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Evaluation and Treatment of Antepartum and Postpartum Preeclampsia and Eclampsia in the Emergency Department

DIAGNOSIS

Female age 15-50 presents to ED Triage

Is the patient pregnant?

- Yes <20 wks → ED Treatment with OB consultation as needed for vaginal bleeding, hypertension, etc.
- Yes >20 wks → L&D Transfer Protocol?
  - Yes → Transfer to L&D and Communicate:
    1. Suspicion of Preeclampsia
    2. Symptoms
    3. VS including BP
    4. Any pertinent prenatal and past history
  - No → Consult OB for OB Medical Screening Exam in ED; initiate transfer to higher level of care as needed
- No → Delivered in last 6 weeks?
  - Yes → **Symptoms?**
    - Headache, visual complaints, altered mental status, CVA, seizure
    - Abdominal pain-especially RUQ, epigastric pain
    - Persistent nausea, vomiting
    - SOB, pulmonary edema
    - Measure BP

Immediate OB Consult (<30 Min)* for:

- Headache, visual complaints, altered mental status, CVA, seizure
- Abdominal pain-especially RUQ, epigastric pain
- Persistent nausea, vomiting
- SOB, pulmonary edema
- **Hypertensive emergency: SBP≥160 or DBP≥105-110**
- **Major Trauma**

OB Consult <60 min

- SBP 140-159 or DBP 90-105
- Labs: CBC, AST, ALT, Urine dip for protein, UA, LDH & Uric acid
- Serial BP q1hr unless significant change in patient condition
- If patient's BP increases to SBP≥160 or DBP≥105-110 then initiate anti-hypertensives and magnesium and notify OB of change in condition if not already present

SBP≥160 OR DBP ≥105 HYPERTENSIVE EMERGENCY → Yes

- **Order LABS:** CBC, AST, ALT, Urine dip for protein, UA, LDH & Uric acid
- **Immediate OB Consult**
- **Initiate** anti-hypertensives and magnesium immediately per treatment guidelines

SBP 140-159 OR DBP 90-105 HYPERTENSION → Yes

OB Consult <60 min

- Labs: CBC, AST, ALT, Urine dip for protein, UA, LDH & Uric acid
- Serial BP q1hr unless significant change in patient condition
- If patient's BP increases to SBP≥160 or DBP≥105 then initiate anti-hypertensives and magnesium and notify OB of change in condition if not already present

SBP<140 OR DBP<90 NORMAL BP → Yes

- **LABS:** CBC, AST, ALT, Urine dip for protein, UA, LDH & Uric acid
- Serial BP
- OB Consult
- Notify if changes
- NOTE: If patient's BP increases to SBP≥160 or DBP≥105 then initiate anti-hypertensives and magnesium and notify OB of change in condition if not already present

Evaluation confirms diagnosis of Preeclampsia

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TREATMENT

1st Line Anti-Hypertensive Treatment: Labetalol & Hydralazine*
Target BP: 140-160/90-100 (BP<140/90 = decreased fetal perfusion)
See CMQCC Preeclampsia Toolkit for "Antihypertensives in Preelcampsia" for 2nd line therapy

LABETALOL as Primary Anti-Hypertensive

1. Administer Labetalol 20 mg IV
2. Repeat BP in 10 min
   - If BP threshold is still exceeded, administer Labetalol 40 mg IV
   - If SBP<160 and DBP<100, continue to monitor closely
3. Repeat BP in 10 min
   - If BP threshold is still exceeded, administer Labetalol 80 mg IV
   - If SBP<160 and DBP<100, continue to monitor closely
4. Repeat BP in 10 min
   - If BP threshold is still exceeded, administer Hydralazine 10 mg IV
   - If SBP<160 and DBP<100, continue to monitor closely
5. Repeat BP in 20 min; if BP threshold is still exceeded, obtain emergent consultation from maternal-fetal medicine, internal medicine, anesthesiology, or critical care
6. Once target BP achieved, monitor BP q10 min for 1 hour, q 15 min for 2nd hour

HYDRALAZINE as Primary Anti-Hypertensive

1. Administer Hydralazine 5 or 10 mg IV
2. Repeat BP in 20 min
   - If BP threshold is still exceeded, administer Hydralazine 10 mg IV
   - If SBP<160 and DBP<100, continue to monitor closely
3. Repeat BP in 20 min
   - If BP threshold is still exceeded, administer Labetalol 20 mg IV
   - If SBP<160 and DBP<100, continue to monitor closely
4. Repeat BP in 10 min
   - If BP threshold is still exceeded, administer Labetalol 40 mg IV and obtain emergent consultation from maternal-fetal medicine, internal medicine, anesthesiology, or critical care
   - If SBP<160 and DBP<100, continue to monitor closely
5. Once target BP achieved, monitor BP q10 min for 1 hour, q 15 min for 2nd hour

Magnesium

Initial Treatment

1. Loading Dose: 4-6 gm over 15-20 min
2. Maintenance 1-2 gm/hr
3. Close observation for signs of toxicity
   - Disappearance of deep tendon reflexes
   - Decreased RR, shallow respirations, shortness of breath
   - Heart block, chest pain
   - Pulmonary edema

If Patient Seizes While on Magnesium:

1. Secure airway and maintain oxygenation
2. Give 2nd loading dose of 2 gm Magnesium over 5 min
3. If patient seizes after 2nd magnesium bolus, consider the following:
   - Midazolam 1-2 mg IV; may repeat in 5-10 min **OR**
   - Lorazepam 2 mg IV-may repeat **OR**
   - Diazepam 5-10 mg IV. May repeat q15 min to max of 30 mg
   - Phenytoin 1 g IV over 20 min

Seizures Resolve

1. Maintain airway and oxygenation
2. Monitor VS, cardiac rhythm/ECG for signs of medication toxicity
3. Consider brain imaging for:
   - Head trauma
   - Focal seizure
   - Focal neurologic findings
   - Other neurologic diagnosis is suspected

*Labetalol and Hydralazine recommendations based on 2011 ACOG Committee Opinion #514 and Practice Bulletin #33, Reaffirmed 2012