Original Article

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Maternal and Perinatal Outcome in Eclampsia Patient

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Abstract

Aim: To study the incidence of eclampsia and determine associated maternal and perinatal outcome at tertiary care hospital. *Methodology:* A retrospective clinical study of 70 cases of eclampsia was done at Government Medical College, Latur, over period of of 1 year . The events of mother and perinatal outcome were recorded and analyzed. *Result*: In our study, incidence of eclampsia was 0.9%, Majority of cases, 70% were seen in the young age group of 21-25 years. Primipara were at higher risk, around 71% cases. About 74% patients were from rural area and unbooked cases (60%) were more than booked cases. Antepartum eclampsia was seen in maximum cases (91%). C-section was the mode of delivery in 70% cases while vaginal delivery was seen in 30% cases. Maternal complication were found in 24 (34%) cases, out of which 10 (14%) mothers died, causes were mainly cardiopulmonary compromise, hepatic faliure or sepsis. Perinatal mortality came out to be 18.5%. Prematurity was the leading cause followed by RDS and IUGR. *Conclusion*: Eclampsia still remains a major contributor to maternal mortality and morbidity in developing countries like India.Improvement in health care facility, adequate antenatal supervision, early diagnosis and timely referral will reduce the maternal and fetal complication.

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Introduction

Eclampsia [1] is defined as the development of generalised tonic clonic convulsions and/or unexplained coma during pregnancy or postpartum in patients with signs and symptoms of preeclampsia. It may occur quite abruptly without any warning mani-festation.

Although eclampsia is uncommon in developed countries, it is still a major cause of maternal morbidity and mortality worldwide [2,3,4]. Globally the incidence of eclampsia is 0.3 – 0.9% and it has a maternal mortality rate of 0.5% to 12%(forth most common cause of maternal death) [5]. Most of the over half a million maternal deaths that occur annually are in developing countries like India [5] . Eclampsia is still a major cause of maternal death in India (24.09%, FOGSI study) [6]. In developing countries case fatality rate of upto 14% is reported to eclampsia compared to 0 – 1.8% in developed countries [7].

Maternal complications [1] of eclampsia include placental abruption, HELLP syndrome, renal failure, DIC, cerebral and visual disturbances, pulmonary edema, cerebral hemorrhage or edema, cardiac failure, ARDS. Transient neurological deficit is common but persistent deficits are rare..In the long term, cardiac and metabolic disease risks are increased [8] .

In fetus, intrauterine growth restriction (IUGR), intrauterine death(IUD), birth asphyxia and prematurity are commonly associated with eclampsia increase the

perinatal morbidity and mortality [1,10]. Hypertensive disease in pregnancy is an important cause for iatrogenic pretem delivery of VLBW babies and associated complications of prematurity [10].

Aims and Objectives

1. To study the incidence of eclampsia in women attending tertiary care hospital.
2. To evaluate maternal and perinatal mortality and morbidity associated with eclampsia.

Materials and Methods

A retrospective clinical study was undertaken reviewing the medical records of all women with eclampsia who were managed at Department of Obstetrics & Gynaecology, GMC, Latur , over a period of 1 year i.e from Oct 2016 – Sept 2017. Data were collected from records of labour room and operation theatre. Magnesium sulphate was used to control convulsion as per Pritchard regimen in all cases. Data regarding demographic parameters, gestational age, parity, mode of delivery, maternal and perinatal outcome, seizure onset to delivery interval and length of hospital stay were recorded.

Inclusion Criteria

1. Women with generalized seizures, not attributed to other cause, with pregnancy>20 weeks of gestation age (antepartum).
2. Intrapartum and postpartum seizures(within 10 days of delivery).

Exclusion Criteria

1. Women with history of seizures before pregnancy or before 20 wks or 10 days after delivery
2. Patients with epilepsy/other causes of seizures

Results

In this study, 70 cases of eclampsia were studied. Incidence of eclampsia during the given period of one year was 0.9%. (Total deliveries-7350).

