

Fetomaternal Outcome In Eclampsia: A Retrospective Observational Study In SmgsHospital.

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ABSTRACT:

Background: Eclampsia is new onset of focal or multifocal tonic clonic convulsion or coma in pregnancy or postpartum. It is one of the leading causes of maternal death and perinatal mortality.

Aim and objective: To find out incidence of eclampsia in SMGS HOSPITAL and its fetomaternal outcome.

Method : A retrospective epidemiological study was done in department of obs and gynae in SMGS HOSPITAL. Women who were admitted as a case of eclampsia or developed eclampsia during hoapital stay from sep 2021 to august 2022 were included in this study and their fetomaternal outcome was analysed.

Results: The incidence of eclampsia was 0.58%. The incidence of antepartum eclampsia was 83.1%, that of postpartum eclampsia was 15% and there were only 2 cases of intrapartum eclampsia. High risk factors associated were unbooked cases (72.5%), primigravidae (64.6%), low maternal age i.e 21 to 30 years (61.9%), Illiteracy and inadequate antenatal care. Mostly patients underwent cesarean section (76.1%), most common indication being unfavourable cervix (39.54%). Mortality rate was 5.3%. Total ICU admissions were 75(66.3%). Perinatal mortality rate was 20.3% with 14 still births and 9 neonatal deaths. Forty five neonates were admitted to NICU.

Conclusion: Eclampsia is an important cause of maternal and perinatal morbidity and mortality. Proper antenatal check up and good antenatal care is the need of the hour to decrease its incidence and improve its outcome. Early disease recognition, timely referral, early initiation of treatment and termination of pregnancy of eclampsia patient can improve the outcome of disease. Management of eclampsia patient requires multidisciplinary approach with availability of ICU and NICU facilities. •

Keywords: Eclampsia, Fetomaternal outcome, ICU, NICU

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I. INTRODUCTION

Hypertensive disorders of pregnancy, hemorrhage and infection forms the deadly triad of morbidity and mortality during pregnancy and childbirth. Eclampsia is characterized by new onset of focal or multifocal tonic-clonic convulsions or coma in pregnancy or postpartum unrelated to other cerebral conditions in patients

with signs and symptoms of pre-eclampsia. It is an obstetric emergency. Maternal complications associated with eclampsia are intracranial hemorrhage, pulmonary edema, aspiration pneumonia, cardiac failure, renal failure, Posterior reversible encephalopathy syndrome, hepatic dysfunction, HELLP Syndrome, abruptio placenta, transient neurological deficit.³

In fetus preterm delivery, asphyxia and IUGR increase the perinatal mortality.⁴ It is more prevalent in developing countries attributed to lack of proper antenatal care.⁵ It is difficult to predict this disease as only few patients present with warning signs and it may occur in a woman with mild disease.⁶ Though all cases of eclampsia cannot be prevented but effort can be made to reduce maternal & perinatal mortality and morbidity by reinforcing women for four or more antenatal visits, giving proper information about danger signs of eclampsia, where to go in case of danger signs and benefit of postnatal care. Eclampsia is designated as antepartum, intrapartum and postpartum depending upon the time of occurrence of convulsion.

II. MATERIAL AND METHODS

A retrospective study was done in department of obstetrics and gynaecology in SMGS HOSPITAL over a period of 1 year i.e. from 1st sep 2021 to 31st august 2022. Relevant data was retrieved from the hospital records. Parameters collected and analysed with regard to maternal age, parity, booking status, gestational age, blood pressure and laboratory test parameters. Mode of delivery, maternal and perinatal outcomes were also studied. All antepartum eclampsia patients were terminated irrespective of gestational age.

Aim and objective:

To find out incidence of eclampsia and its fetomaternal outcome.

To determine the factors affecting the maternal and perinatal outcome of eclamptic mothers.

INCLUSION CRITERIA: Patients with generalized tonic-clonic convulsions during pregnancy or labour or after delivery were included.

Women who were admitted as a case of eclampsia or developed eclampsia during hospital stay or referred as a case of post partum eclampsia were included in this study.

EXCLUSION CRITERIA: Women who were known case of epilepsy were excluded.

III. RESULTS

There were a total of 19241 deliveries during the defined time period. Out of them there were 104 cases of eclampsia including antepartum, postpartum and intrapartum eclampsia. 9 cases of post partum eclampsia were referred to our hospital making incidence of eclampsia 5 to 6 per thousand deliveries (0.58 %).

