

A Retrospective Study of Maternal and Perinatal Outcome in Eclampsia in a Tertiary Care Hospital

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Abstract

Introduction: Eclampsia is defined as the development of convulsions and/or coma unrelated to other cerebral conditions during pregnancy or in the post-partum period in patients with signs and symptoms of pre-eclampsia after 20 weeks of gestation.

Materials and methods: This study was done on "Maternal and Perinatal outcome of eclampsia in a tertiary care centre" (KMC & GGH) from January 2018 to December 2018. The study was conducted in Obstetrics and Gynecology Department, Kurnool Medical College Kurnool, AP, India. The present study aims to determine the factors affecting the maternal and perinatal outcome of eclamptic mothers. Women with other causes of convulsions were excluded. It was an observational study. Patients with eclampsia were admitted through emergency. Inclusion criteria was the patients developing eclampsia in second half of pregnancy or within ten days after delivery; and exclusion criteria was patients with convulsion due to epilepsy, cerebral cause, malaria or any other metabolic cause and patients presenting ten days or more after delivery.

Results: In this study 218 eclampsia cases were studied. The incidence of eclampsia in KMC & GGH during study period was 1.39%. Most of the patients were primigravida accounting 83.48% out of which 74.31% were antepartum, 14.22% were intrapartum and 11.47% were postpartum. 44.04% of cases had no ANC and 40.36 irregular ANC. Occurrence of onset of eclampsia at <34 weeks GA 27.53%, 35-37 weeks 43.12 % and >38 weeks 29.35%. Most of patients were from rural area (97.50%) and having low socioeconomic status (83.94%) and illiterate. Out of 218 cases 46.33% patients had vaginal delivery, 3.21% patients had vaginal delivery with instrumentation.

Conclusion: The result of this present study indicates the great need for improved health education, as most cases of eclampsia were due to ignorance and neglect. There is also a need for expansion of education and training personnel in order to recognize the high risk factors diagnose and manage preeclampsia and eclampsia as early as possible so that the severe form of the disease is prevented.

Key Words: Eclampsia, Maternal and Perinatal outcome, preeclampsia

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I. Introduction

Eclampsia is defined as the development of convulsions and/or coma unrelated to other cerebral conditions during pregnancy or in the post-partum period in patients with signs and symptoms of pre-eclampsia after 20 weeks of gestation.

It is a pregnancy specific disease characterized by convulsions associated with pre-eclampsia, sometimes progressing into a multi-organ disease, cluster of varying clinical features. Eclampsia occurs more commonly in the last trimester of pregnancy and becomes increasingly more frequent near term. Convulsions may occur ante-partum (38%) intra-partum (18%) or post-partum (44%). Primigravida are at a higher risk of convulsions and antepartum convulsions are more dangerous than those beginning after delivery.

The etiology of eclampsia is multifactorial. The risk factors for development of eclampsia include genetic predisposition, abnormal trophoblastic invasion, nulliparity, family or past history of preeclampsia and eclampsia, poor outcome of previous pregnancy, lower socioeconomic status, hydatiform mole, fetal hydrops, primigravida and multifetal gestation [2]. Co-morbid conditions like essential hypertension, renal diseases, diabetes mellitus and many autoimmune diseases (APLA, SLE etc) may also increase the risk of eclampsia. The diagnosis of eclampsia is secure in the presence of generalized edema, hypertension, proteinuria, and convulsions. However, women in whom eclampsia develops exhibit a wide spectrum of signs, ranging from severe hypertension, severe proteinuria and generalized edema to absent or minimal hypertension, no proteinuria, and no edema. Common signs and symptoms associated with eclampsia include persistent occipital

or frontal headaches, blurred vision, photophobia, epigastric and/or right upper-quadrant pain, and altered mental status.

II. Materials And Methods

This study was done on “Maternal and Perinatal outcome of eclampsia in a tertiary care centre” (KMC & GGH) from January 2018 to December 2018. The study was conducted in Obstetrics and Gynecology Department, Kurnool Medical College Kurnool, AP, India. The present study aims to determine the factors affecting the maternal and perinatal outcome of eclamptic mothers.

