Original Research Article

Evaluation of eclampsia patients admitted in department of obstetrics & gynecology at tertiary care centre

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Abstract

Introduction : Eclampsia is an important cause of maternal mortality but it can be prevented by knowing avoidable causal factors, effective medical treatment & early termination of pregnancy. **Aims & objective:-** Evaluations of eclampsia patient admitted during study duration Method :- Prospective study performed on 90 patients of eclampsia admitted in kamlaraja hospital, GR medical college Gwalior from may 2014-december2014 .**Results:**Out of 90 patients, 80% patients were lesser than 25 years of age. 73% eclampsia cases were antepartum, 93% patients were primigravida . Most of them were unbooked cases. 75% cases were from rural areas which were referred from periphery. All the patients received Mgso4 prior to or after being received at our centre. Operative delivery is better option to shorten the labor thus reducing maternal mortality rate in eclampsia. **Conclusion:-**Eclampsia is mostly preventable, but still causes mortality due to pitfalls in socio-economic system. We should train our healthcare providers in managing high risk cases and there preliminary treatment, as majority cases in our study were young, unbooked, poor and referred

Keywords: Eclampsia, HELLP, DIC, Mgso4

Introduction

Eclampsia,which is considered a complication of severe preeclampsia, is commonly defined as new onset of grand mal seizure activity and/or unexplained coma during pregnancy or postpartum in a woman with signs or symptoms of preeclampsia. It typically occurs during or after the 20th week of gestation or in the postpartum period. Nonetheless, eclampsia in the absence of hypertension with proteinuria has been demonstrated to occur in 38% of cases reported in the United Kingdom. Similarly, hypertension was absent in 16% of cases reviewed in the United States.

The clinical manifestations of maternal preeclampsia are hypertension and proteinuria with or without coexisting systemic abnormalities involving the kidneys, liver, or blood. There is also a fetal manifestation of preeclampsia involving fetal growth restriction, reduced amniotic fluid, and abnormal fetal oxygenation.HELLP syndrome is a severe form of preeclampsia and involves hemolytic anemia, elevated liver function tests (LFTs), and low platelet count.

Most cases of eclampsia present in the third trimester of pregnancy, with about 80% of eclamptic seizures occurring intrapartum or within the first 48 hours following delivery. Rare cases have been reported before 20 weeks' gestation or as late as 23 days' postpartum. Other than early detection of preelampsia, no reliable test or symptom complex predicts the development of eclampsia. In developed countries, many reported cases have been classified as unpreventable[1,2].

A syndrome is defined as two or more afflictions or co-morbidities and socio-economic factors combine to meet a threshold of a burden of disease perhaps, this model 'fits' the emergence of pre-eclampsia and convulsions associated with pre-eclampsia is known as eclampsia (Lelia Duley)[3]

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- Varandaeus coined the term eclampsia in a treatise on gynecology[4].
- Eclampsia, a Greek word meaning shining forth.
- It is defined as the clinical presentation of an unexplained seizure, convlusion or altered mental status in the setting of preeclampsia, usually occur after 20 weeks of pregnancy or in post partum period.
- Incidence ranges from 1 in 2000 to 1 in 4000 pregnancies in Western world.
- Eclampsia is an important cause of maternal mortality in many parts of Africa, Asia, Latin America and Caribbean (Chaudhary P)[5,6].
- This study has been done in our hospital to know the risk factors and avoidable factors to prevent eclampsia and to decrease caesarean section incidence and to known effective management of caesarean section.

Aims and Objectives

1. To know the avoidable causative factors in our situation.
2. To know the social preventable causes.
3. To know the effective medical treatment.
4. To know the effective mode of delivery whether normal vaginal delivery or LSCS.

Material and methods

It is a prospective study of 90 cases of eclampsia admitted at Kamla Raja Hospital, G.R. Medical College & J.A. Group of Hospitals, Gwalior (M.P.) for the study period from May 2014 to December 2014.

Inclusion criteria

All antenatal and postnatal patients with eclampsia

Exclusion criteria

1. Antenatal patients with history of epilepsy.
2. Antenatal patients with history of cerebral stroke.
3. Antenatal patient with history of cerebral malaria.
4. Antenatal patients with history of any undiagnosed convulsion.

