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# Study of Maternal and Fetal Outcome in Antepartum Eclampsia in A Tertiary Care Hospital

[1]Dr. Sarita S Karigar, Postgraduate Resident, Department of Obstetrics and Gynecology, Mahadevappa Rampure Medical College, Kalaburgi

[2]Dr. Savita Konin, Professor, Department of Obstetrics and Gynecology, Mahadevappa Rampure Medical College, Kalaburgi

[3]Dr. Meenakshi S Devarmani, Professor, Department of Obstetrics and Gynecology, Mahadevappa Rampure Medical College, Kalaburgi

**Corresponding Author:** Dr. Sarita S Karigar, Postgraduate Resident, Department of Obstetrics and Gynecology, Mahadevappa Rampure Medical College, Kalaburgi

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**Conflicts of Interest:** Nil

## Abstract

**Background:** In modern obstetrics, the prevalence of Eclampsia and its complications are high, so we decided to study pregnancy outcome in all Antepartum Eclampsia patients. The present study was carried out to investigate the maternal and fetal outcome in patient with Antepartum eclampsia.

**Methods:** A Retrospective study was conducted in Basaveshwar Teaching and General Hospital, Kalaburagi, Karnataka, India over a period of one year from the year 2024 to 2025 in all Antepartum Eclampsia patients. Analysis was done regarding the age of women, parity, gestational age, imminent symptoms, mode of delivery, fetal outcome and maternal morbidity and mortality.

**Results**: The majority of patients were aged 18–23 years (60%) and primigravidas (80%). Maternal morbidity was high, with PRES observed in 40% of cases. ICU admission was required in 50%, and 20% required mechanical ventilation. HELLP syndrome and peripartum cardiomyopathy (PPCM) were observed in 6% each, while disseminated intravascular coagulation (DIC) occurred in 10%. Brain hemorrhage was documented in 3%. No maternal mortality was recorded. Preterm delivery occurred in 40% of cases. NICU admission was required in 40% of neonates, and neonatal mortality was 10%.

**Conclusion:** Antepartum eclampsia remains associated with significant maternal and neonatal morbidity. Early recognition, aggressive management, and availability of

critical care services are crucial in reducing adverse outcomes.

**Keywords:** Antepartum Eclampsia, Brain Hemorrhage, Hypertension, Mortality, Pregnancy

## Introduction

The term Eclampsia was derived from Greek word flash of lightening. It is one of the leading causes of maternal and perinatal morbidity as well as mortality throughout the world.

Eclampsia is defined as the development of seizures that cannot be attributed to other causes and or unexplained coma during pregnancy or puerperium in a women with pre-eclampsia.[2] In developed countries, approximately 1 in 2000 deliveries is complicated by eclampsia, whereas the incidence in developing countries varies from 1 in 100 to 1 in 1700 cases.[3] In India, its incidence is reported to be 220 per 10,000 deliveries. Maternal mortality is very high in india and varies from 2-30%, much more in rural than in urban.

The perinatal mortality is very high of about 30-50%. Eclampsia is the third commonest cause of maternal mortality after haemorrhage and infection in the developing countries.

It is estimated that about 7% of maternal mortality is associated with hypertensive disorders of pregnancy, particularly eclampsia.[7] Some clinical cases of maternal deaths in eclampsia are due to cardiopulmonary failure, acute renal failure, cerebrovascular accident (CVA), HELLP Syndrome (Haemolysis, Elevated liver enzymes and low platelets) and premature separation of placenta.

Poor fetal outcome is mostly attributed by iatrogenic prematurity, respiratory distress syndrome (RDS), intrauterine asphyxia, intrauterine growth restriction (IUGR) and intrauterine death (IUD). Additionally, at later stages of life, IUGR may result in neurodevelopmental defects in children.

## Methods

This prospective study was conducted over a period of 1 year at Obstetrics and Gynaecology department of Basaveshwar Teaching and General Hospital, Kalaburagi, Karnataka, India

All Antepartum eclampsia patients who were admitted in OBG department from 2024 to 2025 were included in this study. These cases were evaluated by detailed history, thorough clinic examination, MRI and blood investigations. Pregnancy was terminated in all patients irrespective of gestational age. All cases were treated with Magnesium sulphate (Pritchad regimen).