Women with other causes of convulsions were excluded. It was an observational study. Patients with eclampsia were admitted through emergency. Inclusion criteria was the patients developing eclampsia in second half of pregnancy or within ten days after delivery; and exclusion criteria was patients with convulsion due to epilepsy, cerebral cause, malaria or any other metabolic cause and patients presenting ten days or more after delivery.

A detailed history was taken from attendants or from patient (if conscious and well oriented in time and space), regarding gestational age, or time passed after delivery, number of convulsion and their nature, history of raised blood pressure, proteinuria, swelling of feet, headache, epigastric pain, visual disturbances, vomiting, urinary problem or bleeding per vaginum. A thorough general physical and systemic examination was performed, recording blood pressure, pulse, temperature, edema, jaundice and pallor. Lungs and heart were auscultated to note any abnormalities. Reflexes were checked. Obstetric examination included abdominal examination to determine lie and presentation of fetus, amount of liquor, any element of intrauterine growth retardation and fetal heart rate (if alive). Vaginal examination performed to note degree of cervical dilatation, effacement, station of presenting part and pelvic capacity. Mode of delivery (vaginal / abdominal route) was decided according to the bishop score, patient's condition and fetal condition. After delivery patients were observed in intensive care unit for 24-48 hours and patients were followed up for complication for up to ten days. All of these information's were recorded on a Proforma. Lab investigations included: Blood group and Rh factor, complete blood examination, platelet count, serum electrolytes, serum urea, serum creatinine, serum uric acid, Liver function tests, complete urine analysis, 24 hours urinary protein estimation and Ultrasonography. Informed consent was taken from every patient who had taken part in the study.

III. Results

During the study period there were 218 women with eclampsia among 15677 deliveries (1 in 72 deliveries). The incidence of eclampsia in Kurnool Medical College during the study period was 1.39%. All these patients were treated with magnesium sulphate by Prichard regime. 98% were unbooked, 6 (2.75%) gave previous history of PIH and 2 (0.92%) gave history of eclampsia. It is important to note that the classic triad used to diagnose pre-eclampsia was not present in all women with eclampsia. 3.21% cases were between 15-19 years of age, 63.30% cases were between 20-24 years of age, 26.61% were between 25-29 years of age, 6.42% were between 30-34 years of age and 0.46% cases were of 35 years and above. 83.48% cases were primigravida, 11.92% were second gravida, 1.37% were third gravida and 3.23% of cases were fourth gravida and above.

74.31% cases were antepartum, 14.22% were intrapartum and 11.43% were postpartum. 5.50% of cases were between 20-28 weeks of gestation age, 22.03% of cases were between 29-34 weeks of gestation, 43.12% were between 35-37 weeks, 25.23% were between 38-40 weeks and 4.12% were >40 weeks of gestation. 15.60% of cases had regular ANC, 40.36% had irregular ANC and 44.04% had no ANC. 97.25% of cases were from rural area and 2.75% were from urban area. 37.61% of cases were illiterate, 27.08% had primary education, 31.19% had high school education, 1.83% had plus two education and 2.29% were graduate. 83.94% of cases were from lower socioeconomic status, 15.14% of cases were from middle socioeconomic status and 0.92% of cases from upper socioeconomic status. 62.39% of the cases were referred from specialist, 30.28% referred from FRU and 7.33% were not referred. 44.04% cases were conscious during admission, 49.08% were conscious but disoriented and 6.88% were unconscious.