Results

Table 1: Distribution of cases according to age

S.No.	Age group (in yrs)	No. of cases	Percentage
1.	<20	12	13.33
2.	21-25	60	66.67
3.	26-30	15	16.67
4.	> 30	3	3.33
	Total	**90**	**100**

Above table shows that maximum number of patients of eclampsia are under 21-25 yrs of age i.e. 60 (66.67%) cases out of 90.

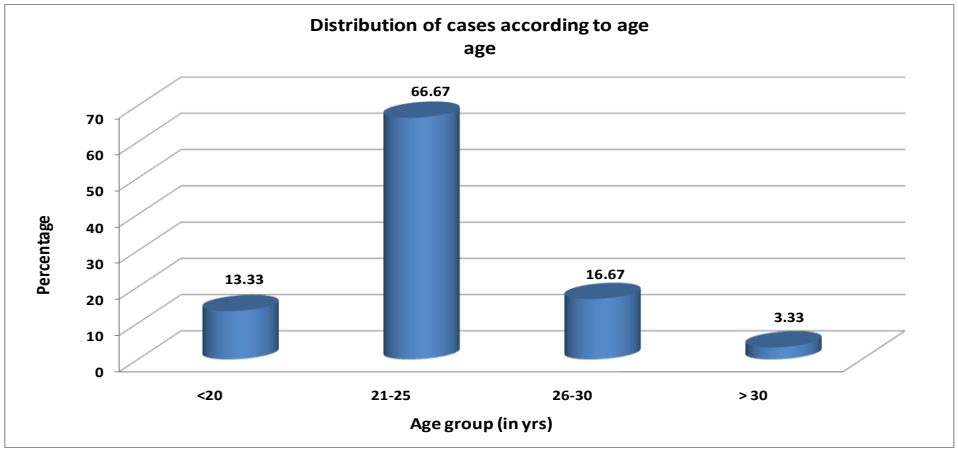

Table 2: Distribution of cases according to parity

S.No.	Parity	No. of cases	Percentage
1.	Primigravida	69	76.67
2.	2nd gravida	14	15.57
3.	3rd gravida	5	5.56
4.	> 3rd gravida	2	2.23
	Total	**90**	**100**

Above table shows that maximum number of patients of eclampsia are primigravida 69 (76.67%) out of 90.

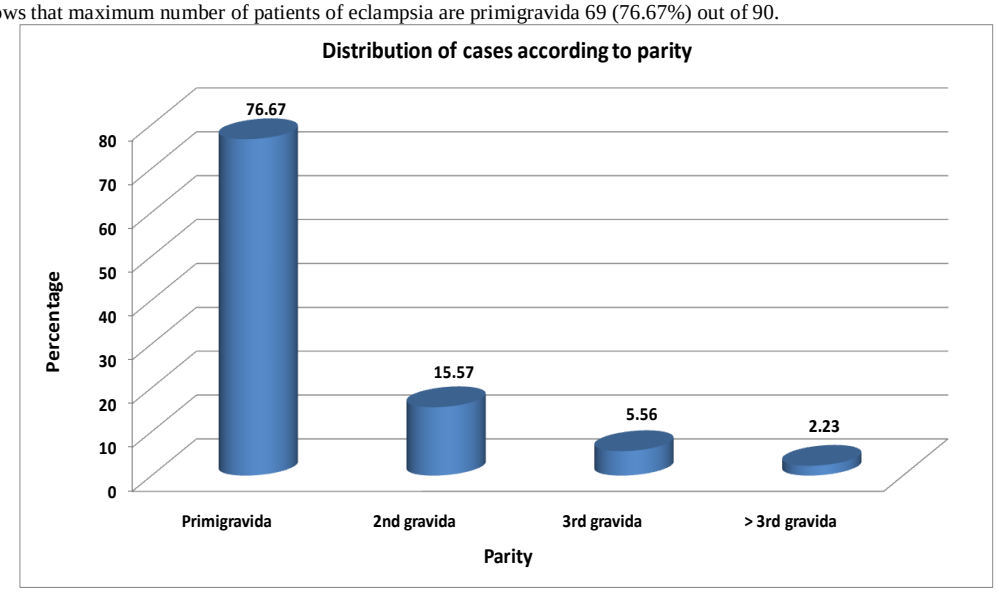

Table 3: Distribution of cases as Direct/Referred

S.No.	Direct/Referred	No. of cases	Percentage
1.	Referred	68	75.56
2.	Direct	22	24.44
	Total	**90**	**100**

Above table shows that maximum number of patients of eclampsia are referred i.e. 68 (75.56%) out of 90.

