Original Article

Gynae & Obs

Eclapsia: Still a Major Cause for Adverse Maternal and Perinatal Outcome

1. Kulsoom Bhatti 2. Azad Ali Lashari 3. Fouzia Shaikh 4. Rubina Hafeez

1. Asstt. Prof., Obs & Gynae 2. Asstt Prof. of Surgery 3. Assoc. Prof., Obs & Gynae 4. Sr. Registrar, Obs. & Gynae., Ghulam Mohammad Mahar Medical College Hospital, Sukkur

ABSTRACT

Objective: To determine the frequency of eclampsia and to investigate the maternal and perinatal outcome of the condition in order to identify whether further improvements can be made to the care of women by early interventions.

Study Design: A descriptive observational study.

Place and Duration of Study: This study was conducted at the Department of Obstetrics and Gynaecology, Ghulam Muhammad Mahar Medical College Teaching Hospital Khairpur Mir's Sindh, during one year period from 1st January to 31st December 2010.

Material and Methods: All patients presenting with eclampsia in the labour room were included in the study. The diagnosis was based on case definition and was managed according to the set protocols. Data was recorded on pre-designed Performa.

Results: A total of 2796 patients were admitted in labour room during the study period and out of them total cases of eclampsia were 81 patients thus contributing 2.89% of the total admission. Most of the patients were unbooked only 11% patients were booked. 49% of women had first fit in the antenatal period, 37% in intrapartum while 13.5% had first fit in postpartum period. Headache and raised blood pressure was found in 85% of cases. 91% of women received magnesium sulphate , platelet count <150,000/m^3 were found in9.8%, deranged LFT in 14.8% women and abnormal renal function test were found in 34% . Mode of delivery was caesarean section in 57% patients, vaginal delivery in 34.2%. Two patient needed hysterectomies due to severe PPH, 4 maternal deaths were observed in study population. Regarding perinatal outcome 35 fetuses born with LBW, 26 were still born and 9 died in neonatal period.

Conclusion: Eclampsia has strongly significant adverse impact on mother and fetus, which could be avoided by provision of integrated, adequate MCH services especially during antenatal period.

Key Words: Eclampsia, Antenatal, Postnatal, Magnesium Sulphate, Fits.

INTRODUCTION

Eclampsia is an unpredictable multiorgan disorder unique to human pregnancies. It is relatively rare but serious complication of pregnancies.[1]

Eclampsia itself is not usually life threatening, but is associated with severe disease, and women will usually die from unrelated complications of eclampsia.[2]

In eclampsia complications occur due to reduced organ perfusion because of vasospasm and activation of the coagulation cascade affecting organs. Nervous system is commonly affected and is the cause of significant morbidity and death in these women.[1]

A woman's life time risk of maternal death is 1:7300 in developed countries against 1:75 in developing countries.[3]

Prevalence of eclampsia varies widely over the globe according to standard of living. It is 5-7/10,000 deliveries in US while in developing nations it ranges from 1/100 pregnancies to 1/1700 pregnancies.[4]

Eclampsia is the occurrence of generalized tonic clonic convulsions usually in association with hypertension and or proteinuria after 20 weeks of pregnancy in the absence of neurological or metabolic cause.[5] It can occur antepartum (during pregnancy), intrapartum (during labour) or postpartum (after delivery).

Pakistan being a developing country is still facing challenges of high maternal and perinatal mortality, study from Peshawar reported prevalence of 1.65%, another study from Abbotabad reported prevalence of eclampsia in 3.23% of deliveries and perinatal mortality rate of 3.5-8% where as maternal mortality rate of 16.6%.[6] Complications associated with eclampsia are cerebral hemorrhage, pulmonary oedema, adult respiratory distress syndrome (ARDS), cardiac failure, renal failure, HELLP syndrome.[7]

Cerebral hemorrhage is the most frequently reported primary cause of maternal death in eclampsia.

MATERIAL AND METHODS

A descriptive study was conducted over a period of one year from January to December 2010 at department of Obstetrics and Gynaecology, Ghulam Muhammad Mahar Medical College Teaching Hospital Khairpur Mir's Sindh.

The purpose of this study was to review all cases presenting in the department diagnosed as eclampsia to describe the current frequency of eclampsia and fetomaternal outcome of the problem.

