

PROTOCOL #13A—Maternal Fetal Medicine, University of New Mexico

MANAGEMENT OF SEVERE PREECLAMPSIA

Criteria for diagnosis of preeclampsia

Blood pressure of 140 mm Hg systolic or higher, or 90 mm Hg diastolic or higher that occurs after twenty weeks of gestation in a woman with previously **normal** BP.

1. Proteinuria, excretion of 0.3g protein or higher in a 24-hour urine specimen.

Women who demonstrate an elevation of more than 30 systolic or 15 diastolic above baseline “warrant close observation.”

Criteria for diagnosis of superimposed preeclampsia

1. New-onset proteinuria in a woman with hypertension before 20 weeks
2. Sudden increase in proteinuria if already present in early gestation
3. Sudden increase in hypertension
4. Development of HELLP syndrome
5. Possibly development of headache, scotomata, epigastric pain

Criteria for diagnosis of severe preeclampsia

1. Blood pressure of 160 systolic or greater or 110 diastolic or greater on two occasions at least six hours apart while the patient is on bedrest
2. Proteinuria of at 5g or greater in a 24-hour urine specimen or 3⁺ on two random urine samples collected at least four hours apart
3. Oliguria of less than 500mL in 24 hours or persistently <30mL/hr
4. Cerebral or visual disturbances
5. Pulmonary edema or cyanosis
6. Epigastric or right upper quadrant pain
7. Impaired liver function
8. Thrombocytopenia
9. IUGR

Blood pressure should be measured using a mercury sphygmomanometer ensuring appropriate cuff size. Blood pressure should be measured in a sitting or semi-Fowlers position.

PROTOCOL #13A—Maternal Fetal Medicine, University of New Mexico**Treatment**

Decision to deliver must balance maternal and fetal risks. Continued observation is appropriate for the woman with a preterm fetus **only** if she has mild preeclampsia. The patient should be on absolute bedrest. At a minimum, weekly NST's, BPP or both should be obtained; twice weekly for suspected IUGR or oligohydramnios. Ultrasound should be obtained every three weeks for growth and AFI.

Initial labs: CBC, LFT's, LDH, renal function and 12-24 hour urine for protein; repeat weekly with mild disease or sooner if progression is questionable. Coagulation studies should be ordered if indicated.

The management of a woman with severe pre-eclampsia remote from term should be in a tertiary care setting. Lab evaluation and fetal surveillance may be indicated on a daily basis. In a stable patient, strong consideration should be given to the use of antenatal corticosteroids in order to achieve fetal lung maturity.

Women with HELLP syndrome **should be delivered** regardless of gestational age. Expectant management in women before 32 weeks should be undertaken only in tertiary care centers as part of a RCT with safeguards **and** consent.

Management during labor and delivery

1. The use of magnesium sulfate to prevent seizures in women with severe preeclampsia or eclampsia is recommended. MgSO₄ 4-6gm IV bolus should be given followed by a drip at 1-3g/hr. The preferred IVF is D₅W or D₅0.2NS. Total IVF should be ≤125mL/hr. Knee jerks should be monitored every hour. Adequate respiratory effort should be assured.
2. Calcium gluconate should be readily available. If necessary, give 1g IV over three minutes (10mL of a 10% solution).
3. A foley catheter should be in place and hourly urine output should be monitored and maintained at ≥ 20-30mL/hr. If one liter LR does not resolve oliguria, consideration may be given to the use of IV albumin.
4. In the event of pulmonary edema, strong consideration should be given to the use of a pulmonary artery catheter if there is no response to the fluid challenge. Use of furosemide 10-20mg IV may be considered under these circumstances.
5. Antihypertensive treatment is recommended for diastolic BP 105-110 or higher. (Hydralazine: 5-10 mg doses IV every 15-20 minutes or Labetalol: 20 mg IV bolus followed by 40 mg if not effective within 10 minutes then 80 mg every 10 minutes to a maximum total dose of 220 mg)
6. Vital signs should be recorded on an hourly basis at a minimum.
7. Mode of delivery should be individualized for each patient with severe preeclampsia. MgSO₄ therapy should precede induction/cesarean section unless there are overwhelming clinical reasons to proceed to delivery more expeditiously.

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Management of eclampsia

1. Must control convulsions and prevent recurrence with IV or IM magnesium sulfate, 4-6 g loading dose in 100 cc fluid IV for 15-20 minutes followed by infusion of 2 g per hour. If the seizures do not resolve after the loading dose, a second bolus may be given. If status epilepticus persists, consider the use of ativan. A thorough neurological assessment should be performed 1-2 hours after the resolution of the seizures. If the patient's exam is concerning, imaging of the brain should be considered to rule out an intracranial lesion.
2. Antihypertensive medication if needed
3. Delivery in a timely fashion
4. Fetal bradycardia should be managed by maternal treatment and cesarean section **is not** usually necessary; maternal stabilization is priority.
5. Once the patient is stabilized, the mode of delivery should depend on gestational age, presentation, cervical exam

Invasive hemodynamic monitoring

May be beneficial in preeclamptic women with severe cardiac disease, renal disease, refractory hypertension, oliguria or pulmonary edema.

CONSULTATION

Twenty-four hour consultation is available by calling the Maternal Fetal Medicine service at the University of New Mexico Hospital. 1-888-866-7257.