Hypertension was controlled with intravenous /oral labetolol and nifedipine if necessary. Only 30 patients who met the inclusion and exclusion criteria were included in this study. The variables analysed were age, parity, booking status, gestational age, imminent symptoms, blood pressure, and mode of delivery, fetomaternal morbidity and mortality.

### Inclusion criteria

Patients with antepartum eclampsia

### Exclusion criteria

- Patient with convulsion due to causes other than eclampsia
- Intrapartum and postpartum eclampsia

## Results

This retrospective study included 30 cases of antepartum eclampsia managed at Mahadevappa Rampure Medical College. The majority of patients (60%) were aged 18–23 years, and 80% were primigravidas. Most women (60%) presented at term (37–40 weeks), while 40% delivered preterm.

Lower segment cesarean section was the predominant mode of delivery (86.7%), with only 10% delivering vaginally. Maternal morbidity was significant. Posterior Reversible Encephalopathy Syndrome (PRES) was observed in 40% of cases. Half of the patients required ICU admission, and 20% needed ventilatory support. Other complications included DIC (10%), HELLP syndrome (6.7%), peripartum cardiomyopathy (6.7%), and intracranial hemorrhage (3.3%). No maternal mortality was recorded.

Regarding fetal outcome, preterm delivery occurred in 40% of cases. NICU admission was required in 40% of neonates. Intrauterine growth restriction and intrauterine death were each observed in 6.7% of cases. Neonatal mortality was 10%.

Overall, while maternal survival was 100%, both maternal and neonatal morbidity remained considerable in antepartum eclampsia cases.

**Discussion**

A total of 30 cases of antepartum eclampsia were included in the study and analyzed at Basaveshwar Hospital And General Hospital, Kalaburagi, Karnataka, India.

**Demographic Characteristics**

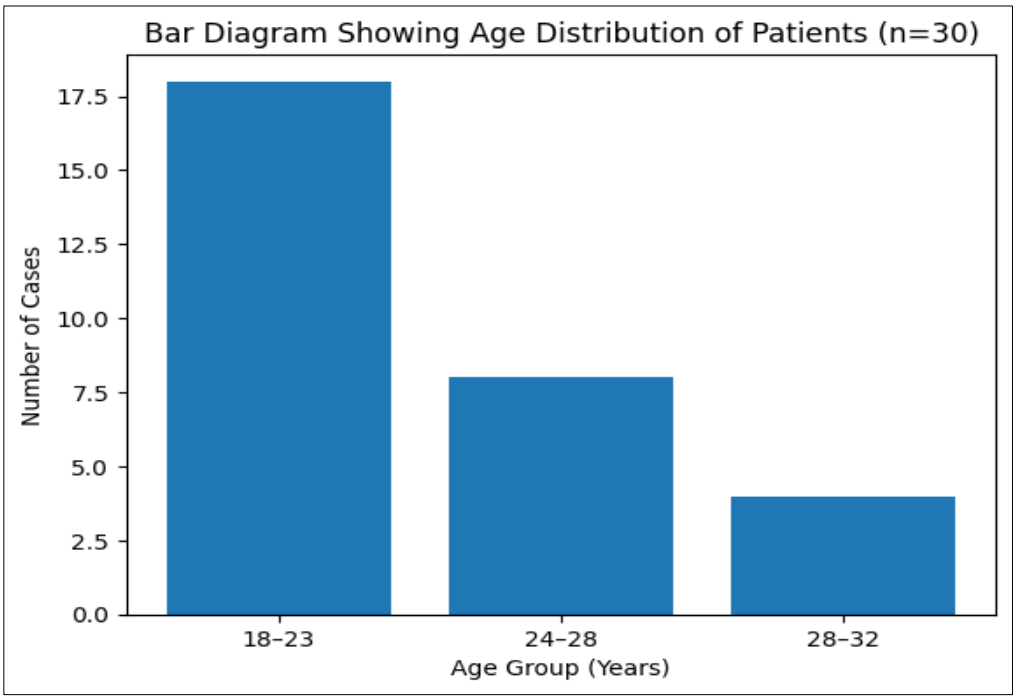
The study population predominantly consisted of young women. Of the 30 patients, 18 (60%) were in the age group of 18–23 years. Eight patients (26.7%) were between 24–28 years, and 4 patients (13.3%) belonged to the 28–32 years age group. The estimated mean maternal age was 22.9 ± 3.1 years. These findings indicate that antepartum eclampsia occurred more frequently in younger women in the reproductive age group.