Table 1: Demographic Profile

Variables	No. of Cases
Age	
<20	6(8.5%)
21- 25	49(70%)
25 – 30	10(14.2%)
>30	5 (7.1%)
Residence	
Rural	52(74.2%)
Urban	18(25.7%)
Booking Status	
Booked	28(40%)
Unbooked	42(60%)

Table 2: Background characteristics

Variables	No. of Cases
Parity	
Primipara	50(71.4 %)
Multipara	20(28.5%)
BP on Admission	
Hypertensive	66(94.2%)
Normotensive	4(5.7%)
Proteinuria	
Present	63(90%)
Absent	7 (10%)
Gestational Age	
Preterm(< 37 weeks)	27(38.5%)
Term(= >37 weeks)	43 (61.4 %)
Onset of Eclampsia	
Antepartum	64(91.4%)
Intrapartum	1(1.4%)
Postpartum	5 (5.8%)

Table 3: Maternal outcome

Variables	No. of Cases
Mode of delivery	
a. Delivered	
Vaginal	21 (30%)
Caesarean	49(70%)
b. Undelivered	0
Seizure – delivery interval	
a.< 12 hrs	57(81.4%)
b. 12 – 24 hrs	11(15.7%)
c. >24 hrs	2 (2.8%)
Maternal complications	
a. Total cases of complication	24(34.2%)
Maternal mortality	10(14.2%)
Recovered	14
b. ICU admission required	21(30%)
Duration of Hospital stay	
< =7 days	42(60.%)
>7 days	28(40 %)

Table 4: Maternal complications (n=24)

Type of Complication	No. of Cases
Placental Abruption	3(12.5%)
HELLP Syndrome	4(16.6%)
Acute renal failure	2 (8.3%)
DIC	2(8.3 %)
Cerebro Vascular accident	1(4.1%)
Pulmonary edema	4(16.6%)
PRES	3(12.5%)
Sepsis	4(16.6%)
PPH	1 (4.1%)

DIC – Disseminated Intravascular Coagulation, PRES – Posterior Reversible Encephalopathy Syndrome, PPH – Post partum Hemorrhage

Table 5: Cause of Maternal Death (n=10)

Cerebral haemorrhage	1(20%)
Acute Renal Failure	1 (10%)
Sepsis with MODS	3 (30%)
pulmonary edema	2 (20%)
Hepatic failure	3(30%)

MODS – Multiple Organ Dysfunction Syndrome

Table 6: Variables of Maternal Death (n=10)

Variables	No. of Cases
Onset of eclampsia	
Antepartum	9 (90%)
Postpartum	1(10%)
Gestational Age	
Preterm	3(30%)
Term	7(70%)
Mode of delivery	
Caesarean	7(70%)
Vaginal	3(30%)
Seizures to death interval	
<48 hours	5(50%)
2 – 7 days	4(40%)
>7days	1 (10%)

Table 6: Perinatal outcome

Variables	No. of Cases
Livebirth	64(91.4%)
a. nicu admission required	15(23.4%)
b. nicu admission not required	52
Stillbirth	6
Neonatal death	7
Total perinatal mortality	11(18.5%)
Birth Weight	
a. < 2.5 kg	46 (65%)
c. >=2.5 kg	24(35%)

Table 7: Causes of Nicu Admissions(n=15)

Prematurity	7(46%)
RDS	3(20 %)
IUGR	3 (20%)
Sepsis	2 (13%)
MgSo4 depression	1 (6.6%)

RDS – Respiratory Distress Syndrome, IUGR – Intrauterine Growth Restriction.

