Original Research Article

A study on maternal and perinatal outcomes in severe pre-eclampsia and eclampsia: Experience from a tertiary care teaching hospital

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Abstract

Background: Preeclampsia and eclampsia are major problems worldwide, particularly in developing countries. In India, eclampsia is one of the leading causes of maternal mortality and morbidity. In this study, we are describing the clinical and obstetric characteristics and perinatal outcomes of pregnant women with severe pre-eclampsia and eclampsia. **Methods:** A prospective hospital based descriptive study among pregnant women attending a district hospital of teaching hospital, Thiruvarur, Tamil Nadu. Pregnant women attending the district hospital and diagnosed with severe pre-eclampsia and eclampsia were included as study participants. **Results and Conclusion:** Of the total study participants, 112 mothers (68%) were primigravida, 44 mothers (27%) were multigravida and the rest 5% were grand multipara mothers. Out of 165 mothers, 68 had convulsions and 6 mothers with severe pre-eclampsia had convulsions later. Head ache was reported by 97 patients, vomiting by 35 patients, epigastria pain by 18 patients and blurring of vision by 16 patients. Regarding complications, PPH was seen in 46 cases, 12 women had abruption and 15 mothers had renal dysfunction. HELLP syndrome was diagnosed in 4 cases and 14 mothers went into DIC. There were a total of 25 intra-uterine fetal deaths, 2 still born and 12 were neonatal deaths.
Key Words: eclampsia.

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INTRODUCTION

Preeclampsia and eclampsia are major problems worldwide, particularly in developing countries[1-5]. In India, eclampsia is one of the leading causes of maternal mortality and morbidity. Eclampsia is a life threatening emergency that continues to be a major risk factor influencing the outcome of pregnancy and an important cause of maternal mortality. Eclampsia is a condition associated with pregnancy where in there will be onset of convulsions in a woman who is having preeclampsia. Cerebral anoxia, brain damage and coma are the established complications of eclampsia which contributes to the morbidity and mortality. The onset of eclampsia may be antepartum, postpartum or intrapartum; however most often it is diagnosed during the second half of pregnancy. The incidence of eclampsia in developed countries range from 1:2000 to 1:3448 pregnancies and this is much lower than in developing countries like India[6]. Pre-eclampsia is condition characterized by presence of high blood pressure, proteinuria, pedal edema with or without the presence of other organ dysfunction. The onset of pre-eclampsia is insidious and pathological changes usually occur weeks before it can be clinically detectable in the form of hypertension and proteinuria. In addition, symptoms are recognized only at the end stage of disease, just before the stage of convulsions. Evidence has shown that good antenatal care can prevent the occurrence of eclampsia to a large extent if detected early and appropriate management measures are implemented. In this study, we are describing the clinical and obstetric

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characteristics and perinatal outcomes of pregnant women with severe pre-eclampsia and eclampsia.

MATERIALS AND METHODS

A prospective hospital based descriptive study among pregnant women attending a district hospital of teaching hospital, Thiruvarur, Tamil Nadu. Pregnant women attending the district hospital and diagnosed with severe pre-eclampsia and eclampsia during June 2015-May 2017 were included as study participants after explaining the study purpose. Pregnant women with anemia, known case of renal disease, preexisting hypertension, diabetes and polyhydramnios were not included in the study. Also, multiple pregnancies were excluded. Information on demographic, obstetric and family history was asked from the patientor her relatives. General physical examination, systemic and abdominal examinations were carried out in the ward by obstetricians as a part of routine clinical work up. Ultrasound examination was done for all cases. Complete blood count, absolute platelet count, liver and renal function tests, coagulation profile and urine examination were performed for all pregnant women admitted with severe pre-eclampsia and eclampsia. Obstetric management was carried out following standard department protocol. Corticosteroids were indicated and given for the cases when gestational age was less than 34 weeks. Timing and mode of delivery were individualized for each patient and usually it was based fetal condition, gestational age and Bishops score. Patients with eclampsia were given magnesium sulphate by Pritchard's regimen and nifedipine, methyldopa, and labetalol were the commonly used anti-hypertensive drugs for the management of blood pressure in this group of cases. Pediatricians provide neonatal care from delivery and the decision of admission of newborn babies were taken by pediatrician. Uncontrolled hypertension cases were managed in collaboration with physician and anesthetist from the same teaching hospital.