With regard to obstetric profile, primigravidas constituted the majority of cases. Twenty-four patients (80%) were primigravidas, while 6 patients (20%) were multigravidas. The high proportion of primigravidas suggests an increased susceptibility to antepartum eclampsia during the first pregnancy.

Table 1: Age Distribution of Patients (n=30)

| Variable | Category | Number of Cases | Percentage (%) |
|---|---|---|---|
| Age (Years) | 18–23 | 18 | 60% |
| | 24–28 | 8 | 26.7% |
| | 28–32 | 4 | 13.3% |

Graph 1: Bar Diagram Showing Age Distribution of Patients (n=30)




**Gestational Age at Presentation**

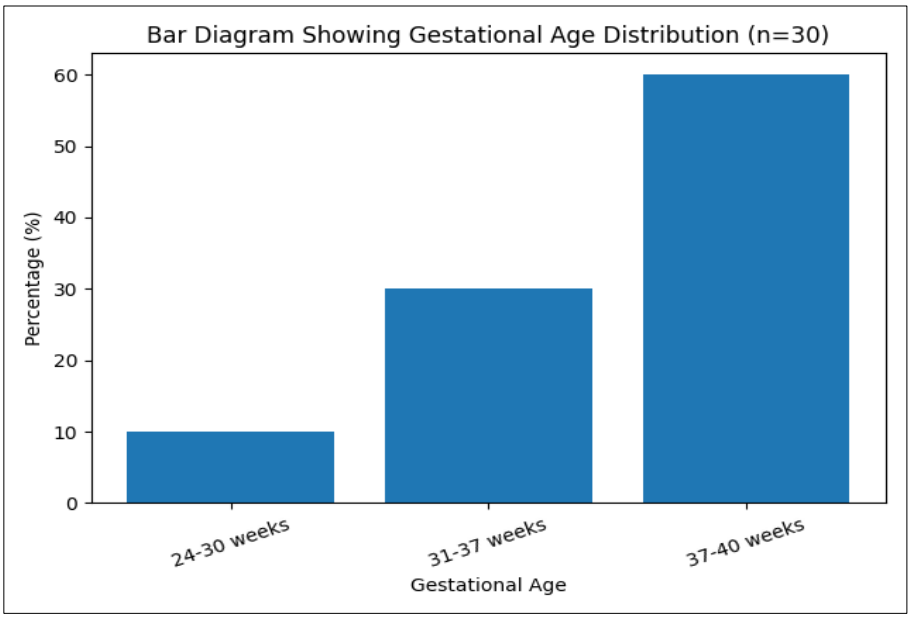
Gestational age at presentation was categorized into three groups. Three patients (10%) presented between 24–30 weeks of gestation. Nine patients (30%) presented between 31–37 weeks. The majority, 18 patients (60%), presented between 37–40 weeks of gestation.

Although most cases were at term, a significant proportion (40%) presented before 37 weeks. Early gestational age at presentation reflects the severity of hypertensive disease in a subset of patients and has important implications for perinatal outcome. Preterm delivery (<37 weeks) was observed in 12 patients (40%).

