

Maternal outcome in eclampsia in MKCG medical college and hospital, Berhampur, Odisha

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Abstract

Objective: Hypertensive disorders complicate 5-10% of all pregnancies globally¹ & 10.08% in India. Eclampsia is an obstetric enigma and a major cause of serious maternal morbidity and maternal mortality. Majority of the death occurs in the developing countries and most of them are preventable. Prevalence of eclampsia is 1-5% and the maternal mortality rate related to eclampsia varies worldwide from 1.8% in the UK up to 43.1% in Nigeria. ^{2,3} It is the cause for about 8-14% of maternal mortality in INDIA i.e 200 mothers per day. In MKCGMCH it accounts for 8-15 % of maternal mortality. **Methods:** A descriptive cross-sectional study was carried out between September 2014 to August 2016 in the Department of Obstetrics and Gynaecology at MKCG MCH, Berhampur. Our study population included all eclamptic mothers admitted to O&G department, MKCG MCH. After obtaining appropriate informed consent maternal data was collected which included maternal demographic characters, data from previous antenatal clinic which included number of ANC, admission blood pressure, proteinuria, number and timing of seizure activity. Lab values of interest included complete blood count, LFT, RFT, coagulation profile and fundoscopy. The outcomes examined were incidence of eclampsia in relation with age, parity, literacy, maternal morbidity and mortality due to pulmonary oedema, PPH, ARF stroke, HELLP syndrome, abruptio placentae, disseminated intravascular coagulation (DIC) etc. Patients were treated with general supportive measures and Anticonvulsants: MgSO4 and Antihypertensive: BP \geq 160/110mmHg, labetolol. **Results:** Maximum patients were 21-25 years(63.3%). Maximum Eclampsia were primiparous around 83.5% .maximum patients were of 34-37 wk Gestational age. Eclampsia were more common in illiterate & those had not done ANC. Maximum 70.64% cases were from low socioeconomic status, maximum 63.3% cases were referred from peripheral hospitals. 62.38 % cases were having severe hypertension at the time of admission, delayed in admission or treatment more than 5 hours resulted in case fatality rate 75%, 100% maternal deaths observed in patients admitted with comatose state followed by > 5 convulsion cases with 50 % maternal death. Patients who delivered after 24 hr. were having max mortality rate 50%. 20.18 % patients required to be managed in HDCU .highest mortality (CFR -8.64%) seen in antepartum eclampsia followed by postpartum (CFR -8%). CFR was more in multiparous (CFR 16.67%) than primiparous .case fatality rate more in VD case .maternal morbidity causes were pyrexia,pulmonary edema, PPH, ARF, DIC, septicemia. Maximum death occurred due to pulmonary edema 44.44% followed by PPH, DIC. **Conclusion:** Eclampsia is the reflection of poverty, illiteracy and lack of awareness. So increased female literacy to avail the antenatal care, early diagnosis, primary management and referrals need to be improved. The medical officers and nurses working at periphery should be trained properly regarding proper and early management of pre- eclampsia and eclampsia. The referral transport services and HDCU should be improved to reduce maternal morbidity and mortality related to eclampsia.

Key Words: Eclampsia, Liver function test, Renal function test, pulmonary edema, postpartum hemorrhage, acute renal failure, stroke, HELLP syndrome, DIC, fundoscopy, abruptio placentae, ARDS

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INTRODUCTION

Hypertensive disorders complicate 5-10% of all pregnancies globally¹ and 10.08% in India. Eclampsia is an obstetric enigma. Even today it is one of the dreaded obstetric complications and remains as one of the unsolved problems in obstetrics and continues to be a major cause of serious maternal morbidity and leading cause of maternal mortality. Majority of the death occurs in the developing countries and most of them are preventable. Prevalence of eclampsia is 1-5% and the

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maternal mortality rate related to eclampsia varies worldwide from 1.8% in the UK up to 43.1% in Nigeria.^{2,3} It is the cause for about 8-14% of maternal mortality in INDIA i.e 200 mothers per day. In MKCGMCH it accounts for 8-15 % of maternal mortality.

