

FETOMATERNAL OUTCOME IN ECLAMPTIC PATIENTS: A STUDY IN A TERTIARY CARE CENTRE

Abida Rehman¹, Shazia Majid¹, Jam Riaz²

ABSTRACT

Background: Eclampsia contributes significantly to maternal and perinatal morbidity in our country. **Objective:** The objective of this study was to determine the frequency of the disease, its management and outcome in tertiary care hospital; moreover the effect of introduction of modified dose of MgSo₄ in the control of eclamptic seizures was also assessed. **Patients and Methods:** This descriptive study was carried out in Gynae unit I, Sheikh Zayed Hospital, Rahim Yar Khan from 1st January 2008 to 31st January 2009. Diagnosis was based on history and on clinical findings of hypertension, oedema, proteinuria superimposed with fits. All pregnant ladies presenting with fits, oedema, proteinuria and increased blood pressure were included in this study and their history, physical findings and baseline investigations were noted. Patients with history of fits in pregnancy, during labour or in perpuerium other than eclampsia were excluded from the study. All the patients with eclampsia were treated with MgSO₄ gm intravenous loading dose and 10 gm intramuscular maintenance dose. The data was entered and analyzed in SPSS version 15. **Results:** 12049 pregnant patients were admitted during this time period in labour room. Out of these, eclamptic patients delivered were 120 (0.99%). Primigravida were 49%, multigravida were 51%. Regarding mode of delivery patients delivered vaginally were 80 (66.6%) and with caesarean section were 40 (33.3%). Regarding fetal outcome fresh still births were 15 (12.5%). Early neonatal deaths were 10 (0.8%). Perinatal mortality rate in our study was 20.8%. Regarding maternal outcome 17 patients out of 120 eclamptic patients develop complications. 4 patients developed renal failure (3.3 %). 2 patients develop HELLP syndrome, 4 patients shifted to ICU due to HELLP syndrome and DIC. 5 patients (4.1%) died despite of intensive care. These patients were received in critically ill condition. Almost all of these patients present with eclamptic fits were unbooked patients. In this study MgSo₄ was the drug of choice to control the seizures. It helps in reducing the maternal morbidity and mortality which is comparable with the other studies in world. **Conclusion:** This study is in the favor of the findings that MgSo₄ is superior drug in the reduction of maternal morbidity and mortality. Eclampsia occurring in unbooked patients is still one of the major cause of maternal mortality and morbidity and antenatal care will significantly reduce the incidence and improve the outcome especially in teenage nullipara who are mostly susceptible.

Key words: Eclampsia, MgSo₄, Outcome.

INTRODUCTION

Eclampsia and pre-eclampsia are important causes of morbidity and mortality during antenatal and postnatal time period.¹ Eclampsia is defined as occurrence of convulsions associated with signs of pre-eclampsia, hypertension and proteinuria during pregnancy, labour or within 7 days of delivery not caused by epilepsy or other causes.²

1.6 to 10 cases per 10,000 deliveries in developed countries and in developing countries it varies from 6 to 157 cases per 10,000 deliveries. Hypertensive disorders are the leading cause of maternal and fetal mortality in developing countries like Pakistan. Eclampsia is the common

cause of iatrogenic prematurity, IUGR and deaths in newborn.^{3,4} Despite considerable research, causes of pre eclampsia remain unclear and there are no clinically useful screening tests to indentify women in whom it will develop.⁵

Pre eclampsia is fundamentally related to poor trophoblastic invasion in the myometrium and this result in maternal spiral arteries being hampered in the normal physiological vasodilatation. It is clear that impaired intervillous blood flow results in inadequate perfusion and ischemia in the 2nd half of the pregnancy. This results in production of reactive oxidizing radicals. Either through oxidative stress or other vasoactive substances being released from placenta, activation of vascular endothelium occurs. Markers of endothelial damage are frequently raised. In addition there is abnormality in lipid profile, such that triglycerides and free fatty acids are roughly doubled.⁶ Early pregnancy dyslipdemia is associated with increased risk of pre eclampsia. For the management of eclamptic fits first general measures like A,B,C (airway, breathing, blood circulation) are maintained. MgSo₄ is drug of choice being used in

1. Department of Obstetrics and Gynaecology, Sheikh Zayed Medical College/Hospital, Rahim Yar Khan.

2. Department of Pharmacology, Sheikh Zayed Medical College, Rahim Yar Khan.

Correspondence: Dr. Abdia Rehman, Assistant Professor, Department of Obstetrics and Gynaecology, Sheikh Zayed Medical College / Hospital, Rahim Yar Khan.

Phone: 03017704947, **Email:** drabidariaz@yahoo.com

eclamptic patients to control fits as compared to other anti convulsants like diazepam and phenytoin. Mainstay of the treatment is the delivery of the mother to decrease maternal and perinatal mortality.⁷

Purpose of this study was to report the frequency of the disease, its management and outcome in tertiary care hospital; moreover the effect of introduction of modified dose of MgSO₄ in the control of eclamptic seizures was also assessed.

PATIENTS AND METHODS

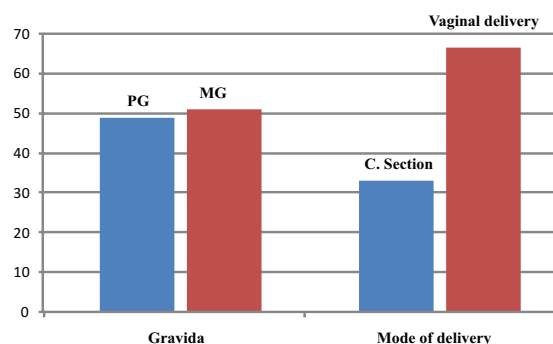
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RESULTS

This was a study to find out the maternal & fetal outcome that was treated with MgSo4. All demographic features, gravidity, mode of delivery, fetal outcome and complications of eclampsia were collected on a structured proforma. Total number of admission during the study period were 12049 and total number of deliveries were 8403. Out of these total patients eclamptic patients were 120 (0.99%).