S.No	Blood Pressure (mm hg)	No of cases	Percentage	Maternal death
1	>160	93	46.5	6
2	140-160	60	30	1
3	<140	43	21.5	3
4	Not recordable	04	2	3
5	Total	200	100	13

Table 1: Systolic blood pressure at the time of admission

S.No	Blood Pressure (mm hg)	No of cases	Percentage	Maternal death
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Table 2: Diastolic blood pressure at the time of admission

S.No	Parity	No of cases	No of Deaths	CFR (%)
1	Primigravida	182	7	3.84%
2	Multigravida	36	6	16.67%
3	Total	218	13	5.96%

Table 3: Maternal mortality in relation to parity

S.No	Type of Eclampsia	No of cases	No of Deaths	CFR (%)
1	Antepartum	162	11	6.79%
2	Intrapartum	31	1	3.22%
3	Postpartum	25	1	4.0
4	Total	218	13	5.96%

Table 4: Maternal mortality in relation to type of eclampsia

S.No	Morbidities	No of cases	Percentage
1	Cerebral hemorrhage	6	2.75
2	Pulmonary Edema	18	8.25
3	Acute renal failure	30	13.76
4	Shock	12	5.50
5	Hellp Syndrome	10	4.59
6	jaundice	17	7.80
7	Cardiac failure	2	0.91
8	Septicemia	18	8.25
9	Pyrexia	34	15.60
10	PPH	28	12.84
11	DIC	14	6.42
12	ARDS / aspration pneumonia	2	0.90
13	Abruptio placentae	15	6.88
14	Acute hepatic failure	4	1.83
15	Retinal oedema, blindness	8	3.67

Table 5: Maternal morbidity due to eclampsia

Out come	Number of cases	Percentage
Live birth	161	75.59
Still birth	46	21.60
Not delivered	6	2.81
Total	213	100

Table 6: Perinatal outcome in eclampsia

Out come	Number of cases	Percentage
Still birth	46	73.10
Early Neonatal Death	17	26.98
Perinatal Death	63	100

Table 7: Perinatal deaths in eclamptic patients

Cause of Death	Number of death	Percentage
Preterm	7	36.84
Birth asphyxia	11	57.89
IUGR	1	5.26
Total	19	100

Table 8: Risk factors associated with neonatal death

IV. Discussion

The incidence of eclampsia in our study was 13.9/1000 deliveries i.e. 1.39 %, which is less than that described by Rajshri et al (1.82%), more than Sunitha TH (0.7%). However, the incidence of eclampsia is much higher than that of developed countries like the United Kingdom (UK) where eclampsia complicates 0.05% of total deliveries.

The incidence of eclampsia in Eastern India as quoted by Singh et al is 3.2% which is higher than ours. Eclampsia was more commonly seen in young pregnant women (66.5%) and primigravidas (83.48%) which is similar to a study done by Sunita TH et al (85% and 79%). 95% of patients of eclampsia in our hospital were not booked with us. 44% of patients had no antenatal care and around 40% of patients had some sort of antenatal care.

Lack of antenatal care is one of the important risk factors for the development of eclampsia which is proved by many studies. 93.99% of patients had no ANC as per Jain S et al and 76.66% had no ANC as per Swain S et al. According to studies conducted in developed countries, the percentage of eclampsia considered to be unpredictable ranged from 31% to 87% and this is because of atypical presentation of eclampsia i.e. abrupt onset, development of convulsions while receiving prophylactic MgSO₄ or onset of convulsions after 48 hours of delivery or in patients without hypertension or proteinuria.

But in developing countries, the preventable causes of eclampsia contribute to most cases of eclampsia because of poor ANC services. In our study 74.31% of eclampsia were antepartum, 14.22% were intrapartum and 11.47% were postpartum. In UK, 44% of eclampsia were postpartum and had lower incidence of antepartum eclampsia which could be due to good ANC surveillance. Pathogenesis of postpartum eclampsia is less understood. Eclampsia was seen in 49% of patients at term gestation in our study which is similar to a study done by Khanum M et al i.e. 53% at term gestation and 43% at near term gestation.

V. Conclusion

The result of this present study indicates the great need for improved health education, as most cases of eclampsia were due to ignorance and neglect. There is also a need for expansion of education and training personnel in order to recognize the high risk factors, diagnose and manage preeclampsia and eclampsia as early as possible so that the severe form of the disease is prevented.

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