MATERIALS AND METHODS

A descriptive cross-sectional study was carried out between September 2014 to August 2016 in the Department of Obstetrics and Gynaecology at MKCG MCH, Berhampur. Our study population included all eclamptic others admitted to O and G department, MKCG MCH. After obtaining appropriate informed consent maternal data was collected which included maternal demographic characters, data from previous antenatal clinic which included number of ANC, admission blood pressure, proteinuria, number and timing of seizure activity. Lab values of interest included complete blood count, LFT, RFT, coagulation profile and fundoscopy. The outcomes examined were incidence of eclampsia in relation with age, parity, literacy, maternal morbidity and mortality due to pulmonary oedema, PPH, ARF stroke, HELLP syndrome, abruptio placentae, disseminated intravascular coagulation (DIC) etc. Patients were treated with general supportive measures and Anticonvulsants: MgSO₄ and Antihypertensive: BP \geq 160/110mmHg, labetolol.

OBSERVATION

There were 218 cases of eclampsia in our series out of a total 14000 pregnancies. The *incidence* of eclampsia in our hospital was found to be 1.57%. Maternal mortality occurred in 18 (8.26%) cases.

Table 1: Blood pressure at presentation

BP in mmHg	No. of patient	%
<140/90mmHg	22	10.00
\geq 140/90- $<$ 160/110mmHg	60	27.52
\geq 160/110mmHg	136	62.38

Large no. (62.38%) of cases had severe hypertension at the time of presentation

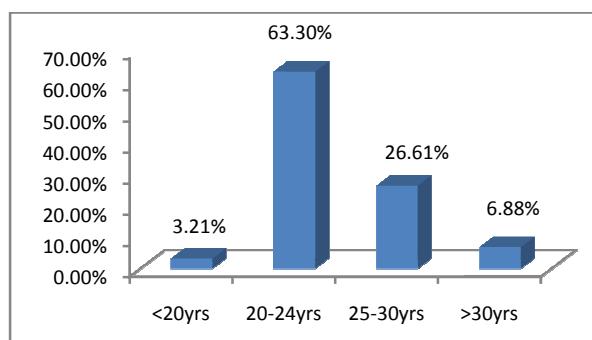


Figure 1

Table 2: Fits to Admission interval and maternal outcome

Fits –admission interval	No of cases	Live	Dead	CFR
<1hrs	66	63	3	4.54
1-2hrs	104	97	7	6.73
>2-3hrs	32	29	3	9.37
>3-5 hrs	12	10	2	16.67
>5hrs	4	1	3	75.00
Total	218	200	18	

Delayed in admission or receiving treatment caused more fatality

Table 3: NUMBER of fits before starting mgso4 and maternal outcome

No. of fits	No. of cases	Live	Death	CFR
1-2	138	133	5	3.62
>2-5	70	65	5	7.14
>5	4	2	2	50
Coma	6	0	6	100
Total	218	200	18	

There were 100% maternal deaths in the group of patients who presented in comatose state followed by patients who had $>$ 5 convulsions (50%)

Table 4: Fits to delivery interval and maternal outcome Ante-partum death occurred 6 cases

Fits –delivery interval	No of cases	Live	Dead	CFR
<6hrs	76	74	2	2.63
6-12hrs	122	117	5	4.10
>12-24hrs	12	8	4	33.33
>24 hrs	2	1	1	50
Total	212	200	12	

Patients who delivered after 24 hrs had highest (50%) mortality rate.

Table 5: Distribution of eclampsia patients who required high dependency unit (HDU) care

HDU CARE	NO. OF CASES	PERCENTAGE (%)
REQUIRED	44	20.18
NOT REQUIRED	174	79.82
TOTAL	218	100

Total 218 eclampsia patients, 20.18% of all required to be managed in High Dependency Care Unit which has ventilatory facilities.