TABLE 1 : TYPE OF ECLAMPSIA

Among 113 total cases of eclampsia 94 (83.18%) cases were antepartum eclampsia, 17 (15.04%) cases were postpartum eclampsia and only 2 (1.76%) cases were of intra partum eclampsia (TABLE 1.)

ANTEPARTUM	94 (83.18%)
INTRAPARTUM	2 (1.76%)
POSTPARTUM	17 (15.04%)
TOTAL	113

TABLE 2: DEMOGRAPHIC CHARACTERISTICS

CHARACTERISTICS	NO. OF CASES
MATERNAL AGE (YEARS	
<20	(12.38%)
20 -30	(61.94%)
>30	(25.66%)
PARITY	
PRIMIGRAVIDAE	73 (64.6%)
MULTIGRAVIDAE	40 (35.39%)
BOOKING STATUS	
BOOKED	31 (27.43%)
UNBOOKED	82 (72.56%)

Table 2 demonstrates demographic characteristics of patients. Eclampsia was more common in the age group 20-30 years (61.94%), primigravidae (64.6%) and (64.77%) unbooked patients (72.56%).

TABLE 3: GESTATIONAL AGE AT THE ONSET OF FIT

<34	19 (19.79%)
34-37	36 (37.5%)
>37	41 (42.70%)
TOTAL	96

Majority of patients 41 (42.70%) presented at gestational age >37 weeks, 36 (37.5%) patients between 34-37 weeks, and 19 (19.79%) at <34 WEEKS (TABLE 3).

Table 4: Blood pressure at presentation.

BLOOD PRESSURE	No. of cases
>160/110	80 (70.79%)
<160/110	33 (29.20%)
TOTAL	113

70.79% patients presented with severe hypertension with blood pressure >160/110, and 29.20% patients had blood pressure <160/110 (TABLE 4).

Table 5: Mode of delivery

VAGINAL	27 (23.89%)
CESSAREAN SECTION	86 (76.10%)
TOTAL	113

Mode of delivery was 23.89% vaginal and 76.10% cases underwent CESSAREAN SECTION. (TABLE 5.0)

Table 6: Indication of caesarean section in eclamptic patient

Indication	No. Of Cases
Unfavourable Cervix	31 (36.04%)
Fetal Distress	26 (30.23%)
Previous Lscs	13 (15.11%)
Failed Induction	9 (10.46%)
Cephalopelvic Disproportion	7 (8.13%)
Total	86

The most common indication of caesarean section was unfavourable cervix in 31 CASES (36.04%) followed by fetal distress in 26 cases (30.23%) ,followed by previous LSCS in 13 cases(15.11%),followed by failed induction in 9 cases (10.46%), followed by cpd in 7 cases (8.13%) {TABLE 6}

Table 7: Maternal morbidity and mortality due to eclampsia

COMPLICATIONS	NO. OF CASES
ACUTERENAL FAILURE	6 (5.30%)
CEREBROVASCULAR ACCIDENTS	4 (3.53%)
HELLP SYNDROME	6 (5.30%)
PULMONARY EDEMA	11(9.73%)
COAGULOPATHY	3 (2.54%)
ABRUPTIO PLACENTA	12(10.61%)
POST PARTUMHEMORRHAGE	17(15.04%)
PERI PARTUMCARDIOMYOPATHY	4 (3.53%)
ICU ADMISSION	75 (66.37%)
DEATH	6 (5.30%)
DIC	3 (2.54%)

Acute renal failure and HELLP syndrome was present in 5.30% cases. Pulmonary edema developed in 9.73% of cases and was major cause of maternal mortality. Other complications were cerebrovascular accident (3.53%), coagulopathy (2.54%), abruptio placenta (10.61%), postpartum hemorrhage (15.04%), peripartum cardiomyopathy (3.53%), ICU admission in 66.37% cases and death in 3.30% cases (TABLE 7).

Table 8: Perinatal morbidity and mortality

PERINATAL OUTCOME	NO. OF CASES.
NICU ADMISSION	45 (39.82%)
IUGR	
PREMATURITY	17(37.77%)
MECONIUM ASPIRATIONSYNDROME	13(28.88%)
BIRTH ASPHYXIA	12(26.66%)
RESPIRATORY DISTRESS SYNDROME	6 (13.33%)
PERINATAL MORTALITY	23 (20.35%)
NEONATAL DEATH	9 (7.96%)
STILL BIRTH	14 (12.38%)

45 babies had some perinatal morbidity and required NICU admission. Prematurity (37.77%), Intrauterine growth restriction (15.55%) and birth asphyxia (26.66%), meconium aspiration syndrome (28.88%) were the most common causes of perinatal morbidity. Perinatal mortality was (20.35%) which included still births (12.38%) & neonatal death (7.96%).