Eclampsia was defined as the occurrence of generalized tonic clonic convulsions in association with hypertension and or proteinuria after 20 weeks of gestation in the absence of neurologic, metabolic or other organic cause.[8]

Non probability purposive sampling was done to include all cases of eclampsia presenting on emergency of Obstetrics and Gynaecology department. Details of patients age, parity, gestational age, type of eclampsia, mode of delivery. Maternal outcomes of eclampsia measured in terms of surgical intensive care admission, acute renal failure, pulmonary oedema, prolonged hospital stay and maternal death were recorded on pre-formed Performa. Fetal outcome measures included live births, preterm birth, still birth, low birth weight, neonatal intensive care admission and neonatal death which were similarly recorded. Data was analyzed by using SPSS version 10.

RESULTS

A total of 81 cases presented at Obstetrics and Gynaecology department of Ghulam Muhammad Mahar Medical College Teaching Hospital Khairpur during one year period.

Total admissions of obstetrics patients were 2796 and frequency of eclampsia were 2.8%.

Only 9 (11%) patients were booked and ratio of unbooked patients was 72(88.8%) which referred from other health facilities. Age range of patients was 16-43 years with mean age of 27 years shown in (Table:1)

Table No. 1: Age Distributions of Patients N=81

Age of patients	Number	Percentage
<20 years	05	6.1%
21-29years	55	67.9%
30-39years	16	19.7%
40 and >40 years	04	4.9%

Regarding parity majority 45(55.5%) were nulipara, 35.6% with low parity and 8.6% patient were grand multipara.

Antepartum eclampsia was most frequent (n=40, 49%) type followed by intrapartum (n=30, 37%) as shown in (Table: 2).

Table No.2: Types of eclampsia N=81

Type of fits	Number	Percentage
Antepartum fits	40	49%
Intrapartum fits	30	37%
Postpartum fits	11	13.5%

Most of the patients presented with gestational age <35 weeks. Regarding risk factor for eclampsia shown in (Table:3)

Regarding mode of delivery (n=40, 57%) were delivered by caesarean section, (n=24, 34.2%) were delivered by vaginal route. 6 patients needed assisted vaginal delivery due to prolong 2nd stage. Eleven patients delivered outside the hospital they all presented with postpartum eclampsia.In Table:4 shows maternal and perinatal out come data.

Table No.3: Risk factors for eclampsia N=81

Risk factors	Frequency	Percentage
Nuliparity	44	55.5%
Family h/o hypertension	15	18.5%
Previous h/o PIH	10	12.3%
Previous H/O eclamptic fits	08	9.8%

Table No.4: Maternal and perinatal outcome N=81

Maternal outcome	n% Measures	Perinatal outcome	n% Measures
Intensive care addmission	49 60.4%	Live births	44 62.8%
Renal failure	03 3.7%	Still born	26 37.7%
Pulmonary oedema	06 7.4%	Neonatal deaths	09 12.8%
Thrombo-cytopenia Plat: <150,000	08 9.8%	Preterm births	28 40%
Obstetric hysterectomy	02 2.4%	NICU admission	10 14.2%
Maternal deaths	04 4.9%	LBW <2.5kg	35 50%
Prolonged hospital stay = Observed in all pts:		IUGR	42 60%

NICU= Neonatal intensive care unit, LBW= Low birth weight, IUGR= Intrauterine growth restriction.

There are 4 maternal deaths were observed in eclamptic patients due to pulmonary oedema, cardiac failure, brain hemorrhage, renal failure and HELLP syndrome.

Total hospital stay was prolonged in all eclamptic patients who range from 10-12days.

Among perinatal out come measures (Table:4) live birth (n=44, 62.8%) while still born rate was (n=26, 37.7%) and 9 babies expired during first week of life. Risk factors behind bad perinatal outcome were prematurity, low birth weight, birth asphyxia and infections.

DISCUSSION

A high frequency of eclampsia and most of patients are unbooked shows that lack of antenatal care as our major problem. This frequency of 2.8% is higher than reported in local study from Peshawar where it was 10.4/1000 deliveries.[9] Where as another study from Faisalabad reported frequency of 1.4% and from Sobraj hospital Karachi it was reported in 2004 as 0.51%, But this is lower than reported from Abbottabad.[10]

Booking and antenatal care remains the corner stone for prevention of severe pre-eclampsia and hence

eclampsia. Most of our women never received antenatal care and were unbooked similar to many other studies reported from different parts of the country.[11]

Antepartum eclampsia was seen in 49% patients, intrapartum in 37% and postpartum in 13.5% previous history of PIH was found in 12.3% and history of eclampsia in last pregnancy was found in 9.8% of study population. Thus there is a need in prenatal care to identify such patients and screen than with available modalities such as uterine artery Doppler in order to take preventive steps in early management.

