Original Article

Maternal and perinatal outcome associated with eclampsia in a teaching hospital, sukkur

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ABSTRACT

Objectives
To assess maternal and perinatal outcome in patients presenting with eclampsia.

Patients and Methods
This prospective descriptive study was carried out at Ghulam Mohammad Mahar Medical College Hospital, Sukkur, Pakistan from January 2009 to December 2009. In all patients with eclampsia maternal outcome was measured in terms of complications like pulmonary edema, hematological disorder, renal failure, cerebral hemorrhage and maternal death. Perinatal outcome was noted in terms of pre-term births, low birth weight, need of admission in nursery, IUGR, still births and neonatal deaths.

Results
In 2170 deliveries in our unit, 45 (2%) were diagnosed as eclampsia. Antepartum eclampsia was seen in 21 (47%) cases followed by post partum 15 (33%) and intrapartum 9 (20%). Majority of cases (47%) were seen in the age group of 20-30 years (range 15-45 years, average 28 years). Primigravida were noted to be at highest risk with 27 (60%) developing eclampsia. C-section was the mode of delivery in 26 (58%), while vaginal delivery (spontaneous+instrumental) was seen in 19 (42%) cases. Out of 45 eclamptic patients, 9 (20%) mothers died, mainly due to cerebral hemorrhage, cardiopulmonary compromise or renal failure. Perinatal mortality came out to be 24.4%. Prematurity was the leading cause followed by low birth weight and IUGR. Twelve (27%) neonates needed NICU admission.
Conclusion

Eclampsia was associated with high maternal as well as perinatal morbidity and mortality in our study. Antenatal care, early diagnosis and referrals need to be improved. (Rawal Med J 2010;35: ).

Key words

Eclampsia, perinatal, maternal complication.

INTRODUCTION

Eclampsia is defined as occurrence of convulsions during pregnancy, delivery or within 10-days postpartum, not caused by coincidental neurological disease (e.g. epilepsy) in a woman who meets the criteria for pre-eclampsia.¹ It accounts for 12% maternal deaths throughout the world.² Incidence of eclampsia in developed countries is 1 in 2000 to 5/1000 deliveries,³⁴ while in Pakistan it ranges from 0.51%⁵ to 4%.⁶ Besides maternal morbidity and mortality, eclampsia accounts for a major proportion of perinatal mortality which is estimated to be 68/1000⁷ to 474/1000 deliveries⁸ in our country. The present study was designed to evaluate the maternal and perinatal outcomes in eclampsia at our institution.

PATIENTS AND METHODS

This prospective study was conducted from 1ˢᵗ January to 31ˢᵗ December 2009 in Gyne/Obs Unit-1 at Ghulam Mohammad Mahar Medical College Hospital, Sukkur. All those women who developed fits from 20 weeks gestation onwards and 48 hours postpartum were included in this study. A detailed information with regards to age, parity and antenatal care was collected from relatives. Gestational age, presenting and past symptoms like vomiting, epigastric pain, edema, visual disturbance, headache and fits were recorded. The patients were classified in one of three groups i.e. antenatal (fits during pregnancy), intrapartum (fits during delivery) or postpartum (after delivery) eclampsia. All were thoroughly examined for orientation, blood pressure, reflexes and for any sign of pulmonary edema. A routine per abdominal examination was carried out to assess gestational age, presentation and fetal heart sound. Pelvic examination was done for bishop score/signs of labor. In case of patients presenting
with postpartum eclampsia, their place and mode of delivery was noted. Urine for albumin, liver function test and in selected cases, CT scan was performed when neurological damage was suspected. All patients were maintained on I/V line, suction, O₂ support, catheterization and were given drugs to control fits and to lower BP. Immediate decision regarding mode of delivery for termination of pregnancy was taken. Patients were then monitored regularly till they became conscious and ambulatory. Maternal outcome was measured in terms of death or complication like cerebral hemorrhage, cardio pulmonary compromise, renal failure and hematological disorders (HELLP, DIC). Perinatal morbidity (pre-term, low birth weight, IUGR) and mortality (still births and neonatal deaths) were also recorded.

