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A RETROSPECTIVE STUDY OF FETOMATERNAL OUTCOME IN ECLAMPSIA

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Abstract

In India the perinatal and maternal outcome in eclampsia cases is still poor due to inadequate antenatal care in rural areas, financial restraints and non-availability of transportation facilities, and social taboos causing delay in management resulting in poor maternal and neonatal outcome. Aim of the study was to evaluate fetomaternal outcome in patients with eclampsia. This retrospective study was conducted over a period of 2 years from May 2018 to April 2020 at department of obstetrics and gynaecology of Government medical college and Sir T General hospital, Bhavnagar , Gujarat , India. During the review period total 50 cases of eclampsia reported.Incidence in our study is 0.43%.Results showed 86 % of eclampsia patients were of age less than 25 years. 82% of patients had antepartum eclampsia , 14 % had postpartum eclampsia and 4% had intrapartum eclampsia . 90% patients had 1 episodes of convulsion. 8% patients had 2 episodes of convulsions.2% pateint had 5 episode of convulsion. Out of 50 patients 36 patients were delivered by C-section and 14 patients by vaginal delivery.1 patient had twin pregnancy.Out of 51 newborn, 5 were stillbirth and 1 early neonatal death.Maternal mortility was 2 % .Eclampsia is still one of the important and common obstetric emergencies, which has a significant role in maternal and perinatal outcome. Regular Antenatal Care (ANC), proper health education, improvements of socioeconomic conditions and spreading of awareness in the community has major roles in prevention of eclampsia. Timely and appropriate intervention including primary management, early referral and judicious termination of pregnancy help in reducing morbidity and mortality of both mother and fetus.

Keywords: Eclampsia, Fetomaternal outcome.

Introduction

Eclampsia has been a recognized pathological entity since the time of Hippocrates and ancient Greek. It is derived from the Greek word meaning "***like a flash of lightening***". Eclampsia is perceived as the end of linear spectrum that stretches from the normal pregnancy through mild gestational hypertension, pre-eclampsia finally eclampsia. Eclampsia is defined as preeclampsia complicated by generalised tonic clonic convulsion and/or coma.It is diseaseunique to pregnancy. A number of social, genetic, medical and obstetric conditions predispose to an increase risk of pre-eclampsia and eclampsia. It is the multisystem disorder. The exact etiology of pre-eclampsia is unknown. According to WHO estimation, eclampsia is the cause of 12 % of all maternal death globally.[1] Eclampsia probably accounts for 50,000 maternal deaths a year worldwide.[2]Appoximately 1 in 2000 deliveries complicated by eclampsia in developed countries, whereas the incidence in developing countries varies from 1 in 100 to 1 in 1700 cases.[3]In India, reported incidence of eclampsia varies from 0.179 to 3.7 % And maternal mortality varies from 2.2 to 23 % of all eclamptic women.(4) It ranks second only to anemia in developing countries. The estimated incidence of eclampsia in Western countries is 1 in 2000–3448 deliveries. Pre-eclampsia is not preventable but eclampsia is preventable. In spite of the global and regional interventions and initiatives from government, its outcome in terms of maternal and perinatal mortality continues to be worse. Eclampsia is often preceded by alarming/ imminent symptoms like headache, nausea, vomiting, blurring of vision, epigastric pain. The institution of vigilant antenatal care to detect risk factors and prompt treatment of cases of preeclampsia will ameliorate the disease burden. Some clinical causes of maternal deaths that are followed after eclampsia are cardiopulmonary failure, acute renal failure, cerebrovascular accident (CVA), HELLP syndrome (Haemolysis, Elevated liver enzymes and Low platelets) and disseminated intravascular coagulation.[5] Reasons like prematurity due to pretermlabour pain or iatrogenic, respiratorydistress syndrome (RDS), cerebral haemorrhage, intrauterine anoxia, intrauterine growth restriction (IUGR) are mostly attributed for poor fetal outcome. Additionally at later stages of life, IUGR may result in neurodevelopment defects in children.[6] The only cure for eclampsia is delivery of the baby. The onset of eclamptic convulsions can be antepartum (38-53%), intrapartum (18-36%), and postpartum (11-44%).[7] Aim of present study was to record the clinical profile of patients with eclampsia and to study the various maternal and fetal

outcome by means of morbidity and mortality in eclampsia.

