Eclampsia: Study of 35 Cases

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Eclampsia, is the convulsive disorder of pregnant women in association with pre-Eclampsia. It remains an important cause of maternal deaths in developing countries. **Objectives:** To find out efficacy of treatment regimen in eclampsia in terms of feto maternal complication (perinatal and maternal mortality and morbidity). **Setting** Department of obstetric and gynecology, Lady Aitchison's Hospital, Lahore from 15th July 2003 to 15th June 2004. **Patients and Methods:** 35 cases of antepartum and intrapartum eclampsia with alive fetus of Gestational age more than 28 weeks were included in study. **Results:** The results show maternal mortality (primary out comes) in terms of recurrence of seizures and maternal death as (28.6%) and (5.7%) respectively. The maternal morbidity (secondary out comes) in terms of life threatened condition like renal failure (5.7%), Coagulopathy (8.6%), pulmonary edema (14.3%), Pneumonia (14.3%)and cerebrovascular accidents (8.6%).20 (57.2%) women have Caesarean section while 15 (42.8%) delivered normally. 24 (68.6%) patients required blood transfusion before delivery and 28 (80%) have haemoglobin less than 10 g/dl on 2nd post operative day. The perinatal mortality (still birth + neonatal death) was 20% like wise, perinatal morbidity in terms of low apgore score (less than 7 at one minute) is 28.6% and at 5 minute (8.6%). About (14.3%) babies require admission in special unit for less than 7 days. **Conclusion** Conclusion are limited to study. Use of $MgSO_4$ as anticonvulsants and early caesarean delivery can reduce the maternal and fetal mortality and morbidity in eclampsia.

Key Words: Eclampsia, Magnesium sulphate ($MgSO_4$), Maternal mortality, Maternal morbidity.

The word eclampsia means "flash out" in a sense of sudden event. It was known since 18th century, called as puerperal convulsions, puerperal nephritis and albuminuria[1]. It is preceded by pre-eclampsia. Pre-eclampsia is a multi-system disorder associated with raised blood pressure and albuminuria. In develop countries, its incidence is 1 in 2000 deliveries [2] while in developing world it varies from 1 in 100 to 1 in 7000 deliveries[3, 4].

Over half a million women die during each year due to pregnancy related factors and 99% of these deaths occurs in developing world [5, 6] eclampsia probably accounts for 50,000 maternal deaths a year world wide [7]. It is the leading cause of maternal death after control of infection and haemorrhage [8]. In Uk, eclampsia is directly responsible for 10% of maternal deaths [9]. Successful prevention of eclampsia is a difficult one, therefore it is important to assess the relative merits of treatment of eclampsia in practice.

Patients and methods:

The Lady Aitchison's Hospital is a tertiary care maternity hospital affiliated with King Edward Medical College, Lahore. About five thousands women are delivered per anum. 35 cases of antepartum/intrapartum eclampsia with gestational age more than 28 weeks of gestation were managed from 15th July 2003 to 15th June 2004. All patients were managed in high risk labour ward with all facilities of cardio pulmonary resuscitation. All patients get same treatment protocol. Initially patients were attended by duty registrar.

Apart from resuscitation. and supportive measures, 4 gm of Magnesium sulphate was given over 5 – 10 minute period intravenous to terminate fits. 10 gram of $MgSO_4$ Intramuscular ½ into each buttock, to prevent recurrence. Every 4 hourly, 5 gram of solution was topped up into alternate buttock for prophylaxis provided that, Urine out put was more than 35 ml per hour, the respiratory rate was more than 12 per minute and tendon Jerk was present on examination. The dose of $MgSO_4$ was halfed in oliguria and it was continued 24 hours after delivery. The over dose was treated with 1 gram of calcium gluconate solution over 10 minute slow intravenous. If repeated seizures persist, then thiopentone sodium 50 mg was given. The diastolic blood pressure >110 mm Hg. was controlled with Isoket infusion (0.1% in 100 ml of burrate) at 10 – 20 drops per minute to keep diastolic BP between 90 – 95 mm Hg. Isoket infusion was used due to non-availability of labetolol or Hydrallazine.

Table 1: The general characteristics of women (n = 35)

Characteristics	n =	%age
Maternal age (Years)	24.5	
Parity		
• Primigravida	20	57
• Between 1- 3	10	28.6
• More than 3	5	14.4
No Antenatal care	21	60
One visit	7	20
More than one visit	7	20
Blood Pressure		
Systolic (160 mm Hg or more)	28	80
Diastolic (110 mm Hg)	7	40
Proteinuria		
+	7	20
++	21	60
+++ or more	7	20
Gestational age (weeks)		
• > 34 weeks	14	40
• between 28-34 weeks	21	60
No of fits before entry to hospital	4 – 7	Median 3

Fluid was restricted to urine out put in preceeding hour plus additional 30 ml. Further 400 to 500 ml of colloid solution was infused to avoid risk of regional anesthesia and fetal distress.

Once the seizures were controlled, severe hypertension treated hypoxia corrected, delivery was expedited. The aim was vaginal delivery but liberal use of caesarean section choiced in primigravida remote from term, and in fetal distress. After delivery, high dependency case was continued for a minimum of 24 hours.

