

Original article:

Study of assessment of fetomaternal outcome in patients of eclampsia in tertiary health care centre

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Abstract:

Introduction: The fetal complications of preeclampsia with severe features and eclampsia comprise placental abruption, intrauterine growth restriction, premature delivery and intrauterine fetal death. 27 In the fetus preterm delivery, asphyxia and intrauterine growth restrictions commonly associated with the disease increase the perinatal mortality.

Materials and methods: The study was carried out on eclampsia patients in the department of obstetrics and gynecology at a Tertiary health care center. All the patients with eclampsia admitting in Obstetrics and gynecology ward during the period of February 2021 to January 2022, at tertiary health center in Central part of India who gives consent for study, was enrolled in study.

Results: In our study, the majority of patients (35) and 35.00% had fetal complications such as preterm birth. IUGR (intrauterine growth restriction) was observed in 25 (25.00%) of the patients. 16 patients were found with IUD (intrauterine death) complications, 20 patients had LBW complications as well as 4 patients had stillbirth.

Conclusion: The outcomes also showed that the majority of the eclamptic patients had normal KFT, LFT and coagulation profiles. However, a substantial amount of the subjects experienced maternal as well as fetal complications. A few of the notable complications of all the experienced ones were HELLP syndrome and PRES syndrome, Acute Renal failure followed by Postpartum hemorrhage, DIC, Acute pulmonary edema. And these maternal complications in severe forms may lead to death. The fetal complications were also a substantial determinant of the results of the present study. Majority of the infants had a preterm, premature births followed by Low birth weight, IUGR, IUD and stillbirth.

Keywords: fetomaternal outcome, eclampsia, preterm birth

Introduction:

The fetal complications of preeclampsia with severe features and eclampsia comprise placental abruption, intrauterine growth restriction, premature delivery and intrauterine fetal death.^{1,2,7} In the fetus preterm delivery, asphyxia and intrauterine growth restrictions commonly associated with the disease increase the perinatal mortality.^{2,3} The exact pathophysiology of the illness is still unknown, despite its long history of knowledge. Numerous hypotheses have been put out to explain the mechanism, such as aberrant trophoblastic invasion of the uterine blood vessels, immunological mismatch between the tissues of the mother and foetus, inflammatory alterations during a typical pregnancy, genetic causes, etc.⁴ On the other hand, none of them were able to adequately explain the illness. Eclampsia, disseminated intravascular coagulation (DIC), hemolysis, elevated liver enzymes and low platelets (HELLP) syndrome, fetal development retardation and maternal and fetal mortality are just a few of the issues that might happen. However, pre-eclampsia prediction and prevention methods are still lacking. The only conclusive and curative treatment seems to be delivery.⁵

Materials and methods:

The study was carried out on eclampsia patients in the department of obstetrics and gynecology at a Tertiary health care center.

All the patients with eclampsia admitting in Obstetrics and gynecology ward during the period of February 2021 to January 2022, at tertiary health center in Central part of India who gives consent for study, was enrolled in study.

The study was initiated after obtaining approval from institutional Ethics Committee (IEC) as per Ethical Guidelines of biomedical research on human subjects, Indian council of Medical Research, New Delhi, 2006.

Sample Size: 100 cases of eclampsia

Inclusion criteria:

1. Patients with generalized tonic-clonic convulsions during pregnancy/labour / within 7 days of delivery and having features of preeclampsia.
2. Patients was to give informed written consent.

Exclusion criteria:

1. Previous history of epilepsy
2. Previous history of neurological disorders
3. Features suggestive of encephalitis/ meningitis
4. Those who are not was to give written informed consent.
5. Pregnancy less than 20 weeks.
6. Any other secondary causes underlying seizures
7. Those not giving written informed consent.

Results:

A total of 100 eclampsia patients were included in this study. The majority of patients (68.00%) were between the ages of 18 and 25, with 30.00% between the ages of 26 and 30. In addition, 2.0% of patients were between 31-35 age groups. Most of the patients 75 were primigravida. Whereas, 25 patients were found with multigravida.

Table 1: Maternal Complication

Maternal Complication	No. of patients
Acute pulmonary edema	2
Acute renal failure	6
DIC	3
HELLP syndrome	5
Postpartum hemorrhage	3
PRES	5
None	76
Total	100

The majority of patients (35) and 35.00% had fetal complications such as preterm birth. IUGR (intrauterine growth restriction) was observed in 25 (25.00%) of the patients. 16 patients were found with IUD (intrauterine death) complications, 20 patients had LBW complications as well as 4 patients had stillbirth i.e. illustrated in the table 5.

