PERINATAL OUTCOME IN ECLAMPSIA- A RETROSPECTIVE STUDY IN A TERTIARY CARE CENTRE

Priyali Purandare¹, Sunita Mishra², Ratna Thakur³, Shruti Tiwari⁴

¹Assistant Professor, Department of Obstetrics and Gynaecology, SAMC and PGI, Indore.
²Assistant Professor, Department of Obstetrics and Gynaecology, SAMC and PGI, Indore.
³Professor, Department of Obstetrics and Gynaecology, SAMC and PGI, Indore.
⁴Resident, Department of Obstetrics and Gynaecology, SAMC and PGI, Indore.

ABSTRACT

BACKGROUND

Eclampsia is a life-threatening disease that is associated with a high maternal and perinatal mortality rate. Incidence of eclampsia in India is high and it has remained high over the last few decades. The perinatal mortality associated with eclampsia too continues to be high as compared to the developed nations.

Aims- To study the perinatal mortality in eclampsia in our institute and to analyse the risk factors associated with a poor perinatal outcome.

MATERIALS AND METHODS

This is a retrospective observational study carried out in the Department of Obstetrics and Gynaecology at a Medical College Hospital from 1st January 2015 to 31st December 2015. The records of all patients with eclampsia were collected and the data was analysed using percentages.

RESULTS

The perinatal mortality in eclampsia was 33.8%. Majority of eclamptics were primigravida (62.2%). Perinatal mortality was high (70.8%) when gestational age was less than 34 weeks and in babies weighing less than 2 kg (95.4%). Perinatal mortality was high when urine albumin was more than 2+ and serum uric acid was more than 6 mEq/lit. Perinatal mortality was low in babies delivered by Caesarean section.

CONCLUSION

Eclampsia continues to kill our neonates. Proper antenatal care, early recognition of high risk factors and timely management of such cases will help to reduce perinatal mortality.

KEYWORDS

Eclampsia, Perinatal Mortality, Proteinuria, Uric Acid.


Background

Eclampsia is an extremely severe form of preeclampsia associated with the sudden onset of tonic-clonic convulsions in a patient with pre-eclampsia. It is a dreaded and potentially life-threatening complication of pregnancy and it continues to be the leading cause of maternal and perinatal morbidity and mortality in both developing and developed countries. Eclampsia accounts for 50,000 maternal deaths every year all over the world and 99% of these are in developing countries.[1] The incidence of eclampsia has remained constant in developing countries over the last few years.[2] In India too, there has been no reduction in the incidence of eclampsia which has remained constant at 1.5%.[3] Also, though the maternal mortality rate in India has fallen in the last decade, the perinatal mortality has remained high.[3]
The case records of these patients were retrieved from the medical records section and they were analysed in relation to the age of patients, parity, blood pressure, proteinuria and uric acid levels on admission, mode of delivery and perinatal outcome. All data was analysed by descriptive statistical methods using percentages.

**RESULTS**

- A total of 61 patients presented with eclampsia in the study period. There were 2 twin deliveries and 1 triplet delivery and so the total number of babies born were 65.
- Perinatal mortality rate related to eclampsia was 33.8% (There were 22 perinatal deaths among 65 births).
- Primigravida accounted for 38 out of 61 patients (62.2%).
- 59% patients (36 out of 61) were less than 25 years of age.
- 62% of the patients (38 out of 61) were unbooked.
- Perinatal deaths was 70.8% when gestational age was less than 34 weeks and only 12.1% when gestational age was more than 34 weeks.

### Table 1. Relationship of Gestational Age with Perinatal Mortality

<table>
<thead>
<tr>
<th>Gestational Age</th>
<th>Total Number of Cases</th>
<th>Perinatal Deaths</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 34 weeks</td>
<td>24</td>
<td>17</td>
<td>70.8%</td>
</tr>
<tr>
<td>&gt; and = 34 weeks</td>
<td>41</td>
<td>5</td>
<td>12.1%</td>
</tr>
</tbody>
</table>

### Table 2. Relationship of Birth Weight with Perinatal Mortality

<table>
<thead>
<tr>
<th>Baby Weight</th>
<th>Perinatal Deaths</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; and = 2 kg</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>&lt; 2 kg</td>
<td>21</td>
<td>95.4%</td>
</tr>
</tbody>
</table>

### Table 3. Relationship of Systolic Blood Pressure with Perinatal Mortality

<table>
<thead>
<tr>
<th>Systolic BP on Admission</th>
<th>Total Number of Patients</th>
<th>Perinatal Death</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBP &gt; or equal to 160 mmHg</td>
<td>29</td>
<td>11</td>
<td>37%</td>
</tr>
<tr>
<td>SBP &lt; 160 mmHg</td>
<td>36</td>
<td>11</td>
<td>30%</td>
</tr>
</tbody>
</table>

### Table 4. Relationship of Diastolic Blood Pressure with Perinatal Mortality

<table>
<thead>
<tr>
<th>Diastolic BP on Admission</th>
<th>Total Number of Patients</th>
<th>Perinatal Death</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBP &gt; or equal to 110 mmHg</td>
<td>28</td>
<td>10</td>
<td>35%</td>
</tr>
<tr>
<td>DBP &lt; 110 mmHg</td>
<td>37</td>
<td>12</td>
<td>32%</td>
</tr>
</tbody>
</table>

Proteinuria was present in all cases. Perinatal deaths were more with increasing proteinuria.

