

Hypertensive Emergencies in Pregnancy



Courtney Olson-Chen, MD, Neil S. Seligman, MD, MS*

KEYWORDS

- Hypertensive disorders • Pregnancy • Gestational hypertension • Preeclampsia
- Antihypertensive medications

KEY POINTS

- The 4 main categories of hypertensive disorders in pregnancy are chronic hypertension, gestational hypertension, preeclampsia, and chronic hypertension with superimposed preeclampsia.
- Hypertensive disorders contribute to significant maternal, fetal, and neonatal morbidity and mortality.
- The pathophysiology and etiology of hypertensive disorders in pregnancy is not well understood.
- All antihypertensive drugs cross the placenta, and only a few medications have been sufficiently studied in pregnancy.
- Untreated severe maternal hypertension can lead to end-organ injury. First-line medications for severe hypertension include intravenous labetalol, intravenous hydralazine, and oral nifedipine.

INTRODUCTION

Classification of Hypertensive Disorders in Pregnancy

There are 4 categories of hypertensive disorders in pregnancy as outlined by the 2013 American College of Obstetricians and Gynecologists (ACOG) Task Force on Hypertension in Pregnancy.¹ This group of experts was convened to review available data and provide evidence-based guidelines for the diagnosis and management of hypertensive disorders in pregnancy. The 4 categories include chronic hypertension (CHTN), preeclampsia, gestational hypertension (GHTN), and CHTN with superimposed preeclampsia.

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Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, University of Rochester Medical Center, 601 Elmwood Avenue, Box 668, Rochester, NY 14642, USA

* Corresponding author.

E-mail address: Neil_Seligman@urmc.rochester.edu

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CHTN is an increase in blood pressure that either antedates pregnancy or begins before 20 weeks of gestation. Preeclampsia involves an elevation in blood pressure after 20 weeks of gestation in addition to either proteinuria or the development of signs of end-organ damage known as “severe features” (Box 1). Proteinuria is defined as excretion of 300 mg or greater of protein in a 24-h urine collection or a random protein to creatinine ratio of at least 0.3 mg/dL. Importantly, the ACOG recently emphasized that proteinuria is not requisite for the diagnosis of preeclampsia.¹ Preeclampsia can be subdivided into preeclampsia and preeclampsia with severe features based on the presence of severely elevated blood pressure or the aforementioned severe signs and symptoms.² The amount of protein is no longer used to differentiate preeclampsia and preeclampsia with severe features. GHTN occurs when there is an increase in blood pressure after 20 weeks of gestation in the absence of proteinuria or other severe features of preeclampsia. Finally, preeclampsia can occur in patients with longstanding CHTN. This category is referred to as CHTN with superimposed preeclampsia.¹

A non-pregnancy-related acute increase in blood pressure known as a “hypertensive emergency” may also occur in pregnant patients. This life-threatening presentation necessitates immediate treatment. Examples of this clinical scenario include hypertensive encephalopathy, aortic dissection, left ventricular failure, and increased catecholamines secondary to conditions such as pheochromocytoma or cocaine intoxication.³ Some of these diagnoses, like hypertensive encephalopathy, can be difficult to differentiate from preeclampsia. A retrospective study found that hypertensive encephalopathy is quite rare in comparison with preeclampsia.⁴

Epidemiology of Hypertensive Disorders in Pregnancy

An increasing number of pregnant women in the United States have chronic medical conditions, like CHTN, that increase the risk of adverse outcomes.⁵ The prevalence of hypertensive disorders in pregnancy has been increasing over the last decade with up to 8% of deliveries affected in 2006.⁶ A cross-sectional study of national data found that the increased prevalence of hypertensive disorders was highest for CHTN and GHTN, but rates of preeclampsia are also increasing.⁶ In fact, since 1987, the incidence of preeclampsia has increased by approximately 25% in the United States.⁷ Hypertensive disorders are more common in women with multiple gestations, chronic medical conditions, and gestational diabetes.⁶ The prevalence of hypertension is expected to continue to increase in the future with advancing maternal age and rising rates of obesity.⁸

Hypertensive disorders are a predominant cause of maternal and perinatal morbidity and mortality around the world.² From 2006 to 2010, hypertensive disorders

Box 1

Severe features of preeclampsia

- Severe hypertension (systolic BP \geq 160 mm Hg or diastolic BP \geq 110 mm Hg)
- Thrombocytopenia (platelets $<$ 100,000/ μ L)
- Elevated liver enzymes (twice normal)
- Right upper quadrant or epigastric pain unresponsive to medication
- Unremitting cerebral or visual symptoms
- Renal insufficiency (creatinine $>$ 1.1 mg/dL or twice normal)
- Pulmonary edema

Abbreviation: BP, blood pressure.

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