

ACOG 222.

GESTATIONAL HTN + PREECLAMPISA

Created by Leeann Bui, UWSMPH -- OBGYN Leeann.Bui@wisc.edu

Preeclampsia: new-onset HTN after 20 wks of gestation and frequently near term (often accompanied by new-onset proteinuria)

Gestational HTN: new-onset HTN w/o proteinuria or severe features after 20 wks of gestation; BP levels return to normal in post-partum period

RISK FACTORS FOR PREECLAMPISA

Nulliparity, multifetal gestations, preeclampsia in a previous pregnancy, chronic hypertension, pre-GDM, GDM, thrombophilia, SLE, pre-pregnancy BMI > 30, antiphospholipid antibody syndrome, maternal age > 35, kidney disease, ART, OSA

Preeclampsia S/Sx

Unresolved HA, vision Δs, chest pain, SOB, RUQ pain, facial/extremity (hand) edema, n/v

HELLP Syndrome

– One of the more severe forms of preeclampsia; associated w/ inc rates of maternal morbidity and mortality

– **LDH:** > 600 IU/L or more

– **AST and ALT:** > 2x ULN

– **Plt count:** < 100x 10⁹

Main presenting symptoms: RUQ pain and generalized malaise; nausea/vomiting

Eclampsia

New-onset tonic-clonic, focal, or multifocal seizures in absence of other conditions.

Seizures may lead to severe maternal hypoxia, trauma, and aspiration pneumonia. Complications: impaired memory and cognitive function; possibility of permanent white matter loss (MRI)

Premonitory signs: cerebral irritation (severe, persistent occipital/frontal HA, blurred vision, photophobia, AMS)
– HA reflect inc cerebral perfusion pressure, cerebral edema, HTN encephalopathy
– Other neuro: Posterior reversible encephalopathy syndrome; reversible cerebral vasoconstriction syndrome

Delivery vs Expectant

– Delivery rather than expectant when GHTN or preeclampsia w/o severe features at or beyond 37 0/7; fetal monitoring: ultrasound to determine fetal growth every 3–4 weeks, AFV once weekly; antenatal test 1–2x/week
– Delivery when GHTN or preeclampsia w/ severe features at or beyond 34 0/7, after maternal stabilization or with labor or PROM
– Expectant management of preeclampsia with severe features before 34 0/7 is based on strict selection criteria; delivery is recommended at any time in the case of deterioration of maternal or fetal conditions
– If delivery before 34 0/7 --> corticosteroids for fetal lung maturation

Preeclampsia Dx

BLOOD PRESSURE

– SBP 140 or more or DBP of 90 or more on 2 occasions (at least 4 hours apart)
– SBP of 160 or more or DBP of 110 or more (Severe HTN confirmed within a short interval to facilitate timely anti-HTN tx)

AND

PROTEINURIA

– 300mg or more per 24 hr urine or
– Protein/creatinine ratio of 0.3 or more or
– Dipstick reading of 2+ (use only if other quant methods unavailable)

SEVERE FEATURES

OR

Or in the absence of proteinuria, new-onset HTN w/ new onset of any of the following:

– **Thrombocytopenia:** Plt < 100x10⁹

– **Renal insufficiency:** Serum creat > 1.1 or doubling of serum creatinine in absence of other renal disease

– **Impaired liver f(x):** Inc liver transaminases to 2x NL

– **Pulmonary edema**

– **New-onset headache:** unresponsive to meds and not accounted for by alt dx or visual symptoms

CLINICAL RF AND ASPIRIN USE

HIGH: hx of preeclampsia; multifetal gestation; chronic HTN; T1, T2DM; renal disease; autoimmune disease

→ Recommend low-dose aspirin if 1 or 1+ RF

MOD: nulliparity, obesity, FHx of preeclampsia, AA race, low SES, Age > 35, personal hx factors–low birth weight or SGA, previous adverse preg outcome, > 10-year preg interval

→ Consider low-dose aspirin if > 1 RF

LOW: prev uncomplicated term delivery

→ Do not recommend low-dose aspirin

Seizure Prophylaxis

– **Magnesium sulfate:** prevention and tx of women with GHTN and preeclampsia w/ severe features or eclampsia

– Note: Magnesium sulfate has significant anesthetic implications because it prolongs the duration of nondepolarizing muscle relaxants. Nonetheless, continue magnesium sulfate infusion during delivery

Serum Magnesium Concentration

mmol/L	mEq/L	mg/dL	Effect
2–3.5	4–7	5–9	Therapeutic range
>3.5	>7	>9	Loss of patellar reflexes
>5	>10	>12	Respiratory paralysis
>12.5	>25	>30	Cardiac arrest

Anti-HTN for Urgent BP Control

Drug	Dose	Comments	Onset of Action
Labetalol	10–20 mg IV, then 20–80 mg every 10–30 minutes to a maximum cumulative dosage of 300 mg; or constant infusion 1–2 mg/min IV	Tachycardia is less common with fewer adverse effects. Avoid in women with asthma, preexisting myocardial disease, decompensated cardiac function, and heart block and bradycardia.	1–2 minutes
Hydralazine	5 mg IV or IM, then 5–10 mg IV every 20–40 minutes to a maximum cumulative dosage of 20 mg; or constant infusion of 0.5–10 mg/hr	Higher or frequent dosage associated with maternal hypotension, headaches, and abnormal fetal heart rate tracings; may be more common than other agents.	10–20 minutes
Nifedipine (immediate release)	10–20 mg orally, repeat in 20 minutes if needed; then 10–20 mg every 2–6 hours; maximum daily dose is 180 mg	May observe reflex tachycardia and headaches	5–10 minutes

Abbreviations: IM, intramuscularly; IV, intravenously.