RESULTS

A total of 2170 deliveries took place in our unit and out of these 45 (2%) were diagnosed as eclampsia. Antepartum eclampsia was seen in 21 (47%) cases followed by Post Partum 15 (33%) and Intrapartum 9 (20%). Majority (47%) of cases were seen in the age group of 20-30 years (range 15-45 years) the average being 28 years. Primigravida (60%) were seemed to be at highest risk for developing eclampsia. C-section was the mode of delivery in 26 (58%) while vaginal delivery (spontaneous+instrumental) was seen in 19 (42%) cases.

Table 1. Maternal complications seen with eclampsia.

<table>
<thead>
<tr>
<th>Complication</th>
<th>Number (%)</th>
<th>Final outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebro-Vascular accident</td>
<td>8 (18)</td>
<td>4 died, 4 had some degree of hemiparesis but recovered completely 3 died, 5 recovered</td>
</tr>
<tr>
<td>Cardio pulmonary</td>
<td>8 (18)</td>
<td>1 died due to DIC, 2 recovered.</td>
</tr>
<tr>
<td>Hematological</td>
<td>3 (6.6)</td>
<td>1 died, 2 recovered.</td>
</tr>
<tr>
<td>Renal shutdown</td>
<td>3 (6.6)</td>
<td>All recovered.</td>
</tr>
<tr>
<td>P-psychoisis</td>
<td>3 (6.6)</td>
<td>All recovered.</td>
</tr>
<tr>
<td>Visual disturbance</td>
<td>2 (4.4)</td>
<td></td>
</tr>
</tbody>
</table>

Out of 45 eclamptic patients, 9 (20%) died due to one or more than one complication. The cause of
death being cerebral hemorrhage in 4 (44%), cardio pulmonary failure 3 (33%) in most cases (Table 1). Remaining 36 (80%) cases recovered with time.

Table 2. Perinatal outcome.

<table>
<thead>
<tr>
<th>Gestational age at birth</th>
<th>Total no. of births</th>
<th>Alive/Died</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;28 weeks</td>
<td>3</td>
<td>0/3</td>
</tr>
<tr>
<td>28-32 weeks</td>
<td>14</td>
<td>9/5</td>
</tr>
<tr>
<td>33-37</td>
<td>21</td>
<td>19/2</td>
</tr>
<tr>
<td>&gt;37 weeks</td>
<td>7</td>
<td>6/1</td>
</tr>
<tr>
<td>Total:</td>
<td>45</td>
<td>34/11</td>
</tr>
</tbody>
</table>

Perinatal mortality was seen in 11 (24.4%) (6 still births, 5 neonatal deaths) cases (Table 2). Prematurity was the leading cause 8 (73%) followed by low birth rate and IUGR 3 (27%). Majority of babies 31 (69%) born were pre-term <37 weeks. Similarly, only 11 (24.4%) babies born had birth weight >2.5 kg.

**DISCUSSION**

In developed countries, incidence of eclampsia is only 0.4-0.5/1000 deliveries\(^9\) while it is high in developing countries e.g. 0.7% in India\(^10\) and 9% in Bangladesh\(^11\). In our study, eclampsia occurred in 2% of total maternities. The is comparable to studies from Karachi (2%)\(^12\) and Multan (1.8%),\(^8\) but is significantly higher from studies from Peshawar\(^13\) and Quetta.\(^14\) Majority of cases (94%) had no antenatal visits during their pregnancy and 78% belonged to poor socio economic group. Antepartum eclampsia was seen in 47%, postpartum in 33% and intrapartum 20% cases. This is nearly similar to the results reported by Shamma et al\(^15\) but quite different from Harare maternity hospital where 67.5%\(^16\) had antepartum eclampsia. Primigravida (60%) were seen to be at highest risk of developing eclampsia and this is similar to many other studies.\(^13,17,18\) Most of our (47%) cases belonged to the age group of 20-30 years, while teenagers comprised only 11%. This is in contrast to the result given by ElNafatyAu, et al\(^19\) which showed 66.9% of eclamptics to be teenagers. This reflects a decreasing trend
of teen age marriage in our society.

