Profile and Outcome of Eclampsia in a Rural Tertiary Hospital

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Research Article

Abstract: **Objective**: to study the profile and outcome of eclampsia in a rural tertiary hospital. **Materials and Method**: the study was conducted over a period of one year 1.1.2012- 31.12.2012 in all eclampsia patients. All antenatal eclampsia were terminated irrespective of gestational age. All patients were treated with Magnesium Sulphate ($MgSO_4$). Blood Pressure (BP) of the patients was controlled with sublingual**/** intranasal**/**oral nifedipine and oral labetalol. **Results**: incidence of eclampsia was 3.57%, case fatality rate was 3.57%. 29.76% maternal death was due to eclampsia. 84% patients had antepartum eclampsia and 16% patients admitted with postpartum eclampsia. 84% of patients belonged to <25yr age among them 34.42% patients were teen aged. Primigravida accounted for 84% cases. Severe hypertension was seen in 45.57% patients. 6(0.85%) patients had BP <140/90 mm of Hg. In majority (55.28%) $MgSO_4$ regimen could be started 12 hrs after first fit. Most (97.45%) patients delivered within 12hrs of admission. 9 mothers died before delivery. 65.36% patients had vaginal delivery. Caesarean section (CS) was done for 16.80% patients. 90.74% babies were live. Perinatal mortality was 17.18%. 36% cases died within 12hr of admission and remaining death occurred 12 hrs after admission. Cerebral hemorrhage (40%) was the most cause of death. 28% patients died of pulmonary edema 12% death was due to postpartum hemorrhage, hepatic coma was responsible for 2 deaths. One patient died of aspiration, one mother succumbed to septicemia. Acute renal failure led one death. **Conclusion**: eclampsia is a reflection of poverty illetaracy and lack of awareness. So to avert the maternal death due to eclampsia we have to improve our existing health care facility at the same time awareness, female literacy have to be increased to avail the existing health care facility.

Keywords: eclampsia patients, magnesium sulphate

Introduction

eclampsia, due to uniform national health care policy and comprehensive antenatal care with early detection of preeclampsia, and its management have dramatically reduced in economically developed countries but is still rampant in developing countries. It is a life threatening emergency and one of most common cause of maternal and perinatal morbidities and mortalities in India even today. The present study was undertaken to study the profile and fetomaternal outcome of eclampsia patients.

Materials and Method

The study was done from 1.1.2012 to 31.12 2012 among all eclampsia patients. The cases were evaluated by detailed history thorough clinical examination and investigations. Pregnancy was terminated in all antenatal eclampsia irrespective of gestational age. All patients were treated with $MgSO_4$. Different regimens were followed. 200 patients were randomly treated with low dose $MgSO_4$, loading only versus loading and maintenance. In low dose loading was total 8gm $MgSO_4$, 3gm i. v followed by 2.5gm in each buttock. Maintenance dose with 2.5gm i. m. on alternate buttock. 1gm i. v. was given for recurrence. For the rest of the patients Pritchard regimen was followed. $MgSO_4$ was withheld in one patient as urine output was nil since admission. Hypertension was controlled with sublingual**/** intranasal**/**oral nifedipine and oral labetalol. Hypertensive crisis was managed mostly with sublingual or intranasal nifedipine and sometimes with intravenous (IV) labetalol (because of cost factor hypertensive crisis was managed mostly with sublingual**/** intranasal nifedipine instead of IV. labetalol).

Results

Total 700 eclamptic patients were admitted. Among them 25 patients were died. Total delivery was 19580, live birth was 19460 and total maternal death was 84. So the incidence of eclampsia was 3.57%, case fatality rate was 3.57% and 29.76% maternal death was due to eclampsia. 589 (84%) patients had antepartum eclampsia whereas postpartum eclampsia affected 111(16%) patients. All patients except one were antenatally unsupervised and all of them belonged to poor family. A large chank of the patients were from poor illetarate tribal family residing at remote villages. Because of lack of education and awareness they don't go to health centers for antenatal checkup. 84% of mothers belonged to <25yr age among them 34.42% mothers were teen aged and 49.57% belonged to 20-24yr age group. 16% mothers had age ≥25 yr. Because of illiteracy and social customs female child are married off early. Table shows that 83.86% patients

were primigravida. 16.14% mothers were second gravidae (4% patients P_{1+0} and 12.14% patients P_{0+1}). 45.57% patients had severe hypertension. 6 patients had BP <140/90. One patient referred with uncompensated shock. Rest of the patients had mild hypertension. Majority (88.57%) had convulsion less than 5times before start of $MgSO_4$. 18.71% patients had only one convulsion at the time of admission, 11.42% mothers had repeated convulsions before admission. $MgSO_4$ regimen started 12 hrs after convulsion in 55.28% patients. Initially majority of the patients went to nearest heath centers which referred the patients to the tertiary hospital. Delay in decision, delay in transport and distance, these 3D differ the timely intervention. 97.45% patients delivered within 12hrs of admission but not within 12hrs of onset of convulsion. 3 patients delivered after 12hrs. 2 out of 3 who delivered 12 hr after admission died after wards. 9 mothers died before delivery. 8 of them had some complications during admission. These tertiary hospital has no intensive care unit for eclampsia patients. So CS could not be done in spite of having poor bishop score. 65.36% patients had vaginal delivery. 16.29% of them had forceps delivery. 16.80% patients underwent CS. Regarding neonatal outcome. Total babies=605, 16 pairs twins. 589-16=573, 573+32=605. 56 babies were stillborn. 45 babies died in neonatal period due to low birth weight (prematurity and growth restriction) and asphyxia. The perinatal mortality was 17.18%. 36% cases died within 12hr of admission and remaining death occurred 12 hrs after admission. Cerebral hemorrhage (40%) was the most cause of death. 28% patients died of pulmonary edema 12% death was due to postpartum hemorrhage, hepatic coma was responsible for 2 deaths. One patient died of aspiration, one mother succumbed to septicemia. Acute renal failure led one death.