RESULTS

Table 1: Age distribution of mothers (n=165)

Age categories	Frequency	Percentage
<20	4	2.4
21-25	54	32.7
26-30	102	61.8
31-35	5	3.0

Table 2: Symptoms in study participants (n=165)

Symptoms/signs	Frequency	Percentage
Convulsions	74	44.8
Head ache	97	58.8
Blurring of vision	16	9.7
Epigastric pain	18	10.9
Vomiting	35	21.2
Pedal edema	31	18.8
Oliguria	15	9.1
Generalized edema or Ascites	2	1.2
Raised blood pressure	21	12.7

Table 3: Comparison of maternal complicationsin severe preeclampsia and eclampsia mothers

Complications	Severe preeclampsia (n=93)	Eclampsia (n=72)	Total
Abruption	09	03	12
PPH	32	14	46
HELLP	02	02	04
DIC	10	04	14
Renal dysfunction	04	11	15
Convulsions	6	12	18
Death	1	1	02

Table 4: Perinatal outcomes in study population

Outcomes	Frequency
Live births	123
IUD	25
Still birth	2
Neonatal death	13

During the study period, 165 mothers with severe pre-eclampsia or eclampsia were included in the study. Of the total study participants, 112 mothers (68%) were primigravida, 44 mothers (27%) were multigravida and the rest 5% were grand multipara mothers. Mean and standard deviation of age of the mothers was 25.9 years and 2.7 years respectively. About 95% of the mothers were in 20-30 years age categories.60% of the mothers were diagnosed before 35 completed weeks of gestation. Out of 165 mothers, 68 had convulsions and 6 mothers with severe pre-eclampsia had convulsions later. Head ache was reported by 97 patients, vomiting by 35 patients, epigastria pain by 18 patients and blurring of vision by 16 patients. Only 2 mothers had generalized edema or ascites. Elevated blood pressure was found in 21 mothers. Liver functions were abnormal in 25% of patients. SGOT> 100 IU was seen in 16% mothers and SGPT>100 IU was detected in 12% of the mothers and in 54% of the mothers had abnormal renal function tests (serum creatinine). Regarding mode of delivery, 42% underwent LSCS and 39% delivered vaginally. 13% mothers underwent instrumental delivery and in about 6% mothers, hysterotomy was done. Failure of induction, fetal distress and cephalopelvic disproportion (CPD) were the indications in majority of cases. Regarding complications, PPH was seen in 46 cases, 12 women had

abruption and 15 mothers had renal dysfunction. HELLP syndrome was diagnosed in 4 cases and 14 mothers went into DIC. There were a total of 25 intra-uterine fetal deaths, 2 still born and 12 were neonatal deaths.

DISCUSSION

In our study in a tertiary care teaching hospital, we studied 93 mothers with severe pre-eclampsia and 73 mothers admitted with eclampsia. Mean age of the mothers was 25.9 years. More than two thirds were primigravida and more than 90% were booked cases. Other studies have reported comparable percentage of primigravida in their studies[7-9] Majority of the pregnant women in our study were between 20-30 years and this is similar to other studies. A study done by Singhal SR *et al* reported that 90% of the pregnant women included in their study were less than 30 years of age[7]. In our study, 60% of the mothers were diagnosed before 35 completed weeks of gestation. This is similar to findings published by Saxena *et al* in Maharashtra[10]. The study by Saxena *et al* reported that 64% of the women were diagnosed before 37 weeks of gestation. Head ache was the common symptom reported in our study. Other studies have also reported similar finding. In our study, 42% underwent LSCS which was higher compared to pregnant women without any high risk. However, this high percentage of LSCS was reported in other studies as well[8]. PPH and abruption were the two common maternal complications identified in our study setting. Saxena *et al* reported 10 cases of abruption and 38 cases of PPH in 150 patients with severe pre-eclampsia and eclampsia[10]. DIC was the other common complication reported in the previous studies and our study finding is in line with the literature. Adequate and appropriate assessment, monitoring and care for these women in the antepartum, intrapartum and postpartum period will significantly avoid maternal and perinatal complications. Regular blood pressure monitoring during antenatal period in all health facilities including primary health care facilities will help in detecting these cases early and link them to appropriate management at higher level of health facilities.

CONCLUSION

In women with severe pre-eclampsia and eclampsia, headache, blurring of vision and epigastric pain were the common symptoms at presentation. There was a significant occurrence of maternal complications like PPH, abruption and DIC. Eclampsia is a life threatening emergency and continues to be a major risk factor influencing the outcome of pregnancy. Also, it is still the leading etiological factor of maternal mortality worldwide. Hence early detection and appropriate management is needed to reduce maternal and neonatal morbidity and mortality.

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