In our study 42% patients delivered vaginally while rest had C-section. This is quite comparable to that of Alinizi et al.\textsuperscript{15} which also showed C-section to be the mode of delivery in 54% of eclamptic patients. Our results also match with studies carried by Biswas\textsuperscript{20} and Alexandar et al.\textsuperscript{21} Among 45 patients, 9 mothers died making the fatality rate 20%. This is an alarming situation which needs urgent consideration and improvement. This is almost double as compared to other\textsuperscript{12,13} studies but lower than Harare maternity hospital where although the incidence of eclampsia was 5.9/1000 deliveries but fatality rate was 26.5%\textsuperscript{16}. Our fatality rate is near to that seen in Peshawar.\textsuperscript{13,22} This high fatality seen in our setup is because our hospital receives patients from more than 3 districts who are mainly unbooked and very late referrals. This late referrals in turn is due to poverty, social restrictions, unavailability of doctors at remote areas and lack of transport. Cerebral haemorrhage (44%) and cardio pulmonary failure (33%) were the main reasons for death. Two mothers (23%) died due to DIC and renal shutdown. The causes of maternal deaths in our study are same as in other\textsuperscript{14,22} parts of country. Results from Benin\textsuperscript{23} city also showed similar causes for deaths in eclampsia.

Cerebral hemorrhage was the leading cause of death in our study which is in contrast with results from a tertiary care hospital\textsuperscript{22} which reported pulmonary reason to be the major cause of death in eclampsia. Majority (67%) of mothers who died were primigravida and 78% were less than 30 years of age. The overall rate of maternal complications in our study was 60%. This is higher than reported by Ahmed et al\textsuperscript{22} where it is 48%. Other complications commonly seen were psychological, visual, renal and hematological but most of the patients recovered with time.

Perinatal mortality in our study came out to be 24.4% which is nearly same as in Nigeria\textsuperscript{23} and India.\textsuperscript{24} The figure in our study is higher than reported in Qatar.\textsuperscript{15} Out of these 11 cases, 6 (55%) were still births and 45% were neonatal deaths. Our results are similar to that from Abottabad but quite lower from Peshawar where it is reported to be as high as 41.6%. Prematurity was the main reason, as shown by others\textsuperscript{23} accounting for 73% perinatal deaths followed by low birth weight and IUGR (27%). In our
study, birth asphyxia did not cause any perinatal death which is in contrast with the study by Shaheen et al\textsuperscript{13} who reported 37\% of perinatal deaths due to birth asphyxia. This is probably due to the fact that majority (54\%) of eclamptic patients in our study delivered through C-section while it was only 7\% in her study. Twelve (26.6\%) new borns had less than 2.0 Kg weight while 21 (47\%) of babies were weighing between 2.0-2.3 Kg. Remaining 12 (46\%) had weight > 2.3 Kg and 12 (27\%) neonates needed NICU admission (4 died in neonatal period and remaining improved with time and were finally discharged).

CONCLUSION

Eclampsia is still a major threat to the pregnant woman in our institution and it was the leading cause of maternal mortality in last 2 years. To improve maternal and perinatal outcome the awareness for antenatal care, early diagnosis and referrals is needed. Further, providing ICU/Nursing care will help to reduce maternal/perinatal morbidity and mortality.

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Received: January 11, 2010 Accepted: April 20, 2010

REFERENCES

4. Andersgaard AB, Herbst-A, Johanse M. Eclampsia in Scandinavia: incidence,


16. Majoko F, MUJAJI C. Maternal outcome at Harare Maternity Hospital, Zimbabwe: Cent