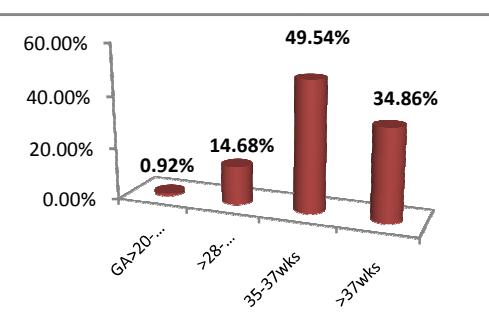


Figure 2

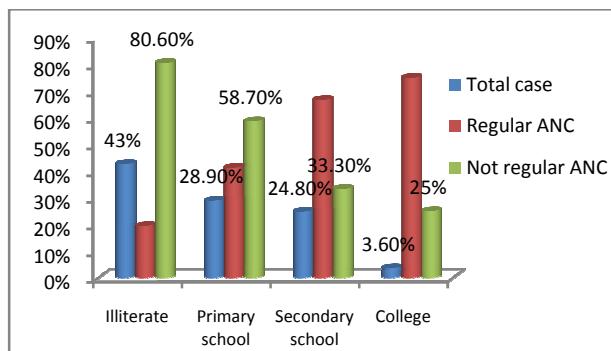


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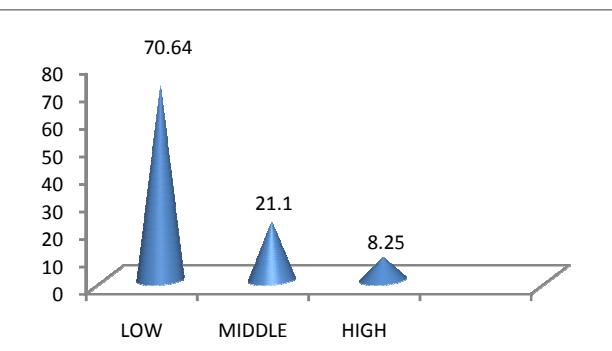


