PRISMA HEALTH SM

Preeclampsia With and Without Severe Features

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Disclosures

- I have no meaningful conflicts of interest to disclose for this presentation.

Objectives

- Understand the definition of hypertensive disorders of pregnancy
  - Gestational hypertension
  - Preeclampsia without severe features
  - Preeclampsia with severe features
- Review the diagnostic criteria for preeclampsia
- Discuss the risk factors for hypertensive disorders of pregnancy

Hypertensive disorders of pregnancy

- Spectrum of disease
  - Early-onset, severe
  - Late-onset, mild
- Encompasses
  - Gestational hypertension
  - Preeclampsia without severe features
  - Preeclampsia with severe features
  - Superimposed preeclampsia

Preeclampsia - Definition

- Hypertensive disorder of pregnancy
- New-onset HTN after 20 weeks gestation + proteinuria
  - Classic diagnostic criteria
- Proteinuria is not always present
- Headache – not reliable or specific to pre-e

Preeclampsia - Pathophysiology

- Several suggested mechanisms
  - Imbalance of angiogenic factors
  - Chronic uteroplacental ischemia
  - Immune maladaptation
  - Genetic imprinting

Preeclampsia – diagnostic criteria

- Blood Pressure
  - SBP ≥140 or DBP ≥90
  - Two occasions at least 4 hours apart
  - After 20 weeks gest
  - Previously normal BP
- Proteinuria
  - 300mg/24 hour urine or
  - P:C 0.3 or
  - Urine dipstick (suboptimal)

Pre-e with severe features

- SBP ≥160mmHg OR DBP ≥ 110mmHg
- Thrombocytopenia
- Impaired liver function without other cause
- Renal insufficiency
- Pulmonary edema
- Headache, new onset
- Visual disturbances
- Seizures (eclampsia)

HELLP syndrome

- Form of severe pre-e
- Hemolysis
  - LDH ≥600IU/L
- Elevated Liver enzymes
  - AST/ALT ≥2x ULN
- Low Platelets
  - <100k/uL
- Presents postpartum 30%
- Variable presentation
- Symptoms include RUQ pain and malaise

Eclampsia

- New-onset tonic-clonic, focal or multifocal seizures
- Absence of other conditions
- Ante-, intra- or postpartum onset
- Symptoms prior to onset
  - Severe headache
  - Blurred vision
  - Photophobia
  - Altered mental status

Preeclampsia - effects on fetus

- Fetal growth restriction
- Oligohydramnios
- Placental abruption
- Nonreassuring fetal heart rate tracing
- Preterm delivery