Table 2: Gestational Age Distribution (n=30)

| Variable | Category | Number of Cases | Percentage (%) |
|---|---|---|---|
| Gravidity | Primigravida | 24 | 80% |
| | Multigravida | 6 | 20% |
| Gestational Age (Weeks) | 24–30 | 3 | 10% |
| | 31–37 | 9 | 30% |
| | 37–40 | 18 | 60% |

Graph 2: Bar Diagram Showing Gestational Age Distribution (n=30)




**Mode of Delivery**

Termination of pregnancy was achieved primarily by operative intervention. Lower segment cesarean section (LSCS) was performed in 26 patients (86.7%). Vaginal delivery occurred in 3 patients (10%), and 1 patient (3.3%) underwent hysterotomy.

The high cesarean section rate reflects the clinical severity of antepartum eclampsia and the need for rapid termination to prevent maternal deterioration and fetal compromise. Indications for operative delivery included uncontrolled hypertension, poor Bishop score, recurrent seizures, non-reassuring fetal heart rate patterns, and maternal instability.

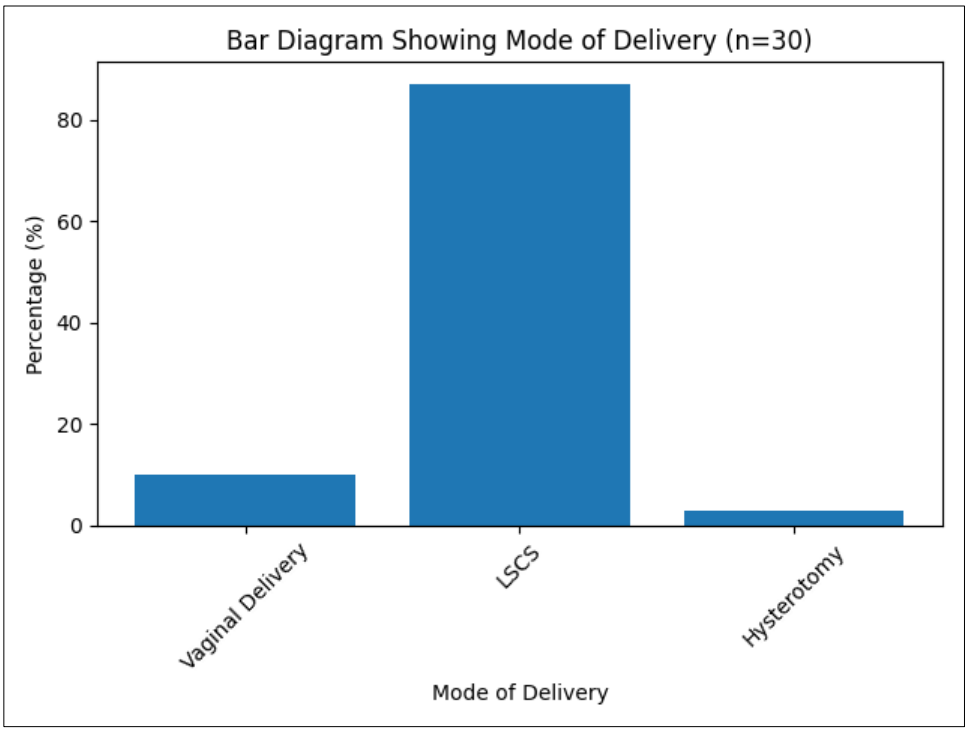
The relatively low rate of vaginal delivery (10%) suggests that only a small proportion of patients had favorable obstetric conditions allowing safe induction or spontaneous delivery.

In the present study, one patient (3.3%) underwent hysterotomy due to failed induction of labour in the setting of antepartum eclampsia. Termination of pregnancy remains the definitive management of eclampsia, irrespective of gestational age.

Table 3: Mode of Delivery (n=30)

| Variable | Category | Number of Cases | Percentage (%) |
|---|---|---|---|
| Mode of Delivery | LSCS | 26 | 86.7% |
| | Vaginal Delivery | 3 | 10% |
| | Hysterotomy | 1 | 3.3% |

Graph 3: Bar Diagram Showing Mode of Delivery (n=30)




**Maternal Morbidity**

Maternal complications were observed in a significant proportion of patients.