Table 4: Distribution of cases as Booked/Unbooked

S.No.	Booked/Unbooked	No. of cases	Percentage
1.	Booked	1	1.11
2.	Unbooked	89	98.89
	Total	**90**	**100**

Above table shows that maximum number of patients of eclampsia are unbooked i.e. 89 (98.89%) out of 90. Only 1 patient is booked.

Table 5: Distribution of cases according to condition at the time of admission

Condition at admission	No. of patients	Percentage
Comatose with convulsion	50	55.57
Convulsion with giddiness	12	13.33
Convulsion with headache	4	4.44
Headache	5	5.56
Blurring of vision	8	8.89
Epigastric pain	1	1.11
Total	**90**	**100**

Above table shows that maximum number of patients of eclampsia condition at the time of admission is comatose with convulsion i.e. 50 (55.57%) out of 90.

Table 6: Distribution of cases according to duration between 1st convulsion and admission

S.No.	Duration	No. of cases	Percentage
1.	< 1 hrs	6	6.67
2.	1-4 hr	45	50.00
3.	> 4 hr	25	27.77
4.	Not known	14	15.56
	Total	**90**	**100**

Above table shows that maximum number of patients of eclampsia admitted within 1-4 hours i.e. 45 (50%) out of 90.

Table 7: Distribution of cases according to referred patients, previous treatment of $MgSO_4$ achieved or not

S.No.		No. of cases	Percentage
1.	$MgSO_4$ given by referring person	66	97
2.	$MgSO_4$ not given by referring person	2	3
	Total	68	100

Above table shows that maximum number of patients of eclampsia received $MgSO_4$ by referring person i.e. 66 (97%) out of 68. Only 2 patient not received $MgSO_4$

Table 8: Distribution of cases according to mode of delivery

S.No.	Mode of delivery	No. of antepartum cases	Percentage
1.	LSCS due to eclampsia	57	63.34
2.	LSCS due to eclampsia + other reason	12	13.33
3.	Normal vaginal delivery	21	23.33
	Total	**90**	**100**

Above table shows that maximum number of patients of eclampsia delivered by LSCS i.e. 69 (66.67%) out of 90

Table 9: Distribution of cases according to perinatal outcome

S.No.	Perinatal outcome	No. of cases	Percentage
1.	Live births	84	93.33
2.	IUD	6	6.67
3.	Still birth	0	0
	Total	**90**	**100**

Above table shows that maximum number of patients of eclampsia delivered live birth i.e. 84 (93.33%) out of 90.

Table 10: Distribution of cases according to comparison between antepartum, intrapartum and postpartum eclampsia

S.No.	Groups	No. of cases	Percentage
1.	Antepartum	66	73.33
2.	Intrapartum	18	20.00
3.	Postpartum	6	6.67
	Total	**90**	**100**

Above table shows that maximum number of patients of eclampsia is antepartum eclampsia i.e. 66 (73.33%) out of 90.

Table 11: Distribution of cases according to maternal mortality

S.No.	Mortality	No. of cases	Percentage
1.	Maternal death	5	5.56
2.	Saved	85	94.44
	Total	**90**	**100**

Above table shows that maximum number of patients of eclampsia saved i.e. 85 (94.44%) out of 90.

Table 12: Distribution of cases according to required blood and blood product (FFP)

S.No.		No. of cases	Percentage
1.	Required	62	68.89
2.	Not required	28	31.11
	Total	**90**	**100**

Above table shows that maximum number of patients of elcampsia required blood and blood product transfusion i.e. 62 (68.89%) out of 90.

