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Original Article

Maternal and Perinatal Outcome in Severe Pre-eclampsia and Eclampsia in Rajarajeswari Medical College, Bangalore

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Abstract

Introduction: Eclampsia and pre-eclampsia is an acute life threatening complication of pregnancy. They are the leading cause of maternal and perinatal morbidity and mortality.

Aim: To study the maternal and perinatal outcome in severe pre-eclampsia and eclampsia.

Methods: A prospective study carried on 50 pregnant women admitted with severe pre-eclampsia and eclampsia in Rajarajeswari Medical College and Hospital.

Results: Out of the 50 cases, majority of the cases were transferred cases (56%) and 80% of the cases belonged to the age group of 20 to 30 years. Majority of the cases were seen in primigravida (58%). There was high incidence of PPH (70%), abruptio placenta (4%), HELLP syndrome (6%). Perinatal complication were also high, 60% were low birth weight, 20% were preterm, 16% were IUFD, three cases had doppler changes and three neonates had to be ventilated.

Conclusion: There is high maternal and perinatal morbidity and mortality. Good and regular antenatal care can help prevent pre-eclampsia and eclampsia. Therefore, proper and frequent antenatal care id needed for high risk pregnant women.

Key words: Pre-eclampsia, Eclampsia, Maternal morbidity, Perinatal morbidity

INTRODUCTION

Hypertensive disorders of pregnancy are one of the major causes of maternal and fetal mortality and morbidity, and it affects almost 3–10% of all pregnancies all over the world.[1] Pre-eclampsia is defined as gestational hypertension with proteinuria. The triad of preeclampsia includes hypertension, proteinuria, and edema.[2,3] Eclampsia is defined as the onset of convulsions in the setting of pre-eclampsia when any other neurological cause of convulsions has been ruled out.[4] The earliest historical documentation of eclampsia comes from Hippocrates, who noted that headaches, seizures, and altered consciousness were ominous signs seen in some pregnancies. The term eclampsia first appeared in the Varandaeus treatise on gynecology.[5]

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Pre-eclampsia is the leading cause of maternal and perinatal morbidity and mortality worldwide,[6] various complications associated with pre-eclampsia and eclampsia are preterm labor, intrauterine growth restriction, intrauterine fetal death (IUFD), accidental hemorrhage, pulmonary edema, cardiac failure, hemolysis, elevated liver enzymes, low platelet (HELLP) syndrome, disseminated intravascular coagulation, renal failure, adult respiratory distress syndrome, and cerebral hemorrhage.[7] Pre-eclampsia and eclampsia account for 24% of all maternal deaths in India.[8]

Access to perinatal care, the early detection of the disorder, careful monitoring, and appropriate management are

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Table 1: Distribution of patients as per booked or transferred status, education, age, parity, and gestation at the time of presentation

Booking status (%)	Education (%)	Age (years) (%)	Parity (%)	Gestation (%)
Booked - 44	Illiterate: 32	<20: 16	0: 58	Preterm: 30
		20–30: 80	1: 20	Term: 60
Transferred - 56	Literate: 68	>30: 04	>2: 22	Postdated: 10

crucial elements in the prevention of pre-eclampsia and eclampsia-related deaths. For ignorant or undiagnosed patients who present with convulsions, we can offer emergency services which will definitely help to reduce both maternal and perinatal mortality due to eclampsia.[9]

The present study was planned to evaluate and compare maternal and perinatal outcomes in severe pre-eclampsia and eclampsia at our hospital.

METHODOLOGY

The present study was done on 50 pregnant women with >28 weeks of gestation with severe pre-eclampsia and eclampsia who were admitted in the Department of Obstetrics and Gynecology at Rajarajeswari Medical College and Hospital.

On admission, detailed demographic, personal, medical, obstetric, and family history was recorded from the patient or her attendant as appropriate. General physical examination, systemic, abdominal, and pelvic examinations were carried out. Investigations such as complete blood count with absolute platelet count, liver function tests, renal function tests, coagulation profile, and fundoscopy and urine examination were performed for all patients. Ultrasound was done at the time of admission after patient stabilization. Obstetric management was carried out as per department protocol. Magnesium sulfate was the drug of choice for controlling convulsions. Blood pressure was controlled by oral nifedipine and labetalol. Corticosteroids were administered if gestational age was <34 weeks. Details of labor whether it was spontaneous or induced, method of induction and mode of delivery were noted down. Neonatal care was provided by pediatrician from delivery onward. At the end of the study, the data were compiled and analyzed.