### Table 5. Relationship of Proteinuria with Perinatal Mortality

<table>
<thead>
<tr>
<th>Proteinuria</th>
<th>Total Patients</th>
<th>Perinatal Death</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>4+</td>
<td>29</td>
<td>13</td>
<td>44.8%</td>
</tr>
<tr>
<td>3+</td>
<td>17</td>
<td>6</td>
<td>35.2%</td>
</tr>
<tr>
<td>2+</td>
<td>9</td>
<td>2</td>
<td>27.2%</td>
</tr>
<tr>
<td>1+</td>
<td>10</td>
<td>1</td>
<td>10%</td>
</tr>
</tbody>
</table>

### Table 6. Relationship of Serum Uric Acid Levels with Perinatal Mortality

<table>
<thead>
<tr>
<th>Uric Acid (mEq/dL)</th>
<th>Total Number of Patients</th>
<th>Perinatal Death</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; and equal to 6</td>
<td>30</td>
<td>13</td>
<td>43.3%</td>
</tr>
<tr>
<td>&lt; 6</td>
<td>35</td>
<td>9</td>
<td>25.7%</td>
</tr>
</tbody>
</table>

### Table 7. Relationship of Mode of Delivery with Perinatal Mortality

<table>
<thead>
<tr>
<th>Mode of Delivery</th>
<th>Total</th>
<th>Perinatal Death</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Vaginal</td>
<td>24</td>
<td>10</td>
<td>41%</td>
</tr>
<tr>
<td>Caesarean Section</td>
<td>41</td>
<td>12</td>
<td>29%</td>
</tr>
</tbody>
</table>

The most common cause of perinatal death was prematurity and low birth weight.

In our study, there was no major difference in perinatal mortality with SBP > 160 mmHg or DBP > 110 mmHg.

Proteinuria was present in all cases. Perinatal deaths were more with increasing proteinuria.

DISCUSSION

Eclampsia is a major contributor to poor perinatal outcome, especially in developing countries like India where maternal services that are being provided are inadequate.

The perinatal mortality rate in cases of eclampsia in our study was found to be 33.8%. In various other studies, perinatal mortality in India has been reported to vary between 24% - 48%.[3,4,5,6] It is much higher than the perinatal mortality of 5% - 11% reported in developed countries.[7]

Majority of the patients in our study was primigravidae (62.2%) and most of them were less than 25 years of age (59%). Both nulliparity and young maternal age has been noted as a risk factor for the development of eclampsia.[8]

62% of cases were unbooked. This high percentage of unbooked status was noted in nearly all the Indian studies.[4-6] According to Majhi et al, inadequate antenatal care is closely related to poor perinatal outcome in eclampsia.[9]

Antenatal care is the single most important factor that could help to reduce poor outcome in these cases.[10]

Perinatal mortality was highest when gestational age was less than 34 weeks. This is similar to other Indian studies.[11,4,6] According to Shear et al, gestational age is the strongest predictor of foetal morbidity and mortality.[12]

The incidence of preterm delivery is high in cases of eclampsia as iatrogenic preterm delivery is more common in these cases.[10]

In our study, there was no relation between blood pressure on admission and perinatal mortality. But other
studies have found maximum perinatal mortality when Blood pressure was more than 160/110 mmHg.[11,12,13] Perinatal mortality was highest with urine albumin more than 2+. Increasing proteinuria has been reported to be associated with higher risk of adverse maternal and foetal outcome.[14] Uric acid levels > and = 6 mEq/dL were associated with higher perinatal mortality. Gopalan S[15] has reported increased perinatal mortality with uric acid levels > 5.5 mEq/L.

Babies delivered by Caesarean section had a better perinatal outcome. Early caesarean section in eclampsia patients has been favoured to reduce perinatal mortality.[16]

CONCLUSION
The perinatal mortality in cases of eclampsia in our institute was 33.8%. Perinatal outcome was found to be poor in premature (< 34 weeks gestation) and low birth weight (< 2 kg) babies born to eclamptic mothers having proteinuria more than 2+ and uric acid levels > 6 mEq/L. Perinatal mortality was lower in babies delivered by early caesarean section.

Regular antenatal care, early recognition of high risk factors, timely treatment and early intervention in form of operative delivery by LSCS will help to reduce the burden of perinatal mortality. There is an urgent need for obstetricians to aim to improve maternal healthcare services in order to reduce the burden of this dreaded disease named eclampsia.

REFERENCES