Discussion

Pregnancy induced hypertensive disorders remain one of the major obstetric problem in less developed countries. The pathogenesis of eclamptic convulsions remains still unknown. Other than early detection of pre eclampsia, there are no reliable tests or symptoms for predicting the development of eclampsia. (Sibai B, 2001)[7].As stated by WHO[8] report, eclampsia account for 12% of maternal mortality (2005 WHO report), one of the leading causes of maternal death is pre eclampsia the rapid elevation of blood pressure during pregnancy - which if untreated, can lead to seizures (eclampsia), kidney and liver damage and ultimately death. Eclampsia and severe pre eclampsia claim the lives of an estimated 63000 women each year globally, as well as the cases of many of their babies (Engender health and university of Oxford)[9].In our study there is 5.56% maternal mortality. The causes were intraventricular bleed, aspiration, pulmonary edema, HELLP syndrome, DIC. It shows that as compared to 12% maternal mortality due to eclampsia globally, in our institution, motility rate is decreased.

Risk factors

Age & Parity

Generally, pre eclampsia is commonly seen in primigravida patients.

According to Choudhary P[3],eclampsia is primarily a disease of young women and nulliparas.In our study also, 80% patients were between <25 years of age group and 76.67% were of primigravidae age which is comparable to above study.

Literacy rural/urban antenatal service

In our study, maximum patients were illiterate, coming from rural area, without any antenatal care, maximum number 68 (75.56%) patients were referred and all were unbooked except one which is comparable to the study done by Swain S, Ojha KN, Prakash A, Bhatia BD. 1993 and Ansari mZ, Mueller BA, Krohn MA 1995[10] who reviewed that a relatively high incidence of eclampsia and maternal and perinatal loss is related to lack of antenatal care and late referral to the hospital. The risk of eclampsia was elevated in women without antenatal care. Moodley J, Daya P 1997[11]assessed improvement in antenatal services over the 4 years 1980-1990 led to a decline in the incidence of eclampsia and concluded that eclampsia remains a continuing problem in developing countries despite improvement in antenatal care and facilities. Lorren D Richie and Janet C King (2000)[12,13]conducted a study on 2412 patients and showed that daily supplementation with 1000-2000 mg of calcium decreased systolic BP by 1.72 mm of Hg.Despite all preventive measures, diagnosis modalities and intensive treatment, it is still a leading causes of maternal mortality in developing world. It is largely a preventable disease provided the pregnant women get regular antenatal care[14].

Levine R.J. (2006)[15]conducted a double blind study in which 8325 patients were studied and concluded that calcium failed to reduce the incidence of pre eclampsia however, it can reduce severity of convulsion episodes in eclampsia patients.

One of the most popular hypotheses is the belief that a lack of calcium is a precipitating factor in the incidence of toxemia and the calcium supplementation can lower the incidence of this condition (Deborah Maine, 2007)[16].

The Role of Calcium, Magnesium, and Zinc in Pre-Eclampsia is studied. (Seema Jain, Priyamvada Sharma, ShobhaKulshreshtha, Govind Mohan and Saroj Singh 2010)[17]

Sham Shad Begam, Aziz un-nisa, Isqal Begum, 2001[18] concluded that maternal mortality in eclampsia is due to:

1. Lack of transport – 30%.
2. Poverty and inability to afford cost – 26.9%.
3. Familial taboos – 38.4%
4. Ignorance about health care facility – 3%.

One of the major underlying problems contributing to high maternal mortality is poor educational and socioeconomic standing of women. It is difficult for women to overcome these socio cultural constraints, currently estimated safe motherhood indicators reveal that antenatal care during pregnancy is available to 27% only, deliveries at health facilities 13% and skilled attendants at delivery in 18% cases.

Type of eclampsia antepartum or post partum

In our study 93.33% of cases of eclampsia occurred antepartum and rest 6.67% post partum.

Table 13:Time of onset of eclmapsia in relation to delivery

	Douglas & Redman[19]	Katz et al[20]	Matter & Sibai[21]	Chames et al[22]	K.R.H.
Antepartum	38	53	53	67	66
Intrapartum	18	36	19	-	18
Post partum	44	11	28	33	6

Role of $MgSO_4$

James P. Neilson 1995[23]stated that magnesium sulphate has been the drug of choice in the United States. MgS04 has been used for treating eclampsia in US for much of the 20th century. The international collaborative eclampsia trial confirmed that, this anti convulsant drug is indeed more effective and safer, than other alternative drug (LeliaDuley, James P Neilson, 1999). The trial has produced compelling support for the use of $MgSO_4$.According to Duley L, Henderson – Smart DJ[24],, For women with eclampsia, $MgSO_4$ is better than phenytoin for preventing further seizures and other health problems for the women and their babies.

