

MASTER CLASS

Preeclampsia, Part 2

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This Master Class is the second in a three-part series on the topic of preeclampsia, which is a relatively common complication of pregnancy that can result in severe morbidity and mortality if not well managed. In light of this, we have decided to dedicate a significant amount of coverage to this topic.

In the previous Master Class article, we covered one end of the spectrum—severe preeclampsia. This Master Class focuses on the more common presentation of mild preeclampsia, which sometimes presents in a manner

similar to that of gestational hypertension alone.

Mild gestational hypertension–preeclampsia affects up to 10% of all pregnancies. Because it is a relatively common complication of pregnancy, it is critically important that the practitioner develops a clinical algorithm for diagnosis—one that distinguishes mild gestational hypertension–preeclampsia from gestational hypertension alone—and institutes an appropriate management protocol.

Dr. Baha M. Sibai, our guest professor previously on the topic of severe preeclampsia, will help us with this Master Class. He focuses here on the salient differences between gestational hypertension and mild preeclampsia and how these conditions should be managed in the antepartum, intrapartum, and postpartum periods.

Dr. Sibai is an international expert on preeclampsia and

eclampsia and a world leader in clinical care and research in this field. He is professor of obstetrics and gynecology at the University of Cincinnati, and has contributed to more than 350 studies in peer-reviewed journals on these topics.

In the third and final part of the series on preeclampsia, Dr. Sibai will address the risk of recurrent preeclampsia and how subsequent pregnancies in women with a history of previous preeclampsia should be managed. ■

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Mild Gestational Hypertension–Preeclampsia

As discussed previously, women with severe preeclampsia that presents before 34 weeks of gestation face the greatest dangers and present the greatest management and counseling challenges of all the cases of preeclampsia we see.

It is significantly more common, however, for women to present with gestational hypertension and preeclampsia that is not severe. This type of problem remains a major one in obstetrics—one that accounts for a significant percentage of maternal and perinatal morbidities and one that presents its own host of diagnostic and management challenges.

The exact incidence is unknown, but gestational hypertension–preeclampsia is estimated to afflict about 6%-8% of all pregnancies and about 70% of patients who are diagnosed with hypertension during pregnancy. The incidence, it is believed, is rising.

The diagnosis of mild gestational hypertension and preeclampsia is multifactorial and must be made only after numerous criteria are met. Patients then need vigilant care and attentive monitoring because “mild” conditions—particu-

larly those that arise before 36 weeks’ gestation—can abruptly progress to severe conditions. Just as we cannot yet predict or prevent the development of preeclampsia, we cannot predict its progression.

In essence, we must view preeclampsia as a multifaceted disease continuum in which the designations of “mild” and “severe” are often not straightforward or fixed. We still have much to learn, moreover, about the efficacy of various evaluation and management techniques. There have been few if any randomized trials to evaluate the safety and efficacy of various fetal evaluation techniques, for instance, or the safety and efficacy of various antihypertensive drugs in women with mild hypertension and preeclampsia. The benefits and risks of magnesium sulfate during labor and post partum in these women are also unclear.

What is clear, however, is that the safety of the mother and the delivery of a mature newborn who will not require intensive neonatal care can be best achieved through a management plan that takes into account the gestational age at onset, disease severity, maternal and fetal status at the initial evaluation, the presence of labor, and the nature of the preeclampsia continuum.

Diagnoses and Their Meanings

Gestational hypertension itself is defined as a systolic blood pressure of at least 140 mm Hg and/or a diastolic blood pressure of at least 90 mm Hg on at least two occasions after the 20th week of gestation that are a minimum of 4 hours—but not more than 7 days—apart.

Most cases of gestational hypertension occur in healthy nulliparous women, though the rates are highest in women with previous preeclampsia, multifetal gestation, and other risk factors. (It is considered severe if there are sustained elevations to at least 160 mm Hg in systolic blood pressure and 110 mm Hg in diastolic blood pressure for at least 4 hours.)

We cannot make a diagnosis of mild gestational hypertension based on blood pressure readings alone, however. Numerous

criteria must be met. (See box below.)

