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

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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.

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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]

Perinatal mortality is a reflection of the maternal health care services that are being provided to the expectant mothers. This study has been done to find out the perinatal mortality associated with eclampsia in our institute and to study the risk factors leading to a poor perinatal outcome. By doing so, we hope to formulate better treatment protocols in order to improve the perinatal outcome in eclampsia at our hospital.

Improvement in the provision of healthcare services, early detection and timely treatment of such cases can be expected to lead to a reduction in obstetrical and neonatal complications associated with eclampsia.

Aims and Objectives

1. To determine the perinatal mortality rate associated with eclampsia in our institute.
2. To study the risk factors, which affect perinatal outcome in cases of eclampsia.

MATERIALS AND METHODS

This is a retrospective observational study carried out at a tertiary care institute. All patients admitted to the labour ward above 28 weeks of gestation with eclampsia between 1st January, 2015 and 31st December, 2015 were included in study. Patients with postpartum eclampsia were excluded from the study.

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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 patients) 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.

Gestational Age	Total Number of Cases	Perinatal Deaths	Percentage
< 34 weeks	24	17	70.8%
> and = 34 weeks	41	5	12.1%

Table 1. Relationship of Gestational Age with Perinatal Mortality

95.4% (21 out of 22) perinatal deaths were seen in babies weighing less than 2 kg.

Baby Weight	Perinatal Deaths	Percentage
> and = 2 kg	1	4.5%
< 2 kg	21	95.4%

Table 2. Relationship of Birth Weight with Perinatal Mortality

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.

Systolic BP on Admission	Total Number of Patients	Perinatal Death	Percentage
SBP > or equal to 160 mmHg	29	11	37%
SBP < 160 mmHg	36	11	30%

Table 3. Relationship of Systolic Blood Pressure with Perinatal Mortality

Diastolic BP on Admission	Total Number of Patients	Perinatal Death	Percentage
DBP > or equal to 110 mmHg	28	10	35%
DBP < 110 mmHg	37	12	32%

Table 4. Relationship of Diastolic Blood Pressure with Perinatal Mortality

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

Urine Albumin	Total Patients	Perinatal Death	Percentage
4+	29	13	44.8%
3+	17	6	35.2%
2+	9	2	27.2%
1+	10	1	10%

Table 5. Relationship of Proteinuria with Perinatal Mortality

Perinatal deaths were more in cases where uric acid levels were > and = 6 mEq/dL.

Uric Acid (mEq/dL)	Total Number of Patients	Perinatal Death	Percentage
> and equal to 6	30	13	43.3%
< 6	35	9	25.7%

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

Babies delivered by Caesarean had a better perinatal outcome. Only 29% of babies delivered by Caesarean section died as compared to 41% of those who were born by normal vaginal delivery.

Mode of Delivery	Total	Perinatal Death	Percentage
Normal Vaginal Delivery	24	10	41%
Caesarean Section	41	12	29%

Table 7. Relationship of Mode of Delivery with Perinatal Mortality

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.^[11,5,13]

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.

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