The Magpie Trial Collaborative Group[25] did a randomized placebo-controlled trial and published in 2002 that maternal mortality was also lower among women allocated magnesium sulphate (relative risk 0.55, 0.26-1.14).According to Duley L, Henderson-Smart DJ (2003) [24] seven trials involving 1441 women are included. Most of the data are from trials of good quality. They concluded that Magnesium sulphate is associated with a reduction in maternal death.

In our study also magnesium sulphate was given to each and every patient and it reduces maternal morbidity and those patients who did not respond to it and remained comatose and moribund after 24-48 hrs. of it, were referred to neurologists for further treatment as intraventricular bleed were diagnosed by C.T. scan brain.

Delivery

The definitive treatment of eclampsia is delivery. If the patient is already in labour or if labour can be easily induced, the vaginal delivery may be contemplated provided there are no other obstetric complications.Kristin H. Coppage, William J. Polzin[26] did a retrospective study from June 1999 to July 2000 & published in 2002 on the beneficial effects of immediate cesarean section in severe preeclampsia cases.In our study 76.67% were having LSCS and 23.33% having normal vaginal delivery. According to Choudhary P 2003 & J Tukur (2007)[27] Caesarean section was the common mode of delivery among eclampticpatients.Approximately half of patients underwent caesarean section{55.31%}. Caesarean section was the predominant mode of delivery among Eclamptic patients as reported by several studies. If fits are effectively controlled and patient is stabilized, clinician can await spontaneous vaginal delivery after inducing labour as in our study.Craig Weber, M.D., 2007[28], Delivery is the only cure for eclampsia, and it must take place as soon as possible after treatment begins. Delivery is always the ultimate goal of treatment in eclampsia patients.

Conclusion

This prospective study was conducted in Department of Obstetrics and Gynaecology at Kamla Raja Hospital, Gajra Raja Medical College, Gwalior (M.P.) from May 2014 to December 2014. In this study 90 patients who were admitted as a case of eclampsia either antepartum and postpartum.

1. 80% patients were between age group of under 25 yrs.
2. 73% patients were antepartum.
3. The study also concluded that 93% of patients were primigravida, in which eclampsia developed.
4. All were unbooked except one case.
5. 75% patients were from rural area.
6. Incidence of referred cases was 75% which shows the efficacy of staff of periphery of their early referral but 40% patients reached the hospital after >4hrs of occurrence of convulsions showing early referral but delay in transportation.
7. With reference to referral services it was concluded that only 97% cases were given $MgSO_4$ before referral showing efficiency of health care provider about the knowledge of eclampsia. The knowledge is still to be corporate in the health workers and personnel.
8. Even today patient admitted to hospital were in moribund condition and 55% patients were admitted in the condition of comatose with convulsion.
9. Operative delivery is a better option in eclampsia cases to shorten the labour and to decrease maternal mortality rate; because the mainstay of recovering the eclampsia patients is to deliver them.
10. It was seen that onset of the antepartum cases which were admitted, 93.33% had live births and 6.67% had IUD.
11. To decrease the maternal complications, a methyl prednisolone was given, which improved maternal morbidity. It is an intermediate acting steroid.
12. $MgSO_4$ is given to all patients.

It is a hard fact that eclampsia and preeclampsia are largely preventable but not prevented because of pitfalls in out socioeconomic system.

Thus it is concluded that as it is said that "poverty leads to disease and disease leads to poverty", due to poverty there is lack of education, superstitions, early marriages in our society despite Govt. rule which leads to early conception. Socio cultural status and familial taboos lead to poor antenatal care. In spite of early referral by health care providers, there is lack of surface transport as well as lack of knowledge amongst people about. "Janani Express" and "108", which is provided by M.P. Govt., high risk pregnancies are not able to reach FRUs in time. There is a communication gap in our society and the knowledge is not propagated to public. Propagation of knowledge can be done by Electronic, Print Media, Hoarding, Posters, Banners, Nautanki, Nukkad Natak organized by Govt. and Non Govt. Organization (NGO's). Lack of knowledge amongst health care providers about high risk cases and their preliminary treatment. So, Govt. should provide proper training to these health care provider to reach the role of health for all. Thus we can reduce the maternal mortality in our country.

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