



Preeclampsia

Preeclampsia is a pregnancy-specific syndrome broadly defined as the presence of hypertension and increased amounts of protein in the urine. It encompasses a wide spectrum of disease ranging from simple hypertension to the development of seizures and multi-organ system involvement. It complicates 5-9% of all pregnancies and is a leading cause of maternal and neonatal morbidity and mortality both in the United States and worldwide. The etiology of preeclampsia has been associated with abnormal placentation. Vascular changes in response to preeclampsia can lead to increased systemic vascular resistance, abnormal platelet activation and coagulopathy, and endothelial cell dysfunction.

Preeclampsia with severe features carries the greatest maternal and neonatal morbidity given its association with progressive maternal and fetal deterioration. It is the largest contributor to the adverse outcomes that are associated with the preeclampsia disease, and complicates 0.5-2% of pregnancies. It is associated with both maternal and fetal complications including renal and liver failure, pulmonary edema, abruptio placentae, eclampsia, and fetal demise. These complications are well known and may occur in up to 30% of women with severe preeclampsia.

Although the etiology and progression of preeclampsia with severe features is not fully understood, delivery has been demonstrated to be the only definitive treatment.

Maternal-fetal medicine (MFM) subspecialists provide care both to women with current preeclampsia and women with a history of preeclampsia. Women with mild preeclampsia are managed with close surveillance either at home or in a hospital setting. This management includes surveillance of fetal growth, antenatal testing to reassure fetal well-being, serial maternal laboratory assessment to identify worsening disease or progression to severe preeclampsia, and close monitoring of the maternal symptoms and blood pressure. Deciding timing of delivery of these patients, particularly if this is prior to 37 weeks of gestation, is a key role that an MFM subspecialist will play.

Women with a history of preeclampsia, particularly if it resulted in delivery prior to term, will often see an MFM subspecialist to help identify early signs of preeclampsia and to employ prevention strategies. These patients will have close blood pressure and symptom monitoring, will have serial assessment of urine protein by dipstick, and will have regular fetal growth assessments. Initiation of aspirin early in pregnancy in those with a history of

preterm preeclampsia or two or more pregnancies with preeclampsia at any gestational age will also be employed, as this has been shown to decrease the risk of recurrent preeclampsia in high-risk women.

Key Points

- Preeclampsia, eclampsia, and HELLP syndrome remain among the leading causes of maternal mortality world-wide
- Preconception counseling for women with a history of severe preeclampsia and early initiation of low-dose aspirin are methods employed to decrease the likelihood of recurrent disease
- Once diagnosed, frequent follow-up is necessary. Delivery is the only known cure. Timing of delivery is based on balancing gestational age, disease severity and fetal and maternal risks.
- Identifying nulliparous women likely to develop preeclampsia is a current research priority

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