

Recognition and Management of Preeclampsia



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KEYWORDS

• Preeclampsia • Hypertension in pregnancy • Gestational hypertension

HOSPITAL MEDICINE CLINICS CHECKLIST

1. Preeclampsia is a disease of maternal endothelial dysfunction owing to placental ischemia.
2. Preeclampsia is common, affecting at least 5% of pregnancies worldwide.
3. Preeclampsia is a multisystem disorder with significant morbidity and mortality, and is a marker for cardiovascular risk later in life.
4. Diagnosis is based on new-onset hypertension after 20 weeks of gestation in a previously normotensive women plus proteinuria or end-organ dysfunction or both.
5. Management consists of controlling blood pressure, preventing eclampsia, and making decisions regarding timing of delivery along with colleagues in obstetrics.
6. Hospitalists are often consulted about preeclampsia, but many feel uncomfortable with its recognition and management.

DEFINITION

Preeclampsia is one of four distinct pregnancy-related hypertensive disorders.^{1–7} The 4 disorders are chronic/preexisting hypertension, preeclampsia, preeclampsia superimposed on chronic/preexisting hypertension, and gestational hypertension. Preeclampsia is defined by the new onset of hypertension and either proteinuria or

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end-organ dysfunction (or both) after 20 weeks of gestation in a previously normotensive woman (**Table 1**).

Management and treatment decisions vary among these 4 clinical entities; therefore, it is important to be able to distinguish among them:

- Chronic hypertension: systolic blood pressure of greater than 140 mm Hg and/or diastolic pressure of greater than 90 mm Hg that is present before the 20th week of pregnancy, antedates pregnancy, or persists beyond 12 weeks postpartum.
- Preeclampsia-eclampsia: new onset of hypertension and either proteinuria and/or end-organ dysfunction occurring after 20 weeks of gestation in a previously normotensive woman
- Preeclampsia superimposed on chronic hypertension: the development of new proteinuria or end-organ dysfunction after 20 weeks of gestation in a woman with preexisting chronic hypertension.
- Gestational hypertension: hypertension without proteinuria or manifestations of preeclampsia developing after 20 weeks of gestation that resolves by 12 weeks postpartum. Of note, if it persists beyond 12 weeks of gestation, it is more likely to be chronic hypertension, a diagnosis that may have been obscured in the first half of pregnancy by the physiologic decrease in systemic blood pressure that occurs in early pregnancy.

PATHOPHYSIOLOGY

Preeclampsia is a disorder of widespread maternal vascular endothelial dysfunction that is thought to be related to placental ischemia, although much is still unknown regarding its pathogenesis.⁸ The mechanism is likely abnormal trophoblastic invasion of the maternal uterine spiral arteries during placental implantation,^{9,10} and the

Table 1
Hypertensive disorders of pregnancy

| Disorder | Timing | Signs and Symptoms | Resolution |
|---|--|---|---|
| Chronic hypertension | Prenatal or before 20 wk gestation | Hypertension | Does not resolve postpartum |
| Preeclampsia | After 20 wk gestation, usually after 34 wk | Hypertension and proteinuria or hypertension and any of the following: New renal insufficiency Pulmonary edema Thrombocytopenia Elevated transaminases New-onset cerebral or visual disturbances | From delivery of placenta until up to 12 wk postpartum |
| Preeclampsia superimposed on chronic hypertension | After 20 wk gestation in a patient with preexisting chronic hypertension | New-onset proteinuria, worsening hypertension, or signs or symptoms of severe preeclampsia | Preeclampsia signs and symptoms resolve postpartum, but the hypertension persists |
| Gestational hypertension | After 20 wk gestation | Hypertension only | Resolves by 12 wk postpartum |

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