

Mode of Delivery, Maternal and Fetal Outcome in Eclamptic Patients: A Retrospective Record Based study in a Tertiary Care Hospital Mandya Karnataka

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ABSTRACT

Background: Eclampsia is defined as the onset of seizure during pregnancy or postpartum in patients of preeclampsia with gestational age >20 weeks. The term eclampsia is derived from a Greek word meaning “lightening” or “flash of light” probably translating to its sudden and unpredictable inception. Eclampsia is life threatening complication of pregnancy. Preeclampsia (PE) and eclampsia are the second leading cause of maternal mortality claiming 46,900 deaths worldwide.

Materials and methods: This are a retrospective study done in the Department of Obstetrics and Gynecology, Mandya Institute of Medical Sciences, Mandya. Approval taken from the Institute scientific committee. Relevant data were retrieved from the maternity register for the period of

two years. Out of total 14586 pregnant women coming to obstetrics department for delivery during the study period, 70 women were diagnosed as eclampsia. Sociodemographic and clinical profile of all women diagnosed as eclampsia were noted down. Maternal complications and maternal outcome along with fetal outcome were observed, tabulated, analysed and presented.

Result: Eclampsia is most prevalent at the age between 19-24 years. In our study eclampsia was commonly seen in primigravida. Most of them were unbooked and referred from periphery. Among booked cases one had intrapartum eclampsia with normal blood pressure. Second a case of pre eclampsia refused admission to the hospital reported with convulsion after 13 days. Third had post partum eclampsia. Fourth one suffered convulsions at 26 weeks (Blood pressure was normal at 20 weeks.). Majority of patients were having diastolic Bp >110 mm hg

Conclusion: Incidence of eclampsia is little lower compare to other states in India. But we are far behind to developed countries. Eclampsia is a disease of young females, more common in primigravida with mild to moderate hypertension. It can occur with normal B.P without proteinuria in a small portion of our study. Most of the patient had irregular/ No antenatal checkups. Eclampsia can be prevented by in large by proper antenatal care and detection of pre eclampsia with early management.

Keywords: Eclampsia, Preeclampsia, Outcome Complications, Gestational age.

INTRODUCTION

Eclampsia is defined as the onset of seizure during pregnancy or postpartum in patients of preeclampsia with gestational age >20 weeks. The term eclampsia is derived from a Greek word meaning “lightening” or “flash of light” probably translating to its sudden and unpredictable onset inception. Eclampsia is life threatening complication of pregnancy. Preeclampsia (PE) and eclampsia are the second leading cause of maternal mortality claiming 46,900 deaths worldwide.^[1]

Wide difference in incidence of eclampsia has been observed between developing and developed countries.^[2] Majority of cases of eclampsia is seen in young primigravidas and unregistered. Preeclampsia can rapidly progress to eclampsia, especially if untreated.^[3]

The condition has been recognized and described for years despite the general lack of understanding of the aetiology of the disease. To date, eclampsia is considered as complication of severe preeclampsia because the majority of affected pregnant women (approximately 84%) have hypertensive disorders, and 16% of them have normal blood pressures.^[4] In low- and middle-income countries (LMICs), sub-Saharan Africa included nearly 17.9% of women with

eclampsia and other hypertensive disorder-related complications during pregnancy (stroke, coagulopathies).^[5]

Furthermore, eclampsia is among the leading causes of intensive care unit (ICU) admission. The disease has been extensively studied, and the evidence has recommended prompt delivery to reduce maternal and perinatal mortality and morbidity.^[7] However, little has been done regarding the maternal and perinatal outcomes by mode of delivery in the particular context of resource-limited settings. Therefore, this study was performed to determine the mode of delivery in women with eclampsia in the tertiary hospital of India.

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 antenatal services are needed. This study was done to analyze cases of eclampsia in relation to maternal and fetal outcomes at a tertiary level care hospital.

