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Assessment of peri-natal outcomes in patients with eclampsia

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Abstract
Background: The fetal complications of preeclampsia with severe features and eclampsia comprise placental abruption, intrauterine growth restriction, premature delivery and intrauterine fetal death.
Aim of the study: To evaluate the peri-natal outcomes in patients with eclampsia.
Materials and methods: The current study was conducted in the Department of Obstetrics and Gynecology of the medical institute. A total of 60 pregnant ladies diagnosed with eclampsia who reported to the outpatient department were selected for the study. History was taken from the patients and her attendants. A detailed history of age, parity, gestational age, type and nature of convulsion, the number of convulsion before admission, events prior to convulsions like a headache, epigastric pain, vomiting, blurring of vision was taken.
Results: 35% of patients belong to the age group of 21-25 years followed by 31.7% patients in the age group $\leq$ 20 years. 80% of the patients follow Hindu religion. 70% of the patients reside in rural areas. Live birth was seen in 33 patients, still birth in 11 patients and neonatal death was seen in 16 patients. On comparing, results were found to be statistically non-significant.
Conclusion: The inadequate antenatal care or delay in diagnosis in patients with eclampsia can lead to poor outcome of eclamptic women and neonates. So, steps should be taken to diagnose eclampsia early and provide treatment at early stages to avoid any further complications.

Keywords: Eclempsia, pre-eclempsia, neonatal comlications, pregnancy

Introduction
Eclampsia is defined as the presence of new onset grand mal seizures in women with preeclampsia that cannot be attributed to other causes [1, 2]. It remains a rare, but significant, threat to pregnant women. Case fatality rates (CFR) of eclampsia are reported 1–2 % in high income countries (HIC) [3, 4]. In low-income countries (LIC) CFRs vary, but are usually much higher: in two studies from Tanzanian tertiary centres CFRs of 5–8 % were reported [5, 6]. The fetal complications of preeclampsia with severe features and eclampsia comprise placental abruption, intrauterine growth restriction, premature delivery and intrauterine fetal death [7]. Moreso, the maternal complications of preeclampsia with severe features and eclampsia consist of Haemolysis, Elevated Liver enzymes, Low platelet count (HELLP) syndrome, Disseminated Intravascular Coagulation (DIC), acute kidney injury, cerebrovascular hemorrhage, cortical blindness, focal motor deficit and adult respiratory distress syndrome [8, 9]. Hence, the present study was planned to evaluate the peri-natal outcomes in patients with eclampsia.

Materials and methods
The current study was conducted in the Department of Obstetrics and Gynecology of the medical institute. An ethical clearance for the study was obtained prior to commencement of the study. A total of 60 pregnant ladies diagnosed with eclampsia who reported to the outpatient department were selected for the study.

Inclusion criteria
- Patients with a tonic-clonic convulsion in the second half of pregnancy diagnosed to have eclampsia or within ten days after delivery.

Exclusion Criteria
- Other causes of tonic-clonic convulsion with pregnancy like epilepsy, meningitis, cerebrovascular accident.

History was taken from the patients and her attendants. A detailed history of age, parity, gestational age, type and nature of convulsion, the number of convulsion before admission, events prior to convulsions like a headache, epigastric pain, vomiting, blurring of vision was taken. The previous history of convulsions, hypertension or gestational diabetes was recorded. General examination of patients like pulse, blood pressure, the temperature was recorded. In postpartum eclampsia, the duration between delivery and episode of convulsion, mode, and place of delivery was noted. Lab investigations like complete blood count, serum electrolytes, liver function, renal function test, ABORh, urine complete examination was sent on admission. Obstetric sonography was performed.

The statistical analysis of the data was done using SPSS version 11.0 for windows. Chi-square and Student's t-test were used for checking the significance of the data. A p-value of 0.05 and lesser was defined to be statistical significant.