RESULTS

Of the 50 patients, most of the patient was transferred cases (56%). Majority of the cases were literate (68%) and belonged to the age group of 20–30 years (80%). Primigravida accounted for 58% of cases [Table 1].

Table 2: Distribution of patients as per investigations

Proteinuria	RFT	LFT
≤+1: 20	Blood urea ≥40 mg–20	SGOT>100 IU-20%
+2: 50	Serum creatinine ≥1 mg–20	SGPT>100 IU-20%
≥±3: 30	–	–

RFT: Renal function test, LFT: Liver function test

Liver function was deranged in 20% of cases and renal function was deranged in 20% of cases [Table 2].

The most common presenting symptom was headache (44%), followed by epigastric pain (34%), edema and high blood pressure (10%), and convulsion (12%) [Table 3].

The mode of delivery was determined on the basis of gestational age, fetal, and maternal condition. Our study showed that majority of the case was delivered by lower segment cesarean section (LSCS) (68%) and 28% delivered vaginally, of which 18% were term vaginal delivery and 10% were preterm vaginal delivery [Table 4].

Maternal complication such as postpartum hemorrhage (PPH) was observed in 70%, abruptio placenta in 4%, and HELLP syndrome in 6%. Perinatal outcome was also high, 60% were of low birth weight, 56% preterm, 16% were IUFD, three cases had Doppler change, and three neonates had to be ventilated [Table 5].

DISCUSSION

Of the 50 patients, six patients were referred from other institutions with symptoms of convulsion for appropriate management. Headache was the main symptom in 22 cases of severe pre-eclampsia. None of the 44 cases of severe pre-eclampsia developed convulsion.

Headache was the most common antecedent symptom present in 44% of the patient followed by epigastric pain (34%). Douglas and Redman[10] reported headache, epigastric pain, and blurring of vision in 50%, 19%, and 19% of patient, respectively, results are almost similar to our study.

Singhal *et al.* in his study concluded that 44% in their study has headache as the main symptoms.[11]

Table 3: Distribution according to symptomatology

Symptoms	Cases
Convulsion	6
Headache	22
Epigastric pain	17
Edema and high blood pressure	5

Table 4: Distribution according to mode of delivery

Mode of delivery	Cases (%)
Full-term vaginal delivery	9 (18)
Preterm vaginal delivery	5 (10)
Instrumental delivery	2 (4)
LSCS	34 (68)

LSCS: Lower segment cesarean section

Table 5: Distribution according to maternal and perinatal complications

Maternal complication	Cases (%)	Perinatal complication	Cases (%)
PPH	35 (70)	IUFD	8 (16)
Abruptio placenta	2 (4)	Low birth weight	30 (60)
HELLP syndrome	3 (6)	NICU admission	6 (12)
Oligohydramnios	2 (4)	Doppler changes	3 (6)
		Ventilated	3 (6)

IUFD: Intrauterine fetal death, HELLP: Hemolysis, elevated liver enzymes, low platelet, PPH: Postpartum hemorrhage, NICU: Neonatal intensive care unit

According to a study by Shaikh *et al*., 82% of patients were unbooked/transferred.[12] Our study showed that more than half of the cases (56%) were transferred cases.

Our study showed that majority of the cases were primigravida accounting for 58% and similar results were obtained by Shaikh *et al*. and Singhal *et al*.[11]

Liver function was deranged in 20% of cases and renal function in 20% of cases. Singhal *et al*. showed that 20% of patient had deranged liver function tests while 27% had deranged renal functions.[11]

Our study showed that 68% had LSCS while Tuffnell *et al*.,[13] Al Inizi *et al*.,[14] and Sibai[15] reported cesarean section rate of 72.1%, 54%, and 49%, respectively.

Maternal complication included PPH in 35 cases followed by HELLP syndrome in 3, abruptio placenta in 2, and oligohydramnios in 2. Singhal *et al*.[11] showed only one case of abruptio placenta.

Of the 50 cases, 30 were born with low birth weight, 8 cases were IUFD cases, and 6 cases needed neonatal intensive care unit admission, of which three cases had to be ventilated and three cases had Doppler changes.

CONCLUSION

There is very high maternal and perinatal morbidity and mortality in patients with severe pre-eclampsia and eclampsia. Proper and regular antenatal checkup will identify pre-eclampsia and eclampsia in early stages. For the cases who present with convulsion emergency services can be provided to reduce the maternal and perinatal mortality due to eclampsia.

Regular assessment, investigation, monitoring, and intensive care and timely delivery will improve significantly the maternal and perinatal outcome. Regular blood pressure monitoring is the key to the early detection and prevention of complications.

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