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STUDY OF FETOMATERNAL OUTCOME OF ECLAMPSIA IN TERTIARY CARE UNIT

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ABSTRACT

Background: Eclampsia is a life-threatening emergency that continues to be a major cause of maternal and perinatal morbidity and mortality. The purpose of this study is to analyse the trend of eclampsia and associated epidemiological variables to find out the fetomaternal outcomes of eclampsia in tertiary care institute .

Methods: This retrospective analytical study was undertaken in the department of Obstetrics and Gynaecology, Smt. SCL Hospital, Smt. NHL Municipal Medical College during period of May 2019 to Feb2021. Women who presented with eclampsia or developed eclampsia during hospital stay were included in the study.

Results: The incidence of antepartum eclampsia was (0.8%).Associated High risk factors were primigravida (66%), maternal age (21-30 years) 64%. Caesarean section was the mode of delivery in 28 cases (54%). NICU admission required by 30 neonates (60%). There was 2% maternal mortality and causes of death are pulmonary edema, post partum haemorrhage .

Conclusions: Eclampsia is one of the important causes of maternal and perinatal morbidity and mortality. Proper antenatal care, early prediction of associated risk factors, timely referral, early initiation of treatment and timely delivery of eclamptic patients improves outcome. Management of eclamptic patients should be performed at tertiary care centres, where ICU facilities , and multidisciplinary units are available.

KEYWORDS : Caesarean section , Eclampsia , Fetomaternal outcome , NICU , Prematurity, Pulmonary edema

INTRODUCTION

Hypertensive disorders complicate about 10 % of all pregnancies worldwide. Hypertension, along with haemorrhage and infection form a deadly triad accounting for a major share of maternal morbidity and Mortality.(1)

Eclampsia is defined as the onset of convulsions during pregnancy or post-partum in a patient who has signs and symptoms of preeclampsia.(1) Eclampsia is a life threatening emergency that continues to be a major cause of serious maternal morbidity and is still the leading cause of maternal mortality worldwide. Lack of standard antenatal care and associated life threatening complications like intracerebral hemorrhage, pulmonary edema, or renal, hepatic, or respiratory failure are responsible for the most maternal deaths. In addition, its presence is usually associated with high perinatal mortality and morbidity. The main causes of perinatal mortality and neonatal morbidity from eclampsia are preterm delivery, fetal growth retardation, and birth asphyxia.(2) The World Health Organisation (WHO) estimates that at least 16% of maternal deaths in developing countries result from preeclampsia and eclampsia.(3)

METHODS

This retrospective study was conducted in Obstetrics and Gynecology Department, SCL Hospital, NHL Municipal Medical College Hospital May 2019 to Feb 2021. The purpose of this study is to analyse the trend of eclampsia and associated epidemiological variables to find out the fetomaternal outcomes of eclampsia in tertiary care institute .

INCLUSION CRITERIA

Patients with generalized tonic-clonic convulsions during pregnancy/ labour/within postpartam period were included.

EXCLUSION CRITERIA

Women who were known case of epilepsy; and seizures due to metabolic disturbances, space occupying lesions or intra cerebral infections.

Apart from standard antenatal care all patients received magnesium sulphate (MgSO4) therapy (Pritchard regime) as per departmental protocol. All relevant information is collected and tabulated as below.

OBSERVATION & DISCUSSION

A total number of 9450 women delivered during the defined time period inour institute. Out of them, 50 women were diagnosed as cases of eclampsia making an incidence of eclampsia to be 5.2 per 1000 deliveries.

Table 1: - Demographic Characteristics

Characteristics	No. of cases (%)
Maternal age (years)	
< 20 years	07 (14%)
21 – 30 years	32 (64%)
>30 years	11 (22%)
Parity	
Primigravida	33 (66%)
Multigravida	17 (34%)
Booking Status	
Booked	18 (36%)
Unbooked	32 (64%)
Type of eclampsia	
Antepartum	40 (80%)
Intrapartum	03 (6%)
Postpartum	07(14%)

