HYPERTENSION IN PREGNANCY

Hypertension in Pregnancy: Antepartum Management of Preeclampsia with Severe Features

SUMMARY: Once a hypertensive disorder of pregnancy with severe features has been diagnosed, appropriate management, which often includes delivery, is imperative to minimize maternal and fetal complications.

Rationale: Hypertensive disorders of pregnancy are a major health issue for women and their infants. Development of certain features qualifies preeclampsia as severe and can result in both acute and long term complications for the woman and her newborn. These complications include pulmonary edema, stroke, myocardial infarction, acute respiratory distress syndrome, coagulopathy, severe renal failure, and retinal injury. Fetal and newborn complications result from exposure to chronic uteroplacental insufficiency or preterm birth or both. The clinical course of preeclampsia with severe features is often characterized by progressive deterioration of both mother and fetus if delivery is not pursued in a timely fashion.

Advances in the understanding of preeclampsia are ongoing. In early 2011, American College of Obstetricians and Gynecologists (ACOG) convened a Task Force on Hypertension in Pregnancy to review available data and establish evidence-based recommendations for clinical practice. The Task Force Guidelines were published in 2013.

Diagnostic criteria: Must meet diagnostic criteria for preeclampsia AND demonstrate one or more severe features (see separate Toolbox document entitled “Hypertension in Pregnancy: Diagnosis of Preeclampsia with Severe Features”).

Eligible patients: Any pregnant patient who is greater than 20 0/7 weeks gestational age and presenting with a diagnosis of gestational hypertension, preeclampsia, or chronic hypertension with superimposed preeclampsia AND also presents with or develops severe features.

Contraindications: Absence of severe features

Recommendations for management:

1. If 34 0/7 week’s gestation or greater, hospitalize for delivery:
   a. Consider corticosteroids for fetal lung maturity (see separate Toolbox document entitled “Corticosteroids: Late Preterm”) but do not delay delivery to complete course.
   b. Administer magnesium sulfate for seizure prophylaxis (see separate Toolbox document entitled “Hypertension in Pregnancy: Magnesium for Seizure Prophylaxis”).
   c. Antihypertensive therapy as needed (see separate Toolbox document entitled “Hypertension in Pregnancy: Antepartum and Intrapartum Blood Pressure Management”).
   d. Mode of delivery need not be cesarean, and should be determined by fetal gestational age, fetal presentation, cervical status, and maternal and fetal conditions.
2. If less than 34 0/7 weeks’ gestation, hospitalize:
   a. If maternal and fetal status is stable, arrange for transfer to a facility with adequate maternal and neonatal intensive care resources.
   b. If maternal and fetal status allow (see special considerations below), observe on labor and delivery for a period of 24-48 hours.
   c. Administer corticosteroids for fetal lung maturity (see separate Toolbox documents under “Corticosteroids”).
   d. Administer magnesium sulfate for seizure prophylaxis, minimum of 24-48 hours at diagnosis if attempting expectant management (see separate Toolbox document entitled “Hypertension in Pregnancy: Magnesium for seizure prophylaxis”).
   e. Antihypertensive therapy as needed (see separate Toolbox document entitled “Hypertension in Pregnancy: Antepartum and Intrapartum Blood Pressure Management”).
   f. Perform ultrasound for assessment of EFW and AFI.
   g. Place patient on continuous electronic fetal monitoring.
   h. Serial laboratory assessment including CBC with platelet count, LFTs, and Cr.
   i. Serial monitoring of maternal symptoms.
   j. Delivery is indicated for the maternal and/or fetal criteria listed below.
   k. Restart magnesium for seizure prophylaxis when delivery is indicated.

3. Expectant management can be considered if mother and fetus remain stable through the initial observation period, the gestational age is less than 34 0/7 weeks, blood pressures are controllable with medications, and there are no other severe features of pre-eclampsia. Expectant management should only be attempted at a facility with adequate maternal and neonatal intensive care resources, preferably under the care of, or in consultation with, a maternal-fetal medicine specialist.
   a. If the patient is stable after the initial 24-48 hour observation period, stop magnesium sulfate and continue hospital care with the following inpatient surveillance protocol:
      i. Daily fetal kick counts
      ii. NST at least daily
      iii. Twice weekly BPP (includes amniotic fluid assessment)
      iv. Ultrasound for growth q 3 weeks
      v. Daily labs (CBC with platelets, LFTs, serum creatinine); can consider increased interval to every other day if remain stable over time and patient remains asymptomatic
      vi. Vital signs, fluid intake, urine output q 8 hrs
      vii. Serial monitoring of maternal symptoms for progression q 8 hrs
   b. Oral antihypertensive therapy can be given as needed.
   c. Restart magnesium for seizure prophylaxis if/when delivery is indicated.
Maternal indications for delivery:

1. Persistent or recurrent symptoms of severe disease (e.g. otherwise unexplained persistent right upper quadrant and/or epigastric pain unresponsive to medication, new-onset cerebral or visual disturbances, etc)
2. Recurrent severe hypertension refractory to medication
3. Progressive renal insufficiency (serum Cr > 1.1 mg/dl or doubling in the absence of other renal disease).
4. Persistent thrombocytopenia (platelet count less than 100,000/microliter) or HELLP
5. Impaired liver function as indicated by elevated blood concentrations of liver enzymes to twice normal concentration
6. Pulmonary edema
7. Eclampsia
8. Suspected placental abruption
9. Progressive labor or premature rupture of membranes

Fetal indications for delivery:

1. Gestational age of 34 0/7 weeks or more
2. Severe fetal growth restriction (EFW <5th percentile)
3. Persistent oligohydramnios (MVP less than 2 cm)
4. BPP 4/10 or less on at least 2 occasions 6 hours apart
5. Reversal of end-diastolic flow on umbilical artery Dopplers
6. Recurrent variable or late FHR decelerations on EFM
7. Fetal death

Special Considerations:

1. Severe proteinuria is not associated with worse outcomes
2. Expectant management is not indicated in previable preeclampsia with severe features
3. Isolated fetal growth restriction is no longer considered a severe feature of pre-eclampsia and should be managed similarly to fetal growth restriction in women without pre-eclampsia.
4. It is appropriate to delay delivery for 48 hours to complete steroids for fetal lung maturity even when delivery is indicated as listed above EXCEPT in the following circumstances:
   a. Uncontrolled severe HTN
   b. Abruption
   c. Eclampsia
   d. Pulmonary edema
   e. DIC
   f. Nonreassuring fetal status on EFM
   g. Fetal loss

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