Table 1: Profile of eclampsia patients

Serial No.	Age (years)	No. of patients (n=700) (%)
1	<20	241 (34.42%)
2	20-24	347 (49.57%)
3	≥25	112 (16%)
	Parity	
1	P_{0+0}	587 (83.86%)
2	P_{1+0}	28 (4%)
3	P_{0+1}	85 (12.14%)
	SBP(mm of Hg)	
1	≥160	291 (41.57%)
2	140-159	399 (57%)
3	<140	10 (1.4%)
	DBP(mm of Mg)	
1	≥110	319 (45.57%)
2	90-100	375 (53.57%)
3	<90	6 (0.85%)
	No. of convulsions	
1	≤5	620 (88.57%)
2	>5	80 (11.42%)
	Interval between convulsion and start of $MgSO_4$ (hours)	
1	≤12	313 (44.71%)
2	>12	387 (55.28%)
	Admission –Delivery interval (n=589) (hours)	
1	<12	574 (97.45%)
2	≥12	3 (0.5%)
3	Died before delivery	9 (1.52%)
4	Came after delivery	3 (0.5%)
	Mod of delivery(n=589)	
1	Vaginal	385 (65.36%)
2	Forceps	96 (16.29%)
3	C.S.	99 (16.80%)
	Neonatal outcome(n=605)	
1	Live	549 (90.74%)
2	Stillborn	56 (9.25%)
	Admission –death interval (hours)	
1	≤12	36%
2	>12	64%

SBP-Systolic Blood Pressure, DBP-Diastolic Blood Pressure

Discussion

In this research the incidence of eclampsia was 3.57% which is similar to incidence at other eastern regions of India [1, 2], higher than south India [3,4,5] and lower than north India [2]. This figure is higher in compare to other developing countries with the incidence of 1 in 100 to 1 in1700 pregnancies [6,7,8]. Neighboring country Dhaka has higher incidence [9]. Uniform national health care policy and comprehensive antenatal care with early detection of pre eclampsia, and its management have significantly reduced eclampsia incidence in developed countries with the incidence 1.6 in 10,000 to 15 in .10,000 [10-21]. Case fatality rate was 3.57% which is similar to other studies [1,4] but higher than economically developed countries [11,22]. Eclampsia contributed 29.76% of maternal death which is similar to study of Arora *et al* [23] but higher in elsewhere [1,4]. 84% mothers were $P_{0+0,}$ similar to Sunita *et al* [4] and 96% mothers were antenatally unsupervised correlated other Indian studies [1,24] as well as a Nigerian study [25]. In our study 84% mothers were antepartum eclampsia and 16% mothers were postpartum eclampsia but no intrapartum eclampsia. This result is comparable to Sighal *et al* [26]. 84% patients belonged to <25 years age group as discussed by other studies [4,11,27,28]. 45.57% mothers had severe hypertension whereas 53.57% mothers presented with mild hypertension, similar to study result of Matter F *et al* [29] and Pradeep M *et al* [3] but lower than that described by Sunita *et al* [4] and Choudhary *et al* [30]. 6(0.85%) patients had BP < 140/90 in our study which was less than other Indian [1] and

western [11] studies. So eclampsia can occur without preceding pre-eclampsia. This atypical eclampsia often delays treatment by misleading the diagnosis. Majority (88.57%) had convulsion less than 5times before start of $MgSO_4$. 11.42% mothers had repeated convulsions before admission. 55.28% mothers received treatment >12 hrs after convulsion. 97.45% mothers delivered within 12hrs of admission though not within 12hrs of convulsion. 2 out 3 mothers who delivered >12 hrs after admission died afterwards. Bhalero A reported adverse maternal and prenatal outcome associated increased interval between onset of convulsion and delivery interval [31]. 1.52% mothers died before delivery. Once a complication had already developed, magnesium sulphate could not prevent the sequeal of complications [9]. 65.36% mothers had vaginal delivery. 16.29% mothers had forceps delivery. 16.80% had CS. Other Indian studies also showed vaginal delivery was the most common mode of delivery followed by caesarean section [1,6]. The preferred mode of delivery in developed countries with better neonatal backup is CS even if estimated fetal weight is low [22], while the Indian trend continues to be more towards vaginal delivery, thus affecting the prenatal outcome [32]. Perinatal mortality in our study was 17.18% which is less than other Indian studies [4,8,26,30] but more than western studies [11,33,34]. Our conservative attitude towards vaginal delivery had affected our perinatal outcome. The most common causes of perinatal death are prematurity, fetal growth restriction, fetal asphyxia and acidosis [35] which was corroborated with our study. Cerebral hemorrhage (40%) was most common cause of death. 2 patients died due to hepatic coma. In Africa 45.5% of hypertensive maternal death was due to cerebral complications [36].

Conclusion

eclampsia is a reflection of poverty illiteracy and lack of awareness. So to avert the maternal death due to eclampsia we have to improve our existing health care facility at the same time awareness, female literacy have to be increased to avail the existing health care facility.

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