Table 2 : Fetal Complication in cases

Fetal Complication	Cases	Percent
LBW	20	20.00%
Preterm	35	35.00%
IUD	16	16.00%
IUGR	25	25.00%
Stillbirth	4	4.00%
Total	100	100.00%

In our study, 78 patients gave birth to live babies. Whereas, in the 16 patients had intrauterine death of fetus (IUD), 3 patients had fetus stillbirth and another 3 patients had dichorionic diamniotic (DCDA) twin pregnancy with both live twins.

Discussion:

In pregnancy, eclampsia remains one of the most common complications accompanying hypertension.⁶ According to, the world health organization 5% to 8% of pregnant women with pre-eclampsia existing in this condition in developing countries, as with preeclampsia the pathogenesis is largely unknown. Due to the lack of information, the maternal as well as the fetal mortality rate is increased.⁷ For the reason of that in the present study, we mainly focused on the clinical profile of the

eclamptic patients and the various maternal and fetal outcomes by means of morbidity and mortality in eclampsia. For the baseline investigations of the eclamptic patients, we performed the kidney function test, liver function test as well as the coagulation profile in which most of the patients 79% were found to be normal LFT (liver function tests). Whereas, 21.0% of patients were observed with unbalanced LFT. About, 76.0% of patients had normal KFT (kidney function test) while, 24.0% of fetuses had unbalanced KFT. The coagulation profiles of 90.0% of fetuses were found to be normal, but 10.0% of patients were observed to be abnormal.^{8,9}

Outcomes of our study show that 76 patients had no maternal complications. But 6 patients had acute renal failure, 5 patients had HELLP syndrome, 5 patients had PRES. On the other hand, 3 had postpartum hemorrhage, and 3 patients had DIC. Our study concordance with the study piloted by, Duhan L et al.⁷ stated maternal complications in 37% patients which were Abruptio placenta (6%), ARF (6%), pulmonary edema (4%), stroke (3%), HELLP syndrome (2%) and 7 DIC (1%). In the present study, 4% maternal mortality was found. The findings of our study are consistent with the findings of Duhan et al.,⁷ who found a 6% maternal mortality rate among seven patients with eclampsia.

This disorder is one of the leading causes of maternal mortality worldwide it varies from 1.8-27.5%. Maternal mortality in our study was 4.0%. Almost one third of patients suffer from complications. Major complications of eclampsia include placental abruption (7-10%), DIC (7-11%), HELLP syndrome (9.7-20%), acute renal failure (5-9%), pulmonary edema (3-5%), aspiration pneumonia (2-3%), cerebral haemorrhage and cardiopulmonary arrest (2-5%).⁵¹ Overall, 34% of patients suffered from complications in present study. Similar outcomes were observed in the study done by, Murphy and stirrat⁶ studied 71 preeclamptic women with gestational age less than 30 weeks and reported 21% had developed HELLP syndrome, 15% had abruptio placenta, 13% had renal failure and 1.4% eclampsia but no maternal mortality was observed. Al –Mulhim et al. reported that the commonest complication to be abruptio placenta.⁹

In our study, the majority of patients (35) and 35.00% had fetal complications such as preterm birth. IUGR (intrauterine growth restriction) was observed in 25 (25.00%) of the patients. 16 patients were found with IUD (intrauterine death) complications, 20 patients had LBW complications as well as 4 patients had stillbirth. There were total 5 (10.85%) fetal deaths observed in their study i.e. three (6.5%) were still born and 2 (4.35%) were macerated babies. Many studies have suggested that there is higher risk of preterm delivery and low birth weight in eclampsia along with increased rate of fetal death.^{7,8,9} Therefore, in our study we mainly focus on the clinical profile of the eclamptic patients and the various maternal and fetal outcomes by means of morbidity and mortality in eclampsia.

Conclusion

The outcomes also showed that the majority of the eclamptic patients had normal KFT, LFT and coagulation profiles. However, a substantial amount of the subjects experienced maternal as well as fetal complications. A few of the notable complications of all the experienced ones were HELLP syndrome and PRES syndrome, Acute Renal failure followed by Postpartum hemorrhage, DIC, Acute pulmonary edema. And these maternal complications in severe forms may lead to death. The fetal complications were also a substantial determinant of the results of the present study. Majority of the infants had a preterm, premature births followed by Low birth weight, IUGR, IUD and stillbirth.

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