Majority of patients 40(49%) had eclamptic fits before delivery during antenatal period similar results reported by Mussarat from Peshawar, 36(60%) and 14 (23.3%) patients has fits in antepartum and postpartum period respectively.[12]

Ninety one percent patients received Mgso4 as an anticonvulsant agent and were monitored clinically as they remain well during therapy and none of them had serum magnesium levels done as it has been shown in the literature that Mgso4 toxicity can appropriately be monitored clinically and not necessarily by serum level.[13]

There was four maternal deaths giving a case fatality rate of 4.9% which is quite different to a study from Peshawar which is 8% and 16.9% in another study from Peshawar,[6] and 13.6% from Faisalabad.[14,15]

This may be as a result of immediate management with magnesium sulphate availability and ventilator support with intensive care management.

In our study causes of maternal deaths was severe pulmonary oedema, renal and cardiac failure. Two patients had obstetrical hysterectomy due to severe PPH; five patients referred to urology department for dialysis. Eight (9.8%) patients had platelate count <150,000.

The perinatal mortality rate of 45.7% and causes behind high perinatal mortality was prematurity and low birth weight.

CONCLUSION

This study highlights that we are still facing the challenges of this life threatening complication depicting a severe disease spectrum.

Recommendations:

Eclampsia has strongly significant adverse impact on mother and fetus, which could be avoided by provision of integrated, adequate MCH service especially during antenatal period. Incidence can be decreased by picking up the cases of pre-eclampsia from community at an early stage by giving adequate information to community and pregnant ladies about seriousness of problem.

REFERENCES

1. Report of the National High blood pressure Education program working group on High Blood Pressure in pregnancy. Am J Obstet Gynecol 2000; 183(1):s1-s 221.
2. Douglas KA and Redman CWG Eclampsia in the United Kingdom. Br Med 309,1395-400.
3. Lewis G, editor. Why Mother Die 2000-2002. The sixth Report of the confidentional Inquires in to Maternal Death in the United Kingdom London: RCOG Press; 2004.
4. Shah AK. Pre-eclampsia Eclampsia. Available in http// e medicine. Medscape com / article/ 1184270 overview (cited on 15.2.2010).
5. Walfisch A, Hallak M. Hypertension. In: James DK, Steer PJ, Weiner CP. Gonik B, editors, High risk pregnancy management options. 3rd ed. Philadelphia: Elsevier; 2006.p.772-97.
6. Shaheen B, Hassan L, Obaid M. Eclampsia: a major cause of maternal and perinatal mortality, a prospective analysis at a tertiary hospital of Peshawar. J Pak Med Assos 2003.
7. Gracia P, V-de. Maternal deaths due to eclampsia and HELLP syndrome. Int J Gynecol Obstet 2009; 104: 90-94.
8. Waseem T, Gull M, Sidique S. Eclampsia a major cause of maternal and perinatal morbidity and mortality. Professional Med J 2004;11(3):328-33.
9. Gilani S, Hussan L. Eclampsia a major cause of maternal mortality. JPGMI 2002;16(1): 97-102.
10. Sultana R, Basher R, Khan B. Presentation and management outcome of eclampsia at Ayub Teaching Hospital, Abbottabad. J Ayub Med Coll 2005;17(2):59-62.
11. Amed R, Megenisum sulphate as an anticonvulsant in the management of eclampsia. JCPSP 2004;14 (10): 605-607.
12. Babar MJ. An audit of Eclampsia and comparision with data collected 10 years ago. J Postgrad Med Inst 2004; t 18 (2): 230-6.
13. Safe Mother Hood Introducing Magnesium sulphate for the management of pregnancy induced Eclampsia. Available from, http://WWW.Ke undp. org/MGGSO5 Status pdf cited on 15.8.2011.
14. Bashir A, Yasmeen N, Aleem M. Management of eclampsia; 7 years study in Faisalabad. Professional Med J 1997;4(4): 357-66.
15. Jamil S.N, Akhter S. Maternal outcome in eclampsia. L Med Sci 2005;13(2):161-4.

Address for Corresponding Author:
Dr. Kulsoom Bhatti
Senior Registrar, Obstetrics and Gynaecology.
Ghulam Muhammad Mahar Medical College Sukkur.
Cell # 03083234318
Email bhattikulsoom@ymail.com