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Original Research Article

Study of maternal and fetal outcome in antepartum eclampsia in a tertiary care hospital

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ABSTRACT

Background: In modern obstetrics, the prevalence of Eclampsia and its complications are high, so we decided to study pregnancy outcome in all Antepartum Eclampsia patients. The present study was carried out to investigate the maternal and fetal outcome in patient with Antepartum eclampsia.

Methods: A prospective study was conducted in Government Mohan Kumaramangalam Medical College Hospital, Salem, India over a period of one year from January 2016 to December 2016 in all Antepartum Eclampsia patients. Analysis was done regarding the age of women, parity, gestational age, imminent symptoms, mode of delivery, fetal outcome and maternal morbidity and mortality.

Results: Incidence of Antepartum Eclampsia in our hospital is 0.7%. It is more common in age group of 20 to 25years (68.5%) and primigravida (56%) and gestational age >37 weeks (51.85%). Commonest mode of delivery was by caesarean section (72%). Out of 54 patients of Antepartum Eclampsia 3 (5.5%) died and 18 (33%) had complications. Out of 50 live babies, 16 (32%) died.

Conclusions: Eclampsia is still one of the important and common obstetric emergencies and it has a significant role in maternal and fetal outcome. The early identification of risk factors and timely intervention is needed to improve maternal and perinatal outcome.

Keywords: Eclampsia, Maternal complication, Primigravida, Perinatal outcome

INTRODUCTION

The term Eclampsia was derived from Greek word flash of lightning. It is one of the leading causes of maternal and perinatal morbidity as well as mortality throughout the world.¹

Eclampsia is defined as the development of seizures that cannot be attributed to other causes and or unexplained coma during pregnancy or puerperium in a women with pre-eclampsia.² In developed countries, approximately 1 in 2000 deliveries is complicated by eclampsia, whereas the incidence in developing countries varies from 1 in

100 to 1 in 1700 cases.³ In India, its incidence is reported to be 220 per 10,000 deliveries. Maternal mortality is very high in india and varies from 2-30%, much more in rural than in urban.

The perinatal mortality is very high of about 30-50%.⁵ Eclampsia is the third commonest cause of maternal mortality after haemorrhage and infection in the developing countries.⁶

It is estimated that about 7% of maternal mortality is associated with hypertensive disorders of pregnancy, particularly eclampsia.⁷ Some clinical cases of maternal

deaths in eclampsia are due to cardiopulmonary failure, acute renal failure, cerebrovascular accident (CVA), HELLP Syndrome (Haemolysis, Elevated liver enzymes and low platelets) and premature separation of placenta.⁸

Poor fetal outcome is mostly attributed by iatrogenic prematurity, respiratory distress syndrome (RDS), intrauterine asphyxia, intrauterine growth restriction (IUGR) and intrauterine death (IUD). Additionally, at later stages of life, IUGR may result in neurodevelopmental defects in children.⁹

METHODS

This prospective study was conducted over a period of 1 year at Obstetrics and Gynaecology department of Government Mohan Kumaramangalam Medical College Hospital, Salem, Tamilnadu.

All Antepartum eclampsia patients who were admitted in causality from January 2016 to December 2016 were included in this study. These cases were evaluated by detailed history, thorough clinic examination, CT and blood investigations. Pregnancy was terminated in all patients irrespective of gestational age. All cases were treated with Magnesium sulphate (Pritchad regimen).

Hypertension was controlled with intravenous /oral labetalol and nifedipine if necessary. Only 54 patients who met the inclusion and exclusion criteria were included in this study. The variables analysed were age, parity, booking status, gestational age, imminent symptoms, blood pressure, and mode of delivery, fetomaternal morbidity and mortality.

Inclusion criteria

Patients with antepartum eclampsia.

Exclusion criteria

- Patient with convulsion due to causes other than eclampsia
- Intrapartum and postpartum eclampsia.

RESULTS

In present study 54 antepartum eclampsia patients were included. Table 1 shows that the maximum patients were in the age of 20 to 25 years 37 (68.5 %), only 3 cases were unbooked, primigravida comprised about 30 (56%).

It was observed that 9 cases (16.6%) presented at gestational age of 27 -30 weeks, 17 cases (31.4%) in the gestational age of 31-36 weeks while 28 cases (51.85%) had gestational age of 37-40 weeks. CT scan was taken in 50 patients. CT scan finding was normal in 35 patients (64.8 %), PRES 11 (20.3%), Haemorrhage 4 (7.4%) and only one patient had multiple calcified lesions in cerebral lobes.

Table 1: Patient profile.

Age (years)	No. of patients	%
<20	7	13
20-25	37	68.5
26-30	8	14.8
31-40	2	3.7
Parity		
Primi	30	56
Multi	24	44
GA (weeks)		
24-30	9	16.6
31-36	17	31.4
37-40	28	51.85
Booking Status		
Booked	51	94.4
Unbooked	3	5.6
PIH		
Known preeclampsia	10	18.5
Not a known preeclampsia	40	75.9
Recurrent preeclampsia	3	5.5
CT		
Normal	35	64.8
PRES	11	20.3
Haemorrhage	4	7.4
Not Taken	4	7.4

Figure 1 shows that the main presenting complaint in the study group was headache 84% followed by headache with vomiting.

