

Early Onset Severe Preeclampsia: Guidelines for Expectant Management

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I. General and Background

- a. Preeclampsia is the leading cause of iatrogenic preterm birth. In the past, severe preeclampsia was treated by timely delivery. Current data suggest improved perinatal outcomes with expectant management of severe preeclampsia. The average gestational age gained with expectant management of severe preeclampsia ranges from 5-11 days. Patients with superimposed preeclampsia are treated in a similar fashion as those with severe preeclampsia

II. Definition of Severe Preeclampsia in women with preeclampsia

- a. Severe hypertension
 - i. Blood pressure > 160 systolic or 110 mmHg diastolic in a patient with no history suggestive of chronic hypertension on at least 2 occasions at least 6 hrs apart within 24 hrs.
- b. Renal Involvement
 - i. Proteinuria: > 5 gm/24 hours
 - ii. Oliguria: <500ml/24 hours
- c. Laboratory evidence of HELLP Syndrome
 - i. Hemolysis
 - a. Total bilirubin > 1.2mg/dl
 - b. LDH > 600 IU/L
 - ii. Elevated liver enzymes
 1. AST > 69 IU/L
 2. LDH > 600 IU/L
 - iii. Thrombocytopenia
 1. Platelets < 100,000 mm³
- d. Symptoms of end-organ involvement
 - i. Unremitting headache
 - ii. Visual disturbances
 - iii. Nausea / vomiting
 - iv. Mental status changes
 - v. Pulmonary edema
 - vi. Epigastric/ right upper quadrant pain
- e. Fetal growth restriction
 - i. <3rd% for gestational age

III. Treatment

- a. Well established dates \geq 34w0d
 - i. Magnesium sulfate

- ii. Delivery
- b. Dates < 34w0d
 - i. Patient should be offered expectant management versus delivery
 - 1. Maternal risks and approximate percents
 - a. HELLP syndrome: 20%
 - b. Eclampsia: 2%
 - c. Pulmonary edema: 5%
 - d. Acute renal failure: 2%
 - e. Maternal death: single case report in USA
 - 2. Fetal risks
 - a. Worsening fetal condition : 40%
 - ii. Expectant management benefits the fetus by increasing gestational age at delivery. There is no benefit to the pregnant woman. Therefore , fetal death is an absolute contraindication for severe disease.

IV. Expectant Management of Severe Preeclampsia

- a. Admit to Labor and Delivery at a tertiary care center with MFM consultation
 - i. Evaluate as candidate for expectant management x 24 hours
 - 1. Intravenous magnesium sulfate
 - 2. Administer antenatal corticosteroids
 - 3. Continuous fetal monitoring as appropriate for gestational age 24w0d-33w6d
 - 4. Laboratory evaluation
 - a. HELLP Syndrome
 - b. 24 hour urine for total protein
 - c. Measure urine output
 - d. Serial examinations
 - 5. Daily fetal evaluations after 24 hours of continuous fetal monitoring
 - a. Non-stress test
 - b. Continuous FHR monitoring
 - c. Biophysical profile
- b. Contraindications for expectant management or indications for delivery
 - i. Gestational age \geq 34w0d or >32w0d with completed course of antenatal corticosteroids is an indication for delivery.
 - ii. Gestational age < 23w0d
 - 1. After discussing high risk of significant maternal morbidity and dismal neonatal outcomes
 - iii. Laboratory evidence of HELLP Syndrome
 - iv. Some patients with mild elevation in liver enzymes or mild thrombocytopenia may be managed expectantly until steroid benefit (>48 hours) depending on gestational age <28 weeks and the severity of laboratory abnormalities
 - v. Persistent symptoms of end-organ involvement
 - 1. Unremitting headache

2. Visual disturbances
 3. Confusion
 4. Nausea / vomiting
 5. Epigastric/ right upper quadrant pain
 - vi. Pulmonary edema
 - vii. Eclampsia
 1. Absolute contraindication
 - viii. Fetal contraindications to expectant management for > 48 hours
 1. Severe intrauterine growth restriction after 30 weeks
 - a. <3% for gestational age
 2. Reversal of flow in ductus venosus or umbilical artery
 3. Elevated MCA Doppler > 2STD for GA or reversal of flow in the ductus venosus
 - ix. Preterm labor
 - x. Rupture of membranes
 - xi. Placental abruption
 - c. Patients who can be managed expectantly
 - i. Any degree of proteinuria
 - ii. Severe hypertension
 1. Severe hypertension is a rare indication for delivery and is dependent on gestational age and severity of hypertension. Most women with severe hypertension can be managed with utilization of various antihypertensive medications.
 - iii. Oligohydramnios < 32 weeks
- V. Mode of delivery in patients with expectant management
- a. Vaginal
 - i. Avoid serial day induction
 - b. C-section: usual indications plus
 - i. Gestational age < 27w0d with cervical dilation < 2cm
 - ii. Reversal of flow in umbilical artery Doppler
 - iii. Repetitive decelerations of fetal heart rate monitoring
 - iv. Serial biophysical profile ≤ 4
- VI. Magnesium sulfate
- a. First 24 hours during evaluation period
 - b. During induction
 - c. 24 hours post partum or until urine output > 150 cc/hr for 3 hrs after 24 hours
 - d. Patient complains of prodromal symptoms (RUQ tenderness, N&V, visual changes, persistent headache)