Results

Table 1 shoes the demographic data of the patients. 35% of patients belong to the age group of 21-25 years followed by 31.7% patients in the age group ≤ 20 years. 80% of the patients follow Hindu religion. 70% of the patients reside in rural areas. [Fig 1]

Table 2 shows the perinatal outcomes in eclampsia patients. Live birth was seen in 33 patients, still birth in 11 patients and neonatal death was seen in 16 patients. On comparing, results were found to be statistically non-significant. (p>0.05) [Fig 2]

Table 1: Demographic data of the patients

	Variables	Number of patients	Percentage (%)
Age group (years)	≤20	19	31.7
	21-25	21	35
	26-30	12	20
	>30	8	13.3
Religion	Hindu	48	80
	Muslim	12	20
Domicile	Rural	42	70
	Urban	18	30

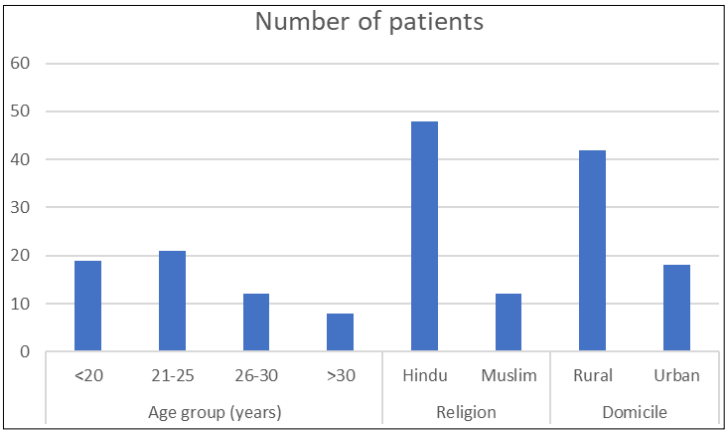

Fig 1: Demographic data

Table 2: Perinatal outcome in eclempsia patients

Perinatal outcome	Number	p-value
Live birth	33	0.21
Still birth	11	
Neonatal death	16	