Material and Methods:

This retrospective study was conducted over a period of 2 year from May 2018 to April 2020 at department of obstetrics and gynaecology of Government Medical College and Sir T General hospital, Bhavnagar, Gujarat, India. During this retrospective study total 50 patient of eclampsia satisfying inclusion criteria were taken in study.Data were collected from labour room recoed book(postnatal book) and HDU(high dependency unit) data book.Maternal variables analysed wererural/urban, booked/unbooked, age of pateint, parity, gestational age, premonitory symptoms, type of eclampsia,no. of convulsion, blood pressure and urine albumin on admission, mode of delivery, materanl morbidity mortality. Fetal outcome variables male/female, baby weight, live /stillbirth/early neaonatal death, neaonatlal morbidity and mortality.. All cases were treated with magnesium sulphate (Pritchard regimen). Hypertension was controlled with intravenous/oral labetolol and oral nifedipine if necessary.

Maternal and fetal outcome variables were presented as frequencies and percentages.

Inclusion criteria

- Patient with antepartum, intrapartum and postpartum eclampsia.

Exclusion criteria

- Patient with convulsions due to any causes other than eclampsia.

Results:

Table 1: Baseline characterstics of patient in our study.

Age of patient	No.of pateint (n= 50)	Percentage
< 25 year	43	86%
> 25 year	07	14 %
Parity		
Primi	37	74%
Multi	13	26 %
Residence		
Urban	17	34 %
Rural	33	66%
Booking status		
Booked	23	46%
Unbooked	27	54%

Table 1 shows that out of 50 eclamptic patient in stduy ,majority are below 25 year age , majority patient are primi (74%), 66% patient were from rural area and 46 % patient were booked patient. Among 23 booked patient only 6 patient were known case of preecalmpsia which later on complicated by eclampsia.

Table 2: Gestational age of Patients

Gestational Age	Number of patients(n=50)	Percentage
<28 week	2	04%
28-32 week	13	26%
33-36 week	14	28%
≥37 week	21	42%

Table 2 shows 42% of patients gestational age was≥37 week and 28% of patients gestational age was between 33-36 weeks and 26% of patients gestational age was between 28-32%.

Table 3: Blood Pressure of Eclampsia patients

Systolic BP	Number of patients(n=50)	Diastolic BP	Number of patients(n=50)
>160mm Hg	15 (30%)	>110 mm Hg	02(04%)
140-159 mm Hg	25 (50%)	90-100 mm Hg	45(90%)
<140 mm Hg	10 (20%)	<90 mm Hg	03(06%)

Table 4 shows 50% of patients had systolic blood pressure between 140-159 mm Hg and 45% of patients had diastolic BP between 90-100 mm Hg.

Table 4: Premonitory symptoms preceding eclampsia

Premonitory symptoms	Number of patient (n=50)	Percentage
Headache	22	44 %
Vomiting	17	34 %
Headache and vomiting	04	08 %
Blurring of vision	04	08 %
Epigastric pain	03	06 %

Table 4 shows that in majority of patient premonitory symptoms preceding eclampsia are headache (44%) followed by vomiting 34%, headache and vomiting 08%, blurring of vision 8%, epigastric pain 6%.

Table 5: No. of convulsion and proteinuria on admission.

No. of convulsion	No. of patient n = 50 (100%)
1	45 (90%)
2	04 (8%)
5	01(2%)
Proteinuria	**No. of patient (n=50)**
Trace to +1	04 (08%)
+2	05(10%)
+3	17(34%)
+4	24(48%)

Table 6 shows 90% patients had 1 episodes of convulsion. 8% patients had 2 episodes of convulsions. Majority of patinet had +4 proteinuria 48%, followed by +3(34%) and +2(10%).