The main difference between mild hypertension and mild preeclampsia is the presence of proteinuria. When proteinuria of 300 mg or more per 24-hour period accompanies gestational hypertension, the condition has progressed to preeclampsia.

Preeclampsia should also be diagnosed when, in the absence of proteinuria, gestational hypertension is associated with thrombocytopenia, abnormal liver enzymes, persistent cerebral symptoms, or epigastric or right upper quadrant pain with nausea and vomiting.

A woman can have severe preeclampsia even when she has mild hypertension if the protein excretion is at least 5 g per 24-hour period.

It is important to note that quantitative protein excretion over 24 hours is the definitive test for diagnosing proteinuria. Dipstick measurements are not enough, even for a diagnosis of mild gestational hypertension. The concentration of urinary protein in random samples is highly variable, and urinary dipstick readings have correlated poorly in recent studies with the amount of proteinuria found in 24-hour readings in women with gestational hypertension.

The term “gestational hypertension–preeclampsia” describes a wide spectrum of patients who have either mild gestational hypertension or severe hypertension with various organ dysfunctions including preeclampsia, eclampsia, and the HELLP syndrome (hemolysis, elevated liver enzymes, and low platelets).

The broad nature of the term is reflective, I believe, of the underappreciated fact that preeclampsia is a continuum of problems, with areas of overlap and fluidity, and with variable rates of progress and complications.

Progress of disease varies largely according to gestational age at onset. A diagnosis of “mild” gestational hypertension and/or preeclampsia is truly “mild” only if it develops after 36 weeks of gestation. In these cases, the outcome is usually good.

Women who are diagnosed with “mild” hypertension at 26 weeks, on the other

hand, can face outcomes similar to those faced by women with severe preeclampsia at 36 weeks. Such patients with “mild” disease rarely, in fact, make it to term.

The definitions and criteria for “mild” and “severe” disease, therefore, are rather arbitrary unless they apply to patients whose disorders are diagnosed near term. When mild disease is diagnosed earlier, it will often progress to severe hypertension, severe preeclampsia, or both.

Studies have shown that women who have gestational hypertension with an onset between 32 and 35 weeks of gestation have significantly less progression to preeclampsia than women whose gestational hypertension sets in at less than 32 weeks. In one study, for instance, rates of progression to preeclampsia were 25% for 32-35 weeks, compared with 40% for less than 32 weeks. In another, the rates were 40%, compared with 50%, respectively.

Induction and Expectant Management

The treatment of women diagnosed with mild gestational hypertension–preeclampsia continues to be based on consensus and expert opinion.

In general, women with mild disease developing at 38 weeks’ gestation or later should undergo induction of labor because these women are at a slightly increased risk for abruptio placentae and progression to severe disease. For those who have an unfavorable cervix (a Bishop score less than 6), I recommend cervical ripening with prostaglandins.

All other patients can be followed expectantly (see chart, next page) and admitted for delivery when certain complications or symptoms of severe preeclampsia occur (see “Indications for Delivery,” next page).

With expectant management, questions arise about the values of bed rest, in-hospital management, and the use of blood pressure (BP) medications.

Bed rest in the hospital traditionally has been recommended in order to prevent disease progression and to facilitate rapid intervention in the case of abruptio placentae or other possible complications. The results of two randomized trials of women with gestational hypertension and several observational studies of women with mild

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Mild Gestational Hypertension

Medical Findings

- ▶ Systolic blood pressure after the 20th week of gestation of at least 140 mm Hg.
- ▶ Diastolic blood pressure of at least 90 mm Hg.
- ▶ Absence of symptoms associated with preeclampsia and more severe disease (for example, persistent headache, visual changes, epigastric or right upper quadrant pain, nausea and vomiting).

Laboratory Findings

- ▶ Proteinuria of less than 300 mg per 24-hour period.
- ▶ Absence of thrombocytopenia and abnormal liver enzymes.

Fetal Findings

- ▶ Normal fetal weight and absence of oligohydramnios.