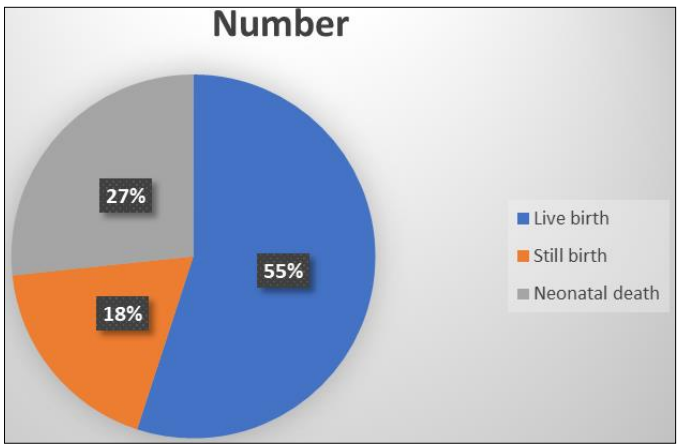

Fig 2: Perinatal outcome

Discussion

Eclampsia is a disease of young and nulliparous women. In the present study, the maximum number of patients belonged to the age group 21-25 years. Live birth was seen in 33 patients, still birth in 11 patients and neonatal death was seen in 16 patients. On comparing, results were found to be statistically non-significant. The results were compared to previous studies and were found to be statistically significant. Agida ET *et al* reviewed the presentation and management of eclampsia at the University of Teaching Hospital (UATH), the factors associated with it, the maternal and perinatal outcomes. The case notes of all the patients that had eclampsia between 1 st May 2005 and 30 th April 2008 were retrieved and analyzed. There were 4471 total deliveries within the period, out of which 59 had eclampsia, giving an incidence of 13 per 1000 deliveries. There were 5 maternal deaths, giving a case fatality rate of 8.5%. Eclampsia was commonest amongst the age group of 20-24 years (34.8%). Thirty-two patients had severe hypertension on admission (diastolic BP= 110 mmHg) while 11 (23.9%) had mild hypertension (diastolic BP 90- < 110mmHg). Twenty patients (47.8%) were managed with diazepam alone while 19 patients (41.3%) were managed with magnesium sulphate alone. Thirty nine (84.8%) were delivered through caesarean section while 5 (10.8%) were delivered vaginally. Maternal complications include 6 cases of acute renal failure and one case of visual impairment. Thirty seven babies were delivered live while 8 stillbirths were recorded. Six babies (13.0%) had very low birth weight, 14 (30.4%) had low birth weight and 16 (34.8%) had normal birth weight. They concluded that eclampsia still remains a major cause of maternal morbidity and mortality in Nigeria. More awareness and enabling factors should be created for more women to access antenatal facilities. Ugwu EO *et al* determined the effect of introducing MgSO4 on the maternal and perinatal outcomes of severe pre-eclampsia in Enugu, South eastern Nigeria. A retrospective study of all cases of severe pre-eclampsia managed at the University of Nigeria Teaching Hospital Enugu (UNTH), Nigeria, from 1 January 2005 to 31 December 2008 - 2 years before, and 2 years after the introduction of MgSO4 - was performed. The prevalence of severe preeclampsia within the study period was 3.3%. The mean age of study participants was 24.5 ± 2.9 years. Thirty women received MgSO4 while 47 women received diazepam. Eclampsia occurred only in a member of the diazepam group but there were no maternal deaths. Babies from the diazepam group were more likely to have low 1 minute Apgar scores but the association was not significant. Longer hospital stay was significantly lower among women who received MgSO4. It was concluded that MgSO4 is effective in the management of severe pre-eclamptics at the UNTH, Enugu [10, 11].

Kidanto HL *et al* evaluated the quality of care for eclamptic mothers admitted at Muhimbili National Hospital (MNH), Dar es Salaam, Tanzania after implementation of recommendations of a previous audit. Management practices were evaluated using evidence-based criteria for appropriate care. The Ministry of Health (MOH) guidelines, local management guidelines, the WHO manual supplemented by the WHO Reproductive Health Library, standard textbooks, the Cochrane database and reviews in peer reviewed journals were adopted. At the initial audit in 2006, 389 case notes were assessed and compared with the standards, gaps were identified, recommendations made followed by implementation. A re-audit of 88 cases was conducted in 2009 and compared with the initial audit. There was significant improvement in quality of patient management and outcome between the initial and re-audit: Review of management plan by senior staff, urine for albumin test, proper use of partogram to monitor labour, treatment with steroids for lung maturity, Caesarean section within 2 hours of decision, full blood count, serum urea and creatinine, liver enzymes, and specialist review within 2 hours of admission. However, there was no significant change in terms of delivery within 24 hours of admission. There was significant reduction of maternal deaths. They concluded that CBA is applicable in low resource setting and can help to improve quality of care in obstetrics including management of pre-eclampsia and eclampsia. Aabidha PM *et al* studied the effects of pre-eclampsia on the mother and the fetus in rural South Indian population. This was a descriptive study conducted in a secondary level hospital in rural South India. A total of 1900 antenatal women were screened for pre-eclampsia during the period August 2010 to July 2011 to study the effects on the mother and fetus. Of the 1900 women screened 93 were detected with pre-eclampsia in the study. Among these, 46.23% were primigravida, 30.1% belonged to socio-economic class 4 and 48.8% were among those with BMI 26–30. The incidence of severe pre-eclampsia was higher in the unregistered women. The most common maternal complication was antepartum hemorrhage (13.9%) and the most common neonatal complication was prematurity (23.65%). It was concluded that treating anemia and improving socioeconomic status will improve maternal and neonatal outcome in pre-eclampsia [12, 13].

Conclusion

From the results of the present study, we conclude that inadequate antenatal care or delay in diagnosis in patients with eclampsia can lead to poor outcome of eclamptic women and their neonates. So, steps should be taken to diagnose eclampsia early and provide treatment at early stages to avoid any further complications.

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