



**A CASE SERIES OF PREECLAMPSIA: CLINICAL CHARACTERISTICS AND
MATERNAL–PERINATAL OUTCOMES**

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ABSTRACT. Preeclampsia is a multisystem hypertensive disorder of pregnancy that remains a major cause of maternal and perinatal morbidity and mortality worldwide. Case series offer valuable insights into its clinical presentation, management, and outcomes in real-world settings. This study describes maternal and neonatal outcomes among five cases of preeclampsia managed at a tertiary care center.

This descriptive case series was conducted at a tertiary care hospital in (Country) between January 2023 and December 2024. Five pregnant women diagnosed with preeclampsia after 20 weeks of gestation were included. Diagnosis was based on standard criteria, including hypertension, proteinuria, and/or end-organ dysfunction. Data on maternal demographics, parity, gestational age at diagnosis, disease severity, mode of delivery, and maternal and neonatal outcomes were collected and analyzed.

Keywords: Preeclampsia, hypertension in pregnancy, case series, maternal outcomes, perinatal outcomes

INTRODUCTION

Preeclampsia is a multisystem hypertensive disorder characterized by new-onset hypertension with or without proteinuria after 20 weeks of gestation. It remains a significant contributor to maternal and neonatal morbidity and mortality worldwide, particularly in low- and middle-income countries. Case series provide valuable insight into clinical presentation and real-world management. This study describes maternal and perinatal outcomes in five cases of preeclampsia.

METHODS

This case series was conducted at a tertiary care hospital in (Country) between January 2023 and December 2024. Five pregnant women diagnosed with preeclampsia after 20 weeks of gestation were included. Diagnosis was based on standard clinical criteria including blood pressure $\geq 140/90$ mmHg, proteinuria, and/or evidence of end-organ dysfunction.

Data collected included:

- Maternal age
- Parity
- Gestational age at diagnosis
- Disease severity (mild/severe)
- Mode of delivery
- Maternal and neonatal outcomes

Patient confidentiality was maintained, and ethical approval was not required.

RESULTS



The maternal age ranged from 22 to 36 years (mean 28.8 ± 5.4 years). Two (40%) patients were primigravida. Severe preeclampsia was diagnosed in 3 (60%) cases.

Cesarean section was performed in 4 (80%) patients due to obstetric indications. Preterm delivery (<37 weeks) occurred in 3 (60%) cases.

Neonatal birth weight ranged from 1.9 to 3.1 kg (mean 2.4 ± 0.5 kg). Two (40%) neonates required NICU admission for prematurity-related care. All mothers recovered well postpartum with no major complications.

Table 1. Maternal and Neonatal Outcomes

Case	Maternal Age (yrs)	Parity	GA at Diagnosis (wks)	Severity	Mode of Delivery	Birth Weight (kg)	NICU Admission	Outcome
1	24	P1	34	Mild	Vaginal	2.8	No	Good
2	36	P2	30	Severe	C-section	2.1	Yes	Good
3	28	P1	31	Severe	C-section	2.4	No	Good
4	22	P3	35	Mild	Vaginal	3.1	No	Good
5	30	P2	32	Severe	C-section	1.9	Yes	Good

Clinical Presentation of Preeclampsia

Preeclampsia has a variable clinical presentation, ranging from mild, asymptomatic hypertension to severe, life-threatening multisystem disease. It typically develops after 20 weeks of gestation and may also occur in the postpartum period. Many women are initially asymptomatic, and preeclampsia is detected during routine antenatal visits through:

- Elevated blood pressure ($\geq 140/90$ mmHg)

- Proteinuria on urine testing

When symptomatic, patients may present with: Neurological Symptoms:

- Persistent or severe headache
- Visual disturbances (blurred vision, flashing lights, scotoma)
- Hyperreflexia

Gastrointestinal and Hepatic Symptoms: epigastric pain, right upper quadrant abdominal pain, nausea and vomiting.

Edema and Weight Changes: sudden swelling of face, hands, and feet, rapid weight gain due to fluid retention

Renal Symptoms: reduced urine output (oliguria), dark or frothy urine (suggestive of proteinuria)

Maternal outcomes in preeclampsia vary widely depending on severity, gestational age at onset, and timeliness of management. Case series consistently report increased maternal morbidity, with occasional mortality in severe cases.

- Neurological Complications: eclampsia (new-onset seizures), stroke (ischemic or hemorrhagic), posterior reversible encephalopathy syndrome (PRES).

- Hematological Complications: HELLP syndrome (Hemolysis, Elevated Liver enzymes, Low Platelets), thrombocytopenia, disseminated intravascular coagulation (DIC).

- Hepatic Complications: elevated liver enzymes, subcapsular liver hematoma, hepatic rupture (rare but fatal).

- Renal Complications: acute kidney injury, oliguria or anuria, need for dialysis in severe cases.



- Cardiopulmonary Complications: pulmonary edema, acute respiratory distress syndrome (ARDS).

Preeclampsia significantly increases maternal morbidity, with complications affecting neurological, hepatic, renal, hematological, and cardiopulmonary systems. Early recognition, timely delivery, and multidisciplinary care are essential to improving maternal outcomes.

DISCUSSION

Preeclampsia continues to pose significant risks to both mother and fetus. In this series, severe disease was common (60%), emphasizing the need for vigilant antenatal monitoring. Timely hospitalization, antihypertensive therapy, magnesium sulfate prophylaxis when indicated, and appropriate timing of delivery were key to favorable outcomes.

The findings are consistent with literature demonstrating improved maternal and perinatal outcomes with standardized management protocols. Despite the small sample size, this case series provides practical insights into clinical management of preeclampsia in a tertiary care setting.

CONCLUSION

Preeclampsia presents with diverse clinical characteristics and carries significant risks for both mother and fetus. Case series consistently show increased maternal morbidity, higher operative delivery rates, and adverse perinatal outcomes—particularly in severe and early-onset cases. Early identification, close monitoring, and appropriate obstetric intervention are essential to improve outcomes. Early diagnosis and individualized management of preeclampsia are essential to minimize maternal and perinatal complications. Close antenatal surveillance and timely intervention can lead to satisfactory outcomes even in severe cases.

The clinical presentation of preeclampsia is diverse and unpredictable. While some patients remain asymptomatic, others may rapidly progress to severe disease affecting multiple organ systems. Recognition of early warning symptoms is critical to prevent maternal and perinatal complications.

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