MATERIALS AND METHODS

This is a retrospective study done in the Department of Obstetrics and Gynecology, Mandya Institute of Medical Sciences, Mandya. Relevant data were retrieved from the maternity register for the period of two years. Approval taken from the Institute scientific committee. Out of total 14586 pregnant women coming to obstetrics department for delivery during the study period, 70 women were diagnosed as eclampsia. Sociodemographic and clinical profile of all women diagnosed as eclampsia were noted down. Maternal complications and maternal outcome along with fetal outcome were observed, tabulated, analysed and presented.

Inclusion Criteria:

The inclusion criteria were any women diagnosed with eclampsia during pregnancy, Labour and postpartum period up-to 6 weeks.

Clinical characteristics included last menstrual period to determine the gestational age, history of pregnancy loss, previous history of eclampsia and/ or preeclampsia, and parity. Based on their parity, patients were classified as primigravida and multigravidas.

In addition, variables on comorbidities were also collected. These included diabetes mellitus, chronic hypertension, hyperthyroid disease, renal disease, coagulopathy, human immunodeficiency virus/acquired immunodeficiency syndrome, venous thromboembolism, anaemia, malnutrition, and mental illness), and treatment prior to or during pregnancy.

RESULTS

Table 1: Age distribution in eclampsia patients

Age Group	Frequency (Percentage)
18 year or less	NIL
19-24 years	50 (71.4%)
25-30 years	20 (28.6%)

Eclampsia is most prevalence at the age between 19-24 years.

Table 2: Period of Gestation at the onset of convulsions

Period of Gestation	Frequency (Percentage)
21-27 weeks	15 (21.4%)
28-32 weeks	16 (22.9%)
33-36 weeks	22 (31.4%)
37-42 weeks	17 (24.3%)

Table 3: Eclampsia and gravida

Gravida	Frequency (Percentage)
Primigravida	45 (64.3%)
Multigravida	25 (35.7%)

In our study eclampsia was commonly seen in primigravida.

Table 4: Antenatal care

Cases	Frequency (Percentage)
Booked cases	15 (21.4%)
Un booked case/Irregular ANC	55 (78.6%)

Most of them were unbooked and referred from periphery. Among booked cases one had intrapartum eclampsia with normal blood pressure. Second a case of pre eclampsia refused admission to the hospital reported with convulsion after 13 days. Third had post partum eclampsia. Fourth one suffured convulsions at 26 weeks (Blood pressure was normal at 20 weeks.)

Table 5: Systolic blood pressure and eclampsia

Systolic blood pressure	Frequency (Percentage)
<140 mm hg	11 (15.7%)
140-159 mm hg	17 (24.3%)
160-179 mm hg	31 (44.3%)
>180 mm hg	11 (15.7%)

Table 6: Type of Eclampsia

Type of Eclampsia	Frequency (Percentage)
Post partum eclampsia	35 (50%)
Intra Partum eclampsia	21 (30%)
Ante partum eclampsia	14 (20%)

Most of them had post partum eclampsia.

Table 7: Diastolic blood pressure and eclampsia

Diastolic blood pressure	Frequency (Percentage)
<80 mm hg	6 (8.6%)
89-99 mm hg	15 (21.4%)
100-109 mm hg	20 (28.6%)
>110 mm hg	29 (41.4%)

Majority of patients were having diastolic Bp >110 mm hg

Table 8: Type of Delivery in Eclampsia

Type of Delivery	Frequency (Percentage)
Vaginal delivery	50 (71.4%)
Vacuum delivery	05 (7.1%)
Assisted breech delivery	03 (4.3%)
Caesarean Section	12 (17.1%)

Table 9: Perinatal Mortality and Morbidity

Perinatal Mortality and Morbidity	Frequency (Percentage)
Live	49 (70%)
Intra uterine fetal demise	4 (5.7%)
Still birth	7 (10%)
Early neonatal death RDS/ Perinatal Asphyxia and Sepsis	10 (14.3%)

Table 10: Maternal Complications

Complication	No of Cases	%
Abruptio placenta	03	4.3%
CVA	03	4.3%
PPH	03	4.3%
Post Partum Pyrexia	05	7.1%