Posterior Reversible Encephalopathy Syndrome (PRES) was the most frequently observed complication, occurring in 12 patients (40%). PRES was diagnosed based on clinical presentation and neuroimaging findings consistent with cerebral edema involving the posterior circulation. The high incidence of PRES highlights the neurological impact of severe hypertensive disease.

Intensive Care Unit (ICU) admission was required in 15 patients (50%). Half of the study population required critical care monitoring and management, indicating severe disease at presentation. Among these, 6 patients (20%) required mechanical ventilation due to altered sensorium, recurrent seizures, respiratory distress, or associated complications.

Hematological complications were also noted. Disseminated Intravascular Coagulation (DIC) occurred in 3 patients (10%). These patients required close monitoring of coagulation parameters and blood component therapy. HELLP syndrome (Hemolysis, Elevated Liver enzymes, Low Platelet count) was diagnosed in 2 patients (6.7%).

Cardiac involvement was documented in 2 patients (6.7%) who developed peripartum cardiomyopathy (PPCM). These patients required cardiology evaluation and supportive management.

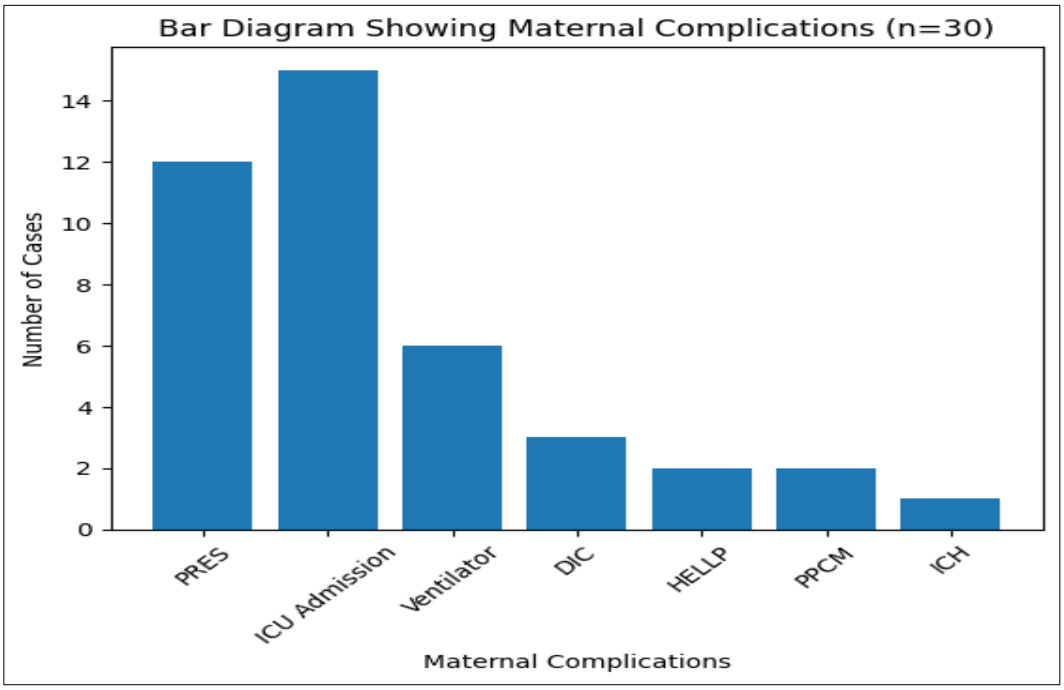
Intracranial hemorrhage occurred in 1 patient (3.3%). This represents a severe neurological complication associated with uncontrolled hypertension and endothelial dysfunction.

Despite significant maternal morbidity, no maternal deaths were recorded in this study. The maternal survival rate was therefore 100%.

Table 4: Maternal Complications (n=30)

| Variable | Category | Number of Cases | Percentage (%) |
|---|---|---|---|
| Maternal Complications | PRES | 12 | 40% |
| | ICU Admission | 15 | 50% |
| | Ventilator Support | 6 | 20% |
| | DIC | 3 | 10% |
| | HELLP Syndrome | 2 | 6.7% |
| | PPCM | 2 | 6.7% |
| | Intracranial Hemorrhage | 1 | 3.3% |
| | Maternal Death | 0 | 0% |

Graph 4: Bar Diagram Showing Maternal Complications (n=30)




**Fetal and Neonatal Outcome**

Fetal and neonatal outcomes were closely associated with gestational age and severity of maternal disease.

