ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 02 | February - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

STUDY OF FETOMATERNAL OUTCOME IN ECLAMPSIA IN TERTIARY CARE CENTRE

Obstetrics & Gynaecology

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ABSTRACT

Background: The term eclampsia is derived from a Greek word, meaning "like a flash of lightening". It is an acute and life-threatening complication of pregnancy associated with increased risk of maternal and fetal morbidity and mortality. **Methods:** This is a retrospective study done in the department of Obstetrics and Gynaecology, B.J. Medical college and Civil hospital, Ahmedabad over period of one year from April 2021 to March 2022. **Results:** The incidence of eclampsia at our Centre during the study period was found to be 9.7 per 1000 deliveries. The incidences of Eclampsia was seen more commonly in cases of primigravidae (69.84%). Majority of patients (52.38%) presented at gestational age more than 37 weeks. Among all cases, 50.79% cases were antepartum eclampsia. 55.5% patients were delivered by lower segment caesarean section, while 44.4% patients delivered vaginally. Pulmonary edema was the most common complication. Perinatal mortality was 22.2% which included still births 12.1%. **Conclusions:** The study concluded that eclampsia still holds to be one of the major etiological factors for maternal and fetal morbidity and mortality. Provision of quality and timely antenatal health care services, increasing patient and relative awareness about warning symptoms, investigations, timely delivery at tertiary care centre and intensive monitoring in the intrapartum and postpartum period have the potential to degrade the rate of eventful maternal and perinatal outcome.

KEYWORDS

Eclampsia, Fetomaternal outcome, Antenatal health care.

INTRODUCTION

Eclampsia was defined as the occurrence of focal or multifocal tonic-clonic seizures in the absence of other clinical conditions such as epilepsy, ischemia and intracranial haemorrhage, or drug use. [6] It is an acute and life-threatening complication of pregnancy associated with increased risk of maternal and fetal morbidity and mortality. WHO estimates the incidence of preeclampsia to be seven times higher in developing countries as compared to developed countries. This is a common problem in developing countries because illiteracy, lack of health awareness, poverty and superstitious beliefs prevent women from seeking timely medical advice during pregnancy. Because these deaths are relatively rare, the World Health Organization (WHO) developed the concept of maternal near-miss (MNM), defined as the presence of organ failure or organ dysfunction during pregnancy, childbirth or postpartum.[3] Cardiac failure, pulmonary edema, aspiration pneumonia, cerebral haemorrhage, acute renal failure, cardiopulmonary arrest, acute respiratory distress syndrome, pulmonary embolism, postpartum shock and puerperal sepsis are thought to be the cause of maternal death in cases of eclampsia. The high maternal mortality reported from the developing countries was noted primarily among patients who had multiple seizures outside the hospital and those without prenatal care. [7]

Similarly, prematurity and intrauterine asphyxia and uteroplacental insufficiency may increase perinatal mortality up to the extent of about 30-50%. It is difficult to prevent all cases of Eclampsia but we can still improve maternal and fetal outcome by good antenatal care, early detection of signs and symptoms of preeclampsia, prompt treatment and timely termination of pregnancy. This study was done at Obstetrics and gynaecology department of B. J. Medical college and Civil hospital, Ahmedabad to study the maternal and perinatal outcome in eclampsia patients and to evaluate various factors affecting its occurrence and outcome.

METHODS

This is a retrospective study done in the department of Obstetrics and Gynaecology, B.J. Medical college and Civil hospital, Ahmedabad over period of one year from April 2021 to March 2022.

Inclusion criteria: Patients with generalized tonic-clonic convulsions during antepartum, intrapartum and postpartum period i.e. Within 7 days of delivery were included.

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

The case records of all eclamptic women were reviewed. Parameters collected and analysed with regard to maternal age, parity, referral status, gestational age and complications. Mode of delivery, maternal and perinatal outcomes were also studied.

To manage convulsions Inj. MgSo4 given after assessing oxygen saturation, patellar reflex, respiratory rate (> 16/min) and urine output (>30ml/hr); if seizures were not controlled and/or above criteria were not met, another antiepileptic drug was added. After stabilization, obstetric management was carried out. All antepartum eclampsia patients were terminated irrespective of gestational age. The summarized data were presented in the form of tables and charts.

RESULTS

During the study period there were 6430 pregnant women who visited the obstetrical department of Civil hospital Ahmedabad in emergency, out of which 63 women were diagnosed as eclampsia. The incidence of eclampsia at our Centre during the study period was 9.7 per 1000 deliveries.