DISCUSSION

In this study, the normal vaginal delivery rate was more than caesarean delivery. Finding from the study done by Sunita TH and colleagues, in which the rate of vaginal delivery was higher than that of caesarean delivery [8]. However, in most studies across the world, caesarean section delivery has been repeatedly reported to be higher in women with eclampsia [9]. The possible explanation for the difference is that in most protocols, including ours, with respect to the management of eclampsia, it is recommended that delivery should occur within 12 h following seizure(s), and only pregnant women admitted in the active phase of labour or with favourable Bishop scores are allowed to progress within the 12 h if the foetal status is recovering. Additionally, the extensive use of cardiogram (CTG) machines to monitor labour and the lack

of consensus on the interpretation of the tracing have widely contributed to an increased rate of caesarean delivery [11].

Clinical factors, including symptoms of the disease, parity, history of pregnancy loss, antenatal care and facility attended for ANC, mode of admission, treatment of hypertension, and medications received during seizures were observed. Begun N and colleagues reported similar findings [11]. This could be explained by the good patient response to treatment. Moreover, evidence recommends that the pregnant mother with eclampsia should be stabilized before making decisions regarding delivery [12]. However, the goal of stabilizing the patient with medications is not to conserve the pregnancy but to allow for better assessment and the ability to determine the optimal and safest mode of delivery within a reasonable amount of time.

Regarding maternal outcomes, there was no maternal death reported in this study. This finding contrasts with previous studies conducted in a similar context of resource-limited settings of sub-Saharan Africa and other developing countries, where maternal mortality from eclampsia was higher [13]. This is the result of a clear and tight protocol for the management of the disease, as well as interdisciplinary care. For example, patients who were in critical condition after delivery were admitted to the ICU, where they were managed with a multidisciplinary team that included obstetricians, Physician, nephrologists, anaesthesiologists and trained nurses in intensive care. Such management approaches, as well as ICUs, are widely lacking in most resource-limited settings in sub-Saharan Africa. Therefore, improving maternal and newborn care in developing countries cannot be achieved on paper but rather through investment in health infrastructure and staff. [14].

Maternal convulsive seizures are also dangerous for the foetus. However, perinatal outcomes and maternal clinical characteristics, especially previous history of eclampsia, symptoms of the disease, history of pregnancy loss, antenatal care attendance and facility attended for ANC, mode of admission, treatment of HTN, and medications during eclamptic seizures, were not associated with the risk of infants being admitted to the NBU. This is because eclampsia is associated with transient maternal hypoxic status, which has minimal transient effects on the foetus [15].

In this study, parity, mode of delivery, indication of C-section delivery, and method of initiation of labour were significantly associated with the risk of infants' admission to the NBU. Regarding parity, Melese MF and colleagues had similar findings, especially in nulliparous and multiparous patients [16]. This could be related to individual factors such as the severity of the disease, drug effects, prematurity, and/or mode of delivery. In addition, caesarean section delivery increased the risk of newborns' admission to the nursery, especially those for whom the indication for C-section was eclampsia, whereas IOL significantly reduced the risk of NBU admission.

Vaginal delivery slightly increased the rate of perinatal death. Indeed, majority of perinatal death were fresh stillbirths or macerated births. The fresh stillbirths occurred in mothers who were admitted with severe foetal bradycardia, and in the doctors' judgement, C-section delivery could not help. There was 1 fresh stillbirth from C-section where the indication was eclampsia. Surgical skills during the procedure, "difficult extraction", and the effects of anaesthesia, prematurity were major contributors for that specific case. Therefore, caesarean section delivery is not associated with better perinatal outcomes. It should be performed for obstetric reasons, defined as inability to accomplish a vaginal delivery within a specified time, governed by maternal condition.

CONCLUSION

Incidence of eclampsia is little lower compare to other states in India. But we are far behind to developed countries. Eclampsia is a disease of young females, more common in primigravida with mild to moderate hypertension. It can occur with normal B.P without proteinuria in a small portion of our study. Most of the cases had irregular/ No antenatal checkups. Eclampsia can be prevented by proper antenatal care and early detection of pre-eclampsia with timely management and referral to Tertiary Care Hospital.

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