study of eclampsia in a tertiary care hospital. *Indian J Sci Tech*. 2016;9(29):1-5.
- [10]. Sarma HK, Talukdar B. Eclampsia: a clinical prospective study in a referral hospital. *J Obstet Gynecol Barpeta*. 2014;1(1):57-61.
- [11]. Sunita TH Desai RM, Hon N, Shinde KJ, Hashmi SI. Eclampsia in a teaching hospital: Incidence, clinical profile and response to magnesium sulfate by Zuspan's regimen. *IOSR J Dental Med Sci*. 2013;4(2):1-5.
- [12]. Sahara HA. A review of eclampsia in Qatar: A twenty – year study (from January 1991 – December 2009). *Qatar Med J*. 2012;2:7-15.
- [13]. Pannu D, Das B, Hazari P, Shilpa. Maternal and perinatal outcome in eclampsia and factors affecting the outcome: a study in North Indian population. *Int J Reprod Contracept Obstet Gynecol*. 2014;3(2):347-51.

Komisetty Sai durga Prasanna.et.al. "Maternal and Fetal Outcome in Eclampsia- A Hospital Based Study." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(1), 2020, pp 15-18.