Results:

Results are summarized in table 2 and 3.

Table 2: Maternal outcomes (n = 35)

Primary out comes	n =	% age
Recurrence of convulsions	10	28.6
Maternal death	2	5.7
Secondary out comes		
• Renal failure	2	5.7
• Coagulopathy	3	8.6
• Pulmonary Oedema	5	14.3
• Pneumonia/ adult R. syndrome	5	14.3
• Cerebrovascular accidents	3	8.5
• Cardiac arrest	0	0
• No Complication	5	14.3
Transfusions required before delivery	24	68.6
No Transfusion	11	31.4
Blood loss after delivery		
• >500 ml	24	68.6
• <500 ml	11	31.4
Hb% estimation		
• >10 gm /dl	7	20
• <10 gm/dl	28	80
Delivery		
Caesarean section	20	57.2
Vaginal delivery	15	42.8
Induced	9	60
Spontaneous	6	40

Table 3: The fetal outcomes (n = 35)

Primary outcomes	n =	%age
Still birth	5	14.3
Early Neonatal death	2	5.7
Secondary outcomes		
Apgore Score less than 7		
• At one minute	10	28.6
• At 5 minute	3	8.6
Pneumonia	2	5.7
Required intubation at the time of delivery	5	14.3
Neonatal stay in special care unit		
• <5 days	5	14.3
• >5 days	0	0
No complication	3	8.6

Discussion:

Eclampsia is still a major health hazard to the pregnant women in developing countries like Pakistan. The exact etiology of pre-eclampsia/eclampsia is still not known so, controversies exist over the best treatment regimen for eclampsia[10]. As prevention of individual case is difficult one, therefore, it is important to assess the merits/demerits of different regimen in terms of feto maternal outcomes. The standard practice is to use anticonvulsant for termination of convulsion as well as to stop recurrence at least up to 24 hour after delivery. The magnesium sulphate is considered to be safe both for mother and fetus as compared to diazepam and phenytoin sodium[11-12]. The recurrence of convulsion (28.6%) as seen in our study with magnesium sulphate is slightly higher as reported in other studies as 12% [13]and 10%[14]. The eclampsia trial collaborative group had seen recurrence as 5.7% and 3.8% in magnesium sulphate but 33% with diazepam[10]. The high recurrence rate in study can be explained due to intramuscular regimen as blood monitoring facilities of magnesium level were not available. The other reason being a small no. of cases. Two maternal deaths (5.7%) are comparatively same as reported (1.4% to 14.3%)[15] in eclampsia. In developed countries like UK eclampsia causes 10% of maternal death[2]. In Pakistan, Bashir et al[16] has reported maternal mortality in eclampsia 8.3% to 10.3% in Faisalabad, while other local studies reported as 20 -.24%[17], 9%[18], and 19.3% respectively.

The maternal morbidity was significantly less. Associated complications like coma, focal neurological defects, cerebrovascular accidents (3%), HELLP syndrome (3%), coagulopathy 3%., renal failure (4%) and adult respiratory syndrome (3%) are established in eclampsia[20]. Our study has showed a similar tendency like renal failure (5.7%), Coagulopathy (8.6%), cerebrovascular accidents (8.5%). The pulmonary edema (14.3%) and adult respiratory distress syndrome (14.3%) seen in the study was high due to general anesthesia and pretreatment before shifting to hospital as 4 – 6 fits had already occurred. A typical feature of eclampsia are haemoconcentration[13] and thrombocytopenia[21] so the patients do not tolerate blood loss. The pre-delivery transfusion rates , 15.1% , 19.7% and 20.1% are reported[10] as compared to our study as 68.6% . The higher transfusion rate indicate prevalence of anemia in our patients. Furthermore, it is strengthened by low haemoglobin level, less than 10 gm/dl in 80% of patients on second delivery day. The ultimate treatment of eclampsia is delivery. The liberal use of caesarean delivery, under regional anesthesia is associated with better out comes. The Caesarean section (57.2%) seen in study is equal to as reported (66.2%) and (72.5%) respectively[10]. The perinatal mortality (Still birth 14.3%) and early Neonatal death (5.7%) is equal to previous study. Magnesium sulphate has better perinatal out comes as it does not depress the respiratory center of the fetus which are already premature. In local studies, perinatal loss of 49% to 58% is reported[24] in Multan. The perinatal morbidity is significantly reduced with magnesium sulphate. Only a few babies (28.6%) have low apgore score at one minute versus (8.6%) at 5 minute. The

diazepam previously used had more perinatal morbidity. It crosses blood brain barrier, depresses respiratory center, further more it causes neonatal Jaundice, hypotonia and hyperbilirubinemia.

Conclusion:

Conclusion are limited by size of the study. The full prevention of eclampsia is impossible but early treatment and rapid delivery are associated with better fetomaternal out comes. The magnesium sulphate is proved to be a drug of choice as anticonvulsant and rapid delivery is achieved by caesarean section preferably under regional anesthesia.

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