Table 6: Types of Eclampsia and Mode of delivery

Types of Eclampsia	Number of patients(n=50)	Percentage
Antepartum	41	82%
Intrapartum	02	04%
Postpartum	07	14%
Mode of delivery	**No. of patient**	
Vaginal	14(28%)	
C-section	36(72%)	

Table 3 shows 82% of patients had antepartum eclampsia, 14 % had postpartum eclampsia and 4% had intrapartum eclampsia.Majority of patient 72 % were delivered by C-section.

Table 7: Maternal complication in present study

Complication	No.of patient (n=50)
Pulmonary edema	03(06%)
Disseminated intravascular coagulation	01 (02%)
Cerebrovascular accident	01(02%)

6% patient complicated by pulmonary edema,2%by DIC and 2%by CVA.1 patient expired due to DIC.

Table 8: Perinatal outcome

Neonate	No. of neonate (n=51)
Live birth	46(90.2%)
Stillbirth	05(9.8%)
Birth weight	
≤ 2.0 Kg	22(43.1%)
2.1-3.0 Kg	26(51%)
> 3.0 Kg	03(5.9 %)

Discussion:

Hypertension is a leading problem that may complicate and result in additional disorders during pregnancy. One such complication is eclampsia which causes devastating results, though it is preventable. The epidemiological figures of eclampsia are not consistent worldwide in fact the incidence of eclampsia varies geographically according to the standard antenatal care facilities provided in that area. Incidence in our study is 0.43%. In our study, 82 % cases were antepartum eclampsia, 4 % were intrapartum eclampsia and 14 % cases were postpartum eclampsia which is comparable to Avani et al.[8] 86 % cases belonged to 20-25 years of age as discussed by other studies.[09-12] Majority of the eclamptic cases 54 % were unbooked. Renu Jain, Neha saxena and B Talukdarreported similar results.[13].But on the other hand, in 1994 Douglas and Redman reported that women with less frequent antenatal visits were not significantly different from those with standard antenatal care in terms of the type of first convulsion, where it occurred, or the gestational age at which it occurred and also that majority women had been seen by a doctor or midwife in the week before their first convulsion.[14] Choudhury P also reported that out of 47 eclampsia patients 26 (55.31%) had antenatal care.[15]. In our study 42%patients were of ≥37 weeks gestational age and 28% patients were of 33-36 weeks gestational age.Similarly, Sunitha et al, Prabhakar et al and Chaudhury also found highest number of eclamptic patients in gestational age ≥37 weeks.The definitive treatment of eclampsia is delivery, irrespective of gestational age. Therefore, the patient must be delivered within 24 hours in case of severe preeclampsia, and within12 hours in a patient with eclampsia.[16] Lower segment caesarean section was the commonest mode of delivery in our study , 72 e%. Similar observation was found in studies by Choudhury and Manjusha et al.[17]1 patient had twin pregnancy.so, out of 51 newborn ,5 were stillbirth,17 newborn weighed ≤2.0 Kg admitted in NICU due to low birth weight and prematurity out of them 1 newborn expired ,16 newborn discharged after stabilization,29 newborn were healthy and kept motherside.1 maternal death occurred due to DIC accounts for 2% maternal mortality in eclampsia in our study. As this is an established fact that early deliveries reduce maternal mortality and morbidity however expose the babies to the risks of prematurity.

Conclusion:

This study reveals that eclampsia is still an important obstetric emergency in the community contributing to significant maternal and perinatal morbidity and mortality. Certainly the high incidence of eclampsia can be reduced by proper antenatal care, diagnosing, admitting and treating the mild and severe pre- eclampsia cases and judicious termination of pregnancy in severe preeclampsia. However, eclampsia can occur bypassing the preeclamptic state and as such, it is not always a preventable condition. Antenatal care, early diagnosis, primary management and referrals need to be improved.

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