IV. DISCUSSION

Eclampsia was more common in the age group 21-30 years (61.94%), similar finding was reported in the studies conducted by Mahalaxmi et al and Kannar et al.^{7,8}

Sibai et al and Eftie et al reported in their studies that gravidity also influences the incidence of eclampsia & is more common in primigravidae.^{9,10}

Majority of patients were unbooked (72.56%). Lack of antenatal care is one of the important risk factors for the development of eclampsia. In a study by Pannu in North India 56.6% of women had received no antenatal care before the onset of convulsions.¹¹

Antepartum eclampsia (83.18%) was more than intrapartum (1.76%) and postpartum (15.04%) combined. Similar results were found in a study conducted by Mahram et al in Egypt and in the study conducted by Sibai et al.^{9,12}

Majority of patients 42 (42.70%) presented at gestational age >37 weeks, 36 (37.5%) patients between 34-37 weeks, and 19 (19.79%) at <34 weeks. In a study conducted by Sibai et al >37 weeks 45.2% between 27-36 in 49.2% and <27 in 5.7%. 70.79% patients presented with blood pressure >160/110 mmHg. In a study by Sunita et al, 68% of eclamptic women had severe hypertension. In the study conducted by Sibai et al 45% patients had severe hypertension.^{2,13}

Cesarean section was more common mode of delivery in this study (76.10%) which is similar to reported by Onuh et al 58.4% & Agida et al (84.8%).^{14,15}

The most common indication of caesarean section in this study was unfavourable cervix in (36.04%)

patients followed by fetal distress in (30.23%) , but in the study conducted by Efetie et al the most common indication of caesarean section was unfavourable cervix in 78.2% patients followed by failed induction in 6.5% patients.¹⁰ 30% of patients had acute renal failure in this study which is similar to study by Sibai et al who reported acute renal failure in 4.7%, while in the study conducted by Lee et al.^{9,16} Cerebrovascular accident was (3.53%) in our study whereas in study by Onuh et al they reported 5.8% cases of cerebrovascular accident.¹⁴ Incidence of HELLP syndrome was (5.30%) in our study which is similar to study by Douglas et al who reported 7% of HELLP syndrome in their study.¹⁷ 9.73% of patients had pulmonary edema in our study compared to study conducted by Chukwuma et al which reported 3%¹⁸ 2.54% of patients had DIC in our study which is strikingly similar to study by Jido et al showed 3.4% of DIC in their study.¹⁸ 10.61% of eclamptic patients had abruptio placentae in this study which is more as compared to study by Raji et al who reported 4.10% of abruptio placentae while Chukwuma et al reported 7% of abruptio placentae.^{19,20} 15.04% of patients had postpartum haemorrhage in this study while Bhanu et al reported postpartum haemorrhage in 3.9% cases.²¹

Perinatal mortality was (20.35%) in current study, which was contributed by 12.38% of stillbirths and 7.96% neonatal deaths, In the study by Ndaboine et al perinatal mortality was 20.7% (stillbirths 12.2% and neonatal death 8.5%), in the study by Mahram et al, it was 38.6% (stillbirths 2.7% and neonatal death 9.5% 12,22.

There were (39.82%) NICU admissions in our study and in the study conducted by Lee et al there were 59% NICU admissions while in the study conducted by Mahran et al 18.8%.^{12,16} Prematurity and intrauterine growth restriction were the major cause for neonatal deaths and NICU admissions in this study. As this is an established fact that early deliveries reduce maternal mortality and morbidity however expose the babies to the risks of prematurity.

V. CONCLUSION

Eclampsia is a life-threatening obstetric emergency both for mother and fetus and continues to be significant causes of maternal and fetal morbidity and mortality.

Though prevention is not possible, it is important to recognize early warning symptoms and signs so that life threatening complications can be prevented.

Provision of quality antenatal health care services, increasing patient awareness about warning symptoms, investigations, timely delivery and intensive monitoring in the antenatal, intrapartum and postpartum period have the potential to improve maternal and perinatal outcome.

Education and empowerment of women and accessible health care especially to the socioeconomically deprived and rural population is the need of the hour.

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