Table 1. Age Distribution

Age (Years)	No. of Cases	Percentage
<20	19	30.15%
20- 30	34	53.96%
>30	10	15.87%

Table 2. Referral Status

Referral status	No. of Cases	Percentage
Non-Referred	24	38.09%
Referred	39	61.9%

By analysing socio-demographic characteristics, it was observed that more than half of study population i.e., 53.96% belonged to age group of 20-30 years followed by 30.15% from age less than 20 years. Being tertiary care centre, there was slight predominance of referred patients

Table 3. Clinical Characteristics

	No. of Cases	Percentage
Parity		
Primigravida	44	69.84%
multigravida	19	30.15%
Gestational Age		
>= 37 weeks	30	47.61%
<37 weeks	33	52.38%
Type of Eclampsia		

Antepartum	32	50.79%
Intrapartum	22	34.92%
Postpartum	09	14.28%

Eclampsia was more common in primigravidae (69.84%). Majority of patients 33 (52.38%) presented at gestational age >=37 weeks and 30 (47.61%) at <37 weeks. Among 63 cases, 32 (50.79%) cases were antepartum eclampsia, 22 (34.92%) were intrapartum and 9 (14.28%) were postpartum eclampsia.

Table 4. Mode of Delivery

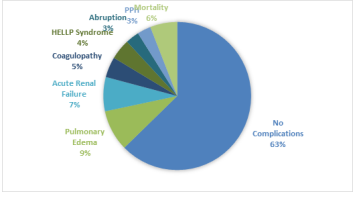
Mode of Delivery	No. of Cases	Percentage
Vaginally	28	44.44%
LSCS	35	55.5%

Table 5. Indications of LSCS

Indication	No. of Cases	Percentage
Induction Failure	13	37.14%
Fetal Distress	7	20.0%
Unfavourable cervix	12	34.28%
Cephalopelvic Disproportion	3	8.57%

Table 4 & 5 demonstrates that 35 (55.5%) patients were delivered by lower segment caesarean section, while 28 (44.4%) patients delivered vaginally. The most common indication of caesarean section was failure of induction in 13 (37.14%) patients followed by unfavorable cervix in 12 (34.28%) patients, fetal distress in 7(20.0%) patients and cephalopelvic disproportion in 3 (8.57%) patients.

Chart 1. Complications



Around 63% woman with eclampsia developed no complication. Pulmonary edema was the most common complication in 6 (9.52%) women, followed by acute renal failure in 5(7.93%) women, coagulopathy in 3 (4.76%) and HELLP Syndrome in 3 (4.76%) women with eclampsia. Abruption and postpartum hemorrhage were observed in two woman each. Total number of maternal mortalities during the study period was 4 (6.3%).

Table 6. Perinatal Morbidity and Mortality

		No. of Cases	Percentage
NICU ADMISSION	FGR	21	33.3%
	BIRTH ASPHYXIA	11	17.46%
	PREMATURITY	17	26.9%
PERINATAL MORTALITY		14	22.2%

49 babies required NICU admission. Prematurity (26.9%), Intrauterine growth restriction (33.3%) and birth asphyxia (17.46%) were the most common causes of perinatal morbidity. The other common causes were respiratory distress and meconium aspiration syndrome. Perinatal mortality was (22.2%) which included still births (12.1%).

DISCUSSION

Eclampsia was more common in the age group 20-30 years (53.96%), similar finding was reported in the studies conducted by Kannar et al. [10] Antepartum eclampsia (50.79%) was more than intrapartum (34.92%) and postpartum (14.28%) 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%. [8,9]

Majority of patients 33 (53.96%) presented at gestational age >=37 weeks and (47.61%) patients before 37 weeks. In study conducted by Sibai et al >37 weeks 45.2% between 27-36 in 49.2% and <27 in 5.75. [8]

Despite all the advances, hypertensive syndromes, particularly eclampsia, remain a major cause of maternal mortality. [2,3] Deaths from eclampsia vary according to the level of development in the region,[1] ranging from no cases in a Finnish series [4] to 21.3% in Nigeria.[5] Several factors influence this variation, including the population size, event frequency, quality of life and quality of care, particularly prenatal and postpartum care.

Our study shows that eclampsia remains an extremely serious complication of pregnancy, with significantly increased risks of maternal death and severe morbidity. Eclampsia, once it occurs, is typically treated with urgent delivery, which probably explains the observed increase in risks with labor induction, caesarean delivery, and preterm birth.

Eclampsia continues to be significant causes of maternal and fetal morbidity and mortality. It is important to recognise early warning symptoms and signs so that life threatening complications can be averted. Deaths from preeclampsia and eclampsia are often preventable. Prenatal care, early detection, and careful monitoring and treatment during pregnancy are essential to prevent serious complications. [11]

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