All the patients were unbooked. 65 (54%) cases had hemoglobin 8g/dl or below, 41 (34.1%) 9-10 g/dl and 14 (11.67%) had hemoglobin of 11g/dl or above. It was noted that 63(52.5%) belonged to poor class, 47 (39.1%) middle and 10 (8.3%) belonged to upper class. It was noted that 49% were primigravida (PG) and 51% were multigravida (MG) and 33% delivered their baby by cesarean section. (Figure: I)

Figure I: Gravidity and mode of delivery



Out of 120 cases of eclampsia, 25 perinatal mortalities were encountered. 95 babies were sent to paediatric unit and survived after management. (Figure II).

Figure II: Perinatal outcome

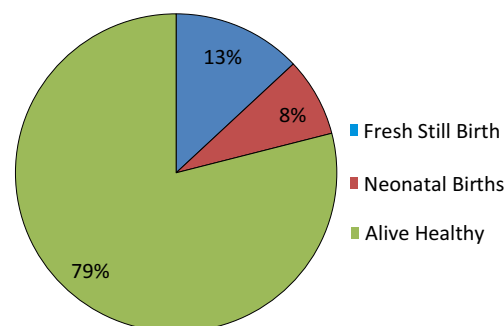


Table I: Maternal Complications

Complication	No	Percentage
Hellp syndrome	2	1.6%
Cardiac failure	4	3.33%
Renal Failure	4	3.33%
Disseminated intravascular coagulation	2	1.6%
Death	5	4.1%

2 patients (1.6%) presented with fits were found to be the case of Hellp syndrome. These patients were managed in high dependency unit in collaboration with the physician & hematologist. Fresh frozen plasma and platelet concentrate were given. 4 patients (3.3%) developed renal failure, 4 patients (3.3%) developed cardiac failure, 2 patients developed DIC and were shifted to intensive care unit. In spite of aggressive intensive care and management 5 patients of eclampsia died due to multiorgan failure & DIC. (Table I)

DISCUSSION

Eclampsia and pre eclampsia are important causes of morbidity and mortality during the child birth and puerperium.⁷ A major problem for preventing and treating eclampsia is that pathogenesis of the condition is not known exactly. As pre- eclampsia had no preventive strategy, its management relies on early detection, control of its manifestation such as hypertension and ultimately delivery of fetus and placenta.⁸ Most of the patients in our study belonged to low socio economic status. In our study poor patient are 63 (52.5%), middle class 47 (39.16%) and upper class 10 (8.33%). It is comparable to study conducted in the department of obstetric & gynaecology, Saidu Medical College Swat.⁹

Out of 120 patients, 65 (54%) had hemoglobin 8gm/dl or below, 41(34%) had hemoglobin of 9-10 gm/dl and only 14(11%) had hemoglobin of 11 gm/dl or above. It is comparable to study in Northern Nigeria in which association between anemia & eclampsia has been found.^{10,11}

In our study the frequency of eclamptic patients was 0.99% which is in contrast to a study in Ayyub Medical College which is 1 in 34.4 deliveries of pre eclampsia and 1 in 25.5 deliveries of eclamptic patients.¹² In our study MgSo₄ was given 4gm I/V in loading dose + 10gm I/V similar to study of MgSo₄ therapy in eclampsia SOKOTO. It was cohort study of eclamptic patients admitted between July 2007 June 2008. Limited dosage of MgSo₄ (4gm I/V + 10gm I/M) was effective in 92.6% of cases in study group which is comparable to 90% recovery in our study.¹³ MgSo₄ was effective in preventing recurrence in eclamptic fits and safe for both mother and fetus.¹⁴ MgSo₄ is superior to diazepam in reduction of maternal morbidity and mortality in eclampsia.⁷

In our study among the eclamptic patients 49% were primigravida as compared to the incidence in Irrua specialist teaching hospital, where eclampsia was disproportionately higher in younger PG (74.32%).¹⁴ In another study in Kuwait PG out of 233 patients were 51.8%, which is comparable to our study.¹⁵ Regarding mode of delivery the caesarean section rate was reported 53%, which is higher as compared to our study in which was 33%. We used prostaglandin to induce the labour in these patients which is very effective

for the normal delivery.

ICU admission rate was 8.2% which is comparable to critical care management of eclamptic challenges in African setting.¹⁶ Regarding the perinatal mortality rate, in the Kuwait study it was 27/1000 live births overall where as in our study it was 3/1000 live births in eclamptic.¹⁵ In the same study hellp syndrome occurred in 1 patient of eclampsia out of 30 patients (3.33%) whereas in our study it was 2 (1.6%) in 120 patients which is comparatively less in our study.¹⁵ Being a veritable health problem in our country we need to improve antenatal follow-up by increasing the mother awareness and by facilitating access to the medical care.

CONCLUSION

Eclampsia occurring in unbooked patient is still one of major causes of maternal mortality and good antenatal care significantly reduces the incidence and improve outcome especially in teenage nullipara who are mostly susceptible. Majority of the patients were anemic, belonged to low economic status, and most of the cases delivered by vaginal mode. The doses of MgSo₄ 4gm loading dose and 10gm intramuscularly (maintenance dose) was effective in controlling the fits. Properly conducted, randomized controlled trial is needed to test our proposed management of eclamptic patient.

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