Figure 4

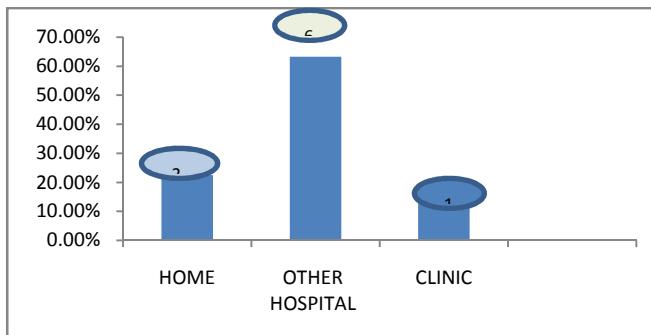


Figure 5

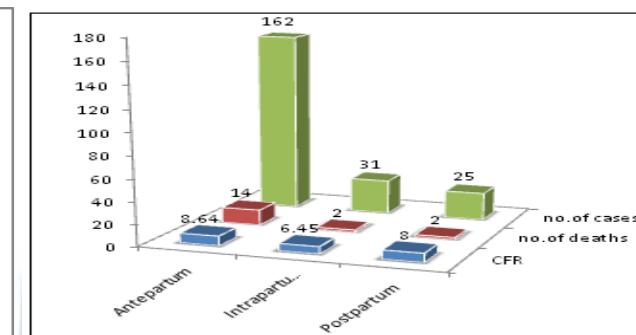


Figure 6

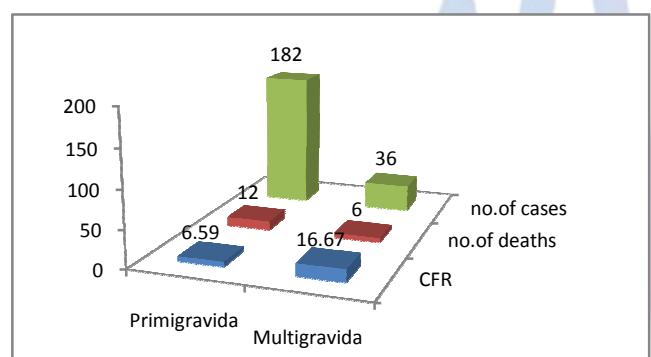


Figure 7

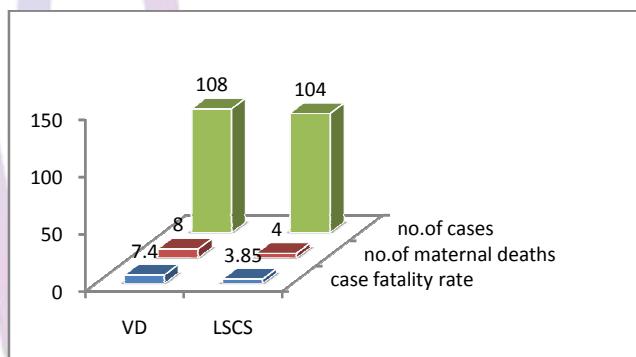


Figure 8

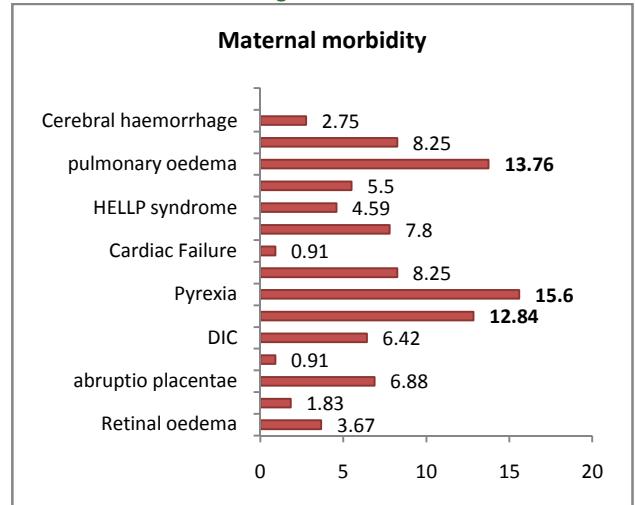


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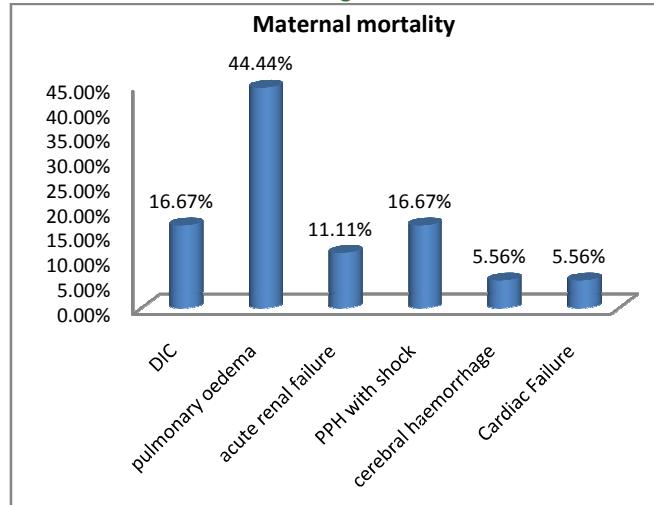


Figure 10

Legend

Figure 1: More common in young patients age < 25 yrs; **Figure 2:** Maximum(49.54%) cases were pre term(>34-<37 wks) gestation; **Figure 3:** Eclampsia more in illiterate and those who had not regular ANC; **Figure 4:** Maximum no.(70.64%) of patient belonged to low SES followed by middle and higher SES. So eclampsia is disease of poverty; **Figure 6:** Highest mortality(CFR-8.64) seen among the antepartum eclampsia followed by postpartum(CFR-8); **Figure 7:** CFR higher in multigravida(CFR-16.67) than primi gravid; **Figure 8:** Maternal mortality in relation to mode of delivery; **Figure 9:** Common cause of maternal morbidity were Pyrexia, pulmonary oedema, PPH ARF, septicemia, DIC etc.; **Figure 10:** Maximum death due to pulmonary oedema (44.44%) followed by PPH and DIC

DISCUSSION**Table 6**

Parameters	Sultana A	Sunita Th et al	Prabhakar G et al	Our study
Incidence	4.1%	0.7%	1.09%	1.57%
Maternal death	4.75%			8.26%
Age(20-25yrs)	68%	85%		63%
Parity(primi)		79%		83.5%
Not regular ANC	52%		79.67%	80.6%

Table 7: CFR-case fatality rate

Parameters	Sunita Th et.al	Prabhakar G et.al	Our study
CFR with fits-delivery interval	<6hrs	0	2.63
	>6hrs	4.28	7.35
% death with number fits-coma	100%	100%	100%
	>5	25%	50%
CFR with mode of delivery	VD	1.85	7.40
	LSCS	4.54	3.85
	ante	5.35	8.64
CFR with type of eclampsia	intra	3.84	6.45
	post	0	8.00

Table 8

Parameters	Sunita Th et.al	Sultana A	Prabhakar G et.al	Our study
DIC	3		4.94	6.42
Pul. Oedema	2		6.59	13.76
ARF	2		1.10	8.25
Cause of Maternal morbidity (%)	ARDS	2	9.89	0.91
	PPH	6	3.85	12.84
	HELLP	7	1.10	4.59
	Abruptio pl	2	1.10	6.88
	Pul. Oedema	40	60	44.44
	ARF	10	20	11.11
cause of maternal mortality (%)	DIC	-	20	16.67
	PPH	30		16.67
	CVA	10		5.56

CONCLUSION

Eclampsia is the reflection of poverty, illiteracy and lack of awareness. So increased female literacy to avail the antenatal care, early diagnosis, primary management and referrals need to be improved. The medical officers and nurses working at periphery should be trained properly regarding proper and early management of pre- eclampsia and eclampsia. The referral transport services and HDCU should be improved to reduce maternal morbidity and mortality related to eclampsia

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