- Eclampsia was more common in the age group 21-30 years (64%), similar finding (64%) was reported in the studies conducted by Mahalaxmi et al and Kannar et al.(6,7). In present study majority 33 (56%) of patients were primigravida. Sibai et al and Efetie et al also reported similar findings (56%) in their studies.(2,8). Majority (64%) of patients were unbooked. Lack of standard antenatal care is one of the important risk factors for the development of eclampsia. In a study by Pannu in North India 56.6% and study conducted by Nobis et al 93.4% percent women had no antenatal visits.(9,10) This indicates the importance of antenatal care as the single intervention which could influence the occurrence of this serious complication. In unbooked cases the signs and symptoms of preeclampsia remain unrecognized until severe complications such as eclampsia occur. Antepartum eclampsia (80%) was more than intrapartum (6%) and postpartum (14%) combined. Similar results were found in a study conducted by Mahram et al in Egypt and in the study conducted by Sibai et al onset of convulsions occurred before delivery in 71% cases and after delivery 29%. (2,11)

Table 2: - Gestational age at onset of fit

Gestational age (weeks)	No of case (%)
<34	10 (20%)
34-37	18(36%)
>37	22(44%)

- Majority of patients 22(44%) presented at gestational age >37 weeks, 18(36%) patients between 34-37 weeks, and 10 (20%) at <34 weeks. In study conducted by Sibai et al >37 weeks 45.2% between 27-36 in 49.2% and <27 in 5.7%. (2)

Table 3: - Mode of delivery

Mode of delivery	No of cases (%)
Vaginal	22(46%)
LSCS	28(54%)
Indications : 1) unfavourable cervix	18 (64.28%)
2) cephalopelvic dispropotion	08(28.57%)
3) foetal distress	02(7.14%)

- The number of woman delivered by caesarean section was 27(54%) which is similar to reported by Onuh et al 58.4% but much lower than reported by Agida et al (84.8%) and most common indications are unfavourable cervix, cephalopelvic disproportion and foetal distress.(13,14)

Table 4: - Associated complications of eclampsia

Complications	No of cases (%)
Acute renal injury	02(2.27%)
Abruptio placentae	02(2.27%)
Coagulopathy (DIC)	03(3.40%)
HELLP Syndrome	02(2.27%)
Postpartum haemorrhage	02(2.27%)
Pulmonary edema	04(8.04%)

- In this study 2.27% of patients had acute renal failure 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.(2,15) It is diagnosed by sudden increase in serum creatinine>1mg/dl,oliguria/anuria & need for dialysis. However reversal of AKI occurs in most of patients of preeclampsia after delivery. Incidence of HELLP syndrome is (2.27%) in this study but study by Douglas et al who reported 7% of HELLP syndrome in their study.(16) HELLP syndrome is very severe form of preeclampsia.three major abnormalities seen in HELLP syndrome: Hemolysis, Elevated liver enzymes & Low platelet count. In study conducted by Chukwuma et al they reported 8.04% of pulmonary edema, but Sibai et al reported only 2.9% of pulmonary edema.(2,17) 3.40% of patients had DIC in this study but study by Jido et al showed 3.4% of DIC in their study.(18) 2.27% of patients had postpartum haemorrhage in this study while Bhanu et al reported postpartum haemorrhage in 3.9% cases.(20) Maternal mortality in present study was (2%), In study conducted by Chukwuma e al maternal mortality was 10%, whereas in study conducted by Sibai et al it was significantly low 0.4% and the major causes of mortality are pulmonary edema, coagulopathy, postpartum haemorrhage.(2,17)

Table 5: - Perinatal morbidity & mortality

NICU Admission (30)(60%)	Perinatal Outcome	No of cases (%)
	Intrauterine growth restriction	06(20%)
	Prematurity	12(24%)
	Meconium aspiration syndrome	08(16%)
	Birth asphyxia	06(20%)
	Respiratory distress	03(10%)

- NICU admissions in our study is 60% 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%.(11,15) In this study neonatal death rate is 5.68% and most common causes of death were birth asphyxia , prematurity and meconium aspiration syndrome.

CONCLUSION

In modern obstetrics era ,Eclampsia continue to be significant major contributor of maternal and fetal morbidity and mortality. Though prevention is not possible, it is important to recognise early warning symptoms and signs so that life threatening complications can be averted. Provision of standard antenatal health care services, identification of high risk factors increasing patient awareness about warning symptoms, appropriate antepartum and intrapartum care, MgSO4 supplementation , timely delivery and intensive monitoring in the intrapartum and postpartum period have the potential to improve maternal and perinatal outcome.

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