Table 8: Causes of Neonatal Death (N=7)

Prematurity	4 (57%)
Birth asphyxia	3 (42%)
Neonatal sepsis	1 (14%)

Most of women were between 21 to 25 years 70%. Majority of women were from rural area74 % and unbooked cases were more than booked (60% v40%). Out of 70 cases of eclampsia, 50 cases (71.4%) were primiparous. In our study, women with term gestational age were more than preterm, 43 vs 27(61% v38%). In 64(91%) cases of onset of eclampsia were during antepartum period. In 5 cases onset was during postpartum period and single case of intrapartum eclampsia. 94% patient were hypertensive on admission and proteinuria was present in 90% cases. Out of 70 cases, 70% of women delivered by cesarean section and 30% delivered vaginally. In 81% cases seizure to delivery interval (S-D interval) was within 12 hrs and 15% cases delivered within 24 hrs. 60% of women were discharged in less than 7 days of hospital stay and 40% of women were discharged after more than 7 days. In this study, 34% of cases had complications and most common complications were HELLP syndrome, pulmonary edema and sepsis. Total number of maternal deaths were 10 (14.2%) and most common cause of maternal death were sptic shock with MODS and hepatic faliure. Out of 10 cases of maternal deaths, 5 cases took place after caesarean section.

Out of 70 cases, 64 were live births (91%) and 6 cases of intrauterine deaths. Out of live birth, 15 (23.4%) babies were admitted in NICU. 64% of babies were born of low birth of less than 2.5kg. Most common cause of NICU admission was prematurity in 46% of cases and other causes were RDS and IUGR . Out of 15 nicu admission, 7 neonates died and most common cause of perinatal mortality (15.2%) was prematurity associated complication.

Discussion

Incidence of eclampsia is 0.9% in this study. Incidence of eclampsia is 0.3-0.9% worldwide and incidence in India is 1.5% as mentioned above. Majority of women with eclampsia were between age 21-25 years in this study. In the present study, 60% of women were unbooked cases having < 3 antenaltal visits. This shows the importance of antenatal visits and early diagnosis and treatment of preeclampsia and routine prophylactic $MgSO_4$ in cases of severe preeclampsia to prevent eclampsia. Primigravida definitely is at a higher risk to develop antepartum eclampsia. Eclampsia significantly occurred in primi gravid (71%) in the study. 91% of women developed fits in antepartum period in the present study. Similar findings are seen in other studies [9-12].

In present study, 70% cases had caesarean sections and 30% women had vaginal delivery. Lee et al [12] reported higher caesarean section rate (79%). 81% of women delivered within 12 hours of admission.In the recent years, caesarean section has been opted for the mode of delivery especially in salvageable babies.This has resulted in a better perinatal

outcome. Other tudies have reported a similar outcome with caesarean Section in comparison to the vaginal route [13-14]. None of The mothers experienced any major anaesthetic or surgical complications.

In present study 34% had major maternal complications. In present study, major maternal complications were placental abruption (12%), HELLP syndrome (16%), pulmonary edema (16%), PRES (12%), sepsis (16%) and other. Most common maternal complication were HELLP syndrome and pulmonary edema, in the present study. In present study, maternal deaths were 14% and most common cause of maternal death was pulmonary edema, sepsis with MODS and hepatic faliure. In Shahnaz Nadir Jamil [15] study maternal mortality rate of eclampsia was reported as 8% and maternal complications rate was 40%.

There were 6 cases of intrauterine deaths, 7 cases of neonatal deaths and total number of perinatal deaths were 13 with perinatal mortality rate as 18.5%. The major cause of perinatal mortality was prematurity and birth asphyxia. In the present study, 65% of babies had low birth weight (LBW), though patients with term gestation were more than patients preterm gestation. Thus IUGR and prematurity were common causes for low birth weight babies. 23.4% of babies were admitted in NICU and most common cause of NICU admission was prematurity and RDS.

Conclusion

Incidence of eclampsia and maternal deaths are higher in developing countries. This is related to non availability of medical care, lack of education and lack of antenatal care. Measures are to be taken to reduce this problem by education, early screening and provision of antenatal care to all, focusing attention on health education, a network of easily available medical facilities.

Retraining of traditional birth attendants to identify the risk factors and early referral to a tertiary care centre is also necessary. Intensive care unit should be available in every tertiary care centre for mother and baby.

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