Preterm delivery occurred in 12 cases (40%). Prematurity was a major contributor to neonatal morbidity.

Intrauterine growth restriction (IUGR) was observed in 2 cases (6.7%), indicating chronic uteroplacental insufficiency. Intrauterine death (IUD) occurred in 2 cases (6.7%). There were no cases of stillbirth recorded in this study.

Neonatal morbidity was substantial. Twelve neonates (40%) required admission to the Neonatal Intensive Care Unit (NICU). Indications for NICU admission included prematurity, low birth weight, respiratory distress, and birth asphyxia.

Neonatal mortality was recorded in 3 cases (10%). These deaths were primarily attributed to complications of prematurity and severe perinatal compromise.

The overall perinatal survival rate in the study

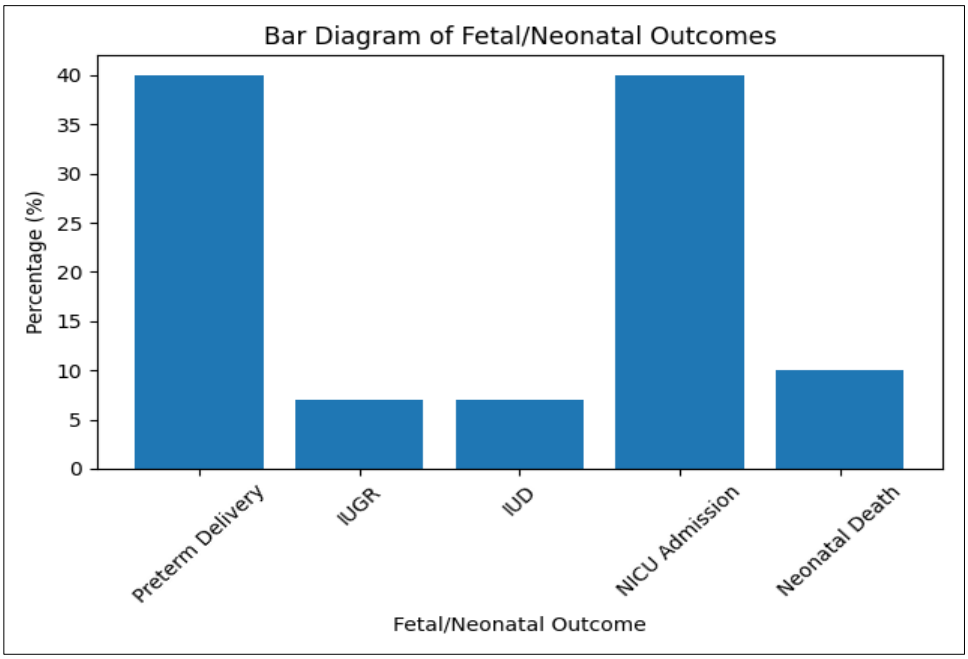
population was 90%. Prematurity with septicemia and respiratory distress syndrome was the major cause of neonatal death. Maternal morbidity and mortality were reduced because of early intervention whereas babies were exposed to the risk of prematurity

The definitive treatment of eclampsia is delivery, irrespective of gestational age. Lower segment caesarean section was the commonest mode of delivery in present study 86.7%.

Table 5: Clinical Profile Fetal Outcome (n = 30)

| Variable | Category | Number of Cases | Percentage (%) |
|---|---|---|---|
| Fetal/Neonatal Outcome | Preterm Delivery | 12 | 40% |
| | IUGR | 2 | 6.7% |
| | IUD | 2 | 6.7% |
| | NICU Admission | 12 | 40% |
| | Neonatal Death | 3 | 10% |

Graph 5: Bar Diagram of Fetal/Neonatal Outcomes

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