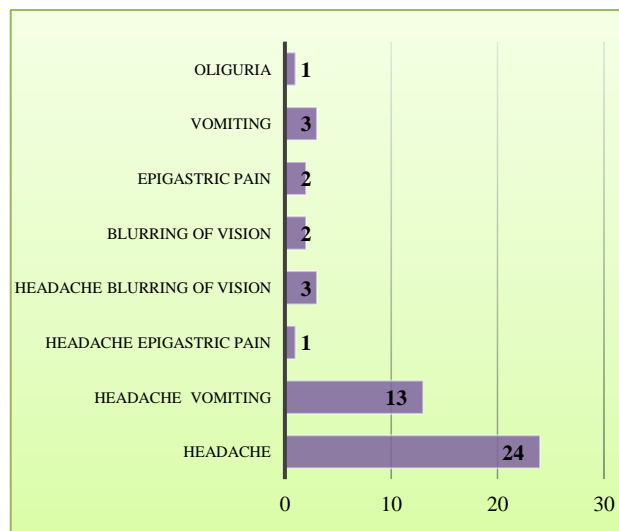


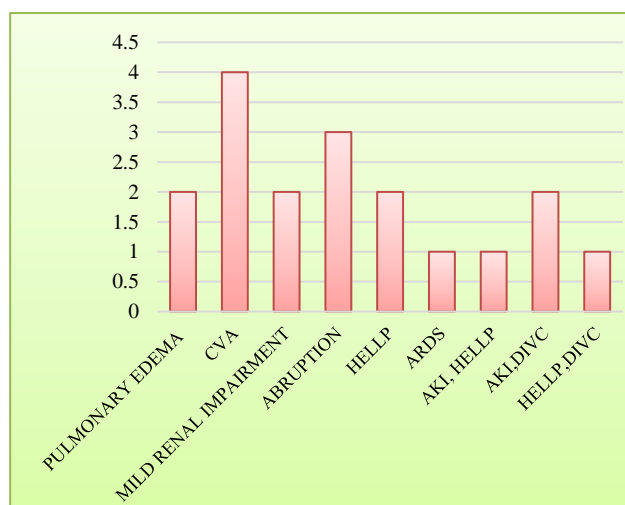
Figure 1: Symptoms in study group.

Table 2 shows that 39 cases were delivered by caesarean section (72%) and the common indication was unfavourable cervix -30 (76%). 3 out of 54 cases died. 18 patients developed complications like pulmonary edema 2 (11%), CVA 4 (22%), renal impairment 2 (11), abruptio placenta 3 (16.6 %), HELLP 3 (16.6%), ARDS 1 (5.5 %) and DIVC 3 (16.6%). With regard to fetal outcome, 50 (92.5 %) babies were alive and 4 (7.4%) were dead born.

Table 2: Fetal outcome.

	No. of patients	%
Mode of delivery		
Labour natural	9	17.0
Spontaneous expulsion	3	5.5
LSCS	39	72
Hysterotomy	3	5.5
Fetal outcome		
Live birth	50	92.9
Dead born	4	7.4
Birth weight		
<2.5Kg	35	65
2.6-3kg	13	24
>3Kg	6	11
Apgar score		
<7	13	26
>7	37	74

Out of 50 babies, <2.5 Kg 35 (65%), 2.6 to 3 Kg 13 (24%), and >3 Kg 6 (11%). Perinatal mortality rate was 37%. Early neonatal death was 16 (32%), due to prematurity and septicemia 6 (37.5%), prematurity and RDS 6 (37.5%), birth asphyxia 2 (12.5%) and IUGR/meconium aspiration syndrome 2 (12.5%).

**Figure 2: Maternal morbidity.**

DISCUSSION

The incidence of eclampsia varies geographically according to the standard of antenatal care facilities provided in that area. In this study, the incidence 0.7%, which is comparable to other developing countries with the incidence of 1 in 100 to 1 in 700 pregnancies.¹⁰⁻¹²

Eclampsia is more common in young primigravida. In the present study, eclampsia was more common in primigravida with age group of 20-25 years with 37 cases (68.5%) while in less than 20 years of age there were 7 cases (13%). In present study, highest numbers of eclamptic patient were found in the gestational age ≥ 37

weeks 28 cases (51.85%), followed by less than 37 weeks 17 cases (31.4%), only 9 cases are found below 30 weeks of gestation. Similarly, Sunitha et al, Prabhakar et al and choudhary also found highest number of eclampsia patients in gestational age ≥ 37 weeks.

The definitive treatment of eclampsia is delivery, irrespective of gestational age. Lower segment caesarean section was the commonest mode of delivery in present study 72%. Similar observation was found in the study by Choudhary and Manjusha et al.^{13,14}

Ante partum eclampsia is one of the leading cause of maternal mortality worldwide, it varies from 1.8 -27.5%. Maternal mortality in our study is 5.5%. Almost one third of patient suffer from complications.^{15,16}

CT brain was taken in all patients except 4. 35 patients had normal study, PRES in 11patients and 4 patients had cerebral haemorrhage.

In this study, acute kidney injury with DIVC was seen in 3 patients, 4 patients had cerebrovascular accident, 3 patients with abruption placenta and 2 patients presented with pulmonary edema. In present study, out of 3 maternal deaths 2 patients died of acute kidney injury with DIVC and one patient died of HELLP with DIVC.

The percentage of live birth and still birth in our study was 92.5% and 7.4% respectively. Significant association has been noted between eclampsia and perinatal mortality and morbidity. Perinatal mortality was 20 (37%) in current study, which was contributed by 4 (7.4 %) of still birth and 16 (29.6%) of early neonatal death. Prematurity with septicaemia and respiratory distress syndrome was the major cause of neonatal death. Maternal morbidity and mortality were reduced because of early intervention whereas babies were exposed to the risk of prematurity.

CONCLUSION

This study reveals that eclampsia is still an important obstetric emergency in the community, as it contributes to significant maternal and perinatal morbidity and mortality. Good antenatal care, early identification of pre eclampsia and its complications, timely intervention can reduce the high incidence of eclampsia. As eclampsia is a preventable disease, early identification of high risk cases and early referral might reduce fetomaternal morbidity and mortality.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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