



Eclampsia: Analysis of Factors Leading to Morbidity in Indian Scenario

KEYWORDS

Maternal Mortality

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ABSTRACT *Introduction: Eclampsia is a leading cause of maternal and perinatal mortality and morbidity worldwide. Incidence of eclampsia in India has been reported as 3.2 per 1000 deliveries. Deaths due to eclampsia are secondary to preventable factors. Aim of the study is to identify the etiological factors and lacunae in health care delivery responsible for eclampsia.*

Material and methods: A retrospective study of 100 women diagnosed as eclampsia at Maharaja Agrasen Medical College, Agroha from January 2011 to June 2013 was done. Demographic information was obtained. Detailed history of prior antenatal care, premonitory symptoms, time of convulsions, blood pressure and urine albumin at time of convulsion, any primary treatment at referral, time lapsed during transfer of patient were taken. Continuous variables were summarized with mean and standard deviation. Categorical variables were summarized using number and percentages.

Results: Majority of patients were primigravida (66%) and in between 21–25 years (61%). 72% women had no antenatal visits. 83% of the women had premonitory symptoms. Most patients convulsed in antenatal period (78%) with very few in intranatal (13%) and postnatal (9%) period. Only 23% of cases received MgSO₄ and 31% treated with antihypertensives at the periphery. 16% patients were referred in <2 hours, 65% in 2-4 hours and 19% in > 4 hours.

Conclusion: It can be concluded that better antenatal care, proper surveillance during antenatal period, robust referral systems and infrastructure at primary and secondary health care centres, early initiation of treatment of eclamptic patients and strengthening of tertiary health care systems can improve outcome.

Introduction:

Eclampsia is a leading cause of maternal and perinatal mortality and morbidity worldwide. Incidence of eclampsia in India has been reported as 3.2 per 1000 deliveries[1]Deaths due to eclampsia are secondary to preventable factors like cerebrovascular haemorrhage, Acute Renal Failure (ARF), coagulation failure, aspiration pneumonia, pulmonary oedema, Ante Partum Haemorrhage (APH) or Postpartum Haemorrhage (PPH)[2-4]. Perinatal mortality is reported to be 5% to 11% in developed countries where as it is as high as 40% in developing countries [3-4]. Provision of timely and effective care to the women diagnosed with preeclampsia and eclampsia is important for avoiding the majority of morbidity and mortality caused by this disorder. Aim of the study is to identify the etiological factors and lacunae in health care delivery responsible for the eclampsia.

Material and methods:

A retrospective study of 100 women diagnosed as eclampsia at Maharaja Agrasen Medical College, Agroha from January 2011 to June 2013 was done.

Inclusion criteria:

Women with systolic blood pressure of ≥ 140 mmHg, diastolic blood pressure of 90 mmHg & proteinuria of at least 1 plus and convulsions in patients with no background history of seizure disorder were retrieved.

Exclusion criteria:

Patients with any background history of seizure disorder

Methods:

Demographic information was obtained. Detailed history

of prior antenatal care, history of PIH during pregnancy, time of convulsions, blood pressure and urine albumin at time of convulsion, any primary treatment at referral, time lapsed during transfer of patient were taken.

Statistical analysis:

Data was analyzed using SPSS version 15. Continuous variables were summarized with mean and standard deviation. Categorical variables were summarized using number and percentages.

Results:

The incidence of eclampsia was more in primigravida (66%). With regards to maternal age, majority of the parturients (61%) were in between 21–25years. 8% were teenage mothers. 72% women had no antenatal visits.

83% of the cases had prior complaint with headache, visual problem, epigastric pain or vomiting. Blood pressure at time of convulsion ranged 140/90 to 160/100 (61%) , >160/100(30%) , <130/90 (9%) ,with urine albumin +3 to +4 (76%), +1 to+2 (18%), <+1 (6%).

23% patients reported directly in the Emergency Department of the Institute. Most of the cases were referred (77%) in which PHC and CHC contributed maximum(64.93%). 20.77% patients were referred from Civil Hospitals and 14.28% from private hospitals.

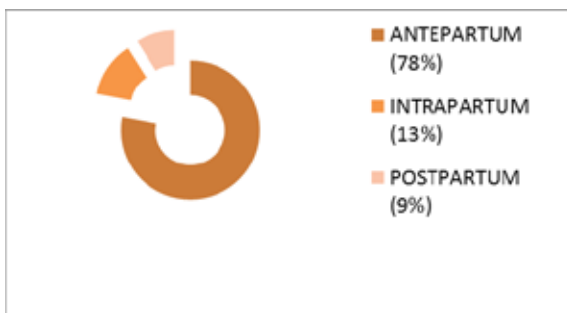
16% patients were referred in <2 hours, 65% in 2-4 hours and 19% in > 4 hours(Fig 1). Most patient convulsed in antenatal period (78%) with very few in intranatal (13%) and postnatal(9%) period(Fig 2). Only 23% of cases were given

MgSO₄ and 31% treated with antihypertensives before reaching our institute.

Fig 1: Referral Time



Fig 2: Time of Convulsions



Discussion:

The quality of care a woman receives in antenatal period has a significant impact on the outcome of the pregnancy. Antenatal care may protect mothers from complications due to pregnancy including eclampsia. Timely diagnosis and proper management prevent the complications of eclampsia. Provision of effective antenatal care is not just dependent on its availability, but also its quality, and awareness among people. Surprisingly 72% of the women had received no antenatal care before the onset of convulsions. Only 28% of the women were seen by the doctor before the onset of convulsions.

More than half of the patients had antepartum eclampsia. 83% of the patients had premonitory symptoms. Urine albumin in the range of +3 to +4 was present in 76% women. This shows a delay in recognising the signs and symptoms of the disease. Moreover, referral time was also prolonged in the majority. Antenatal care and timely recognition of symptoms may have improved fetomaternal outcome.

This statistics shows the contribution of root level of health centres to the bulk of disease. Detection of suspected pre-eclampsia and eclampsia in rural primary health centres as part of routine high-quality antenatal care is of no benefit unless robust referral systems and infrastructure are in place to enable the pregnant women to access quality and timely care.

A significant number of patients were referred from private health facilities hence the need for public-private collaboration in strengthening the referral system is required.

There is now substantial evidence to show that magnesium sulphate, a low cost treatment, is effective in preventing and controlling seizures caused by eclampsia[5]. It is yet to be used widely in our country. Only 23% of the referred patients had received MgSO₄.

Anticonvulsants and antihypertensives should be made available to all the health facilities that offer reproductive

health services. Guidelines are to be made available in all the health facilities as these recommend standard treatment to patients. Knowledge of healthcare workers has to go hand in hand with the availability of essential supplies to screen and manage patients with preeclampsia and eclampsia to reduce maternal morbidity and mortality.

Conclusion: It can be concluded that better antenatal care, proper surveillance during antenatal period, robust referral systems and infrastructure at primary and secondary health care centres, early initiation of treatment of eclamptic patients and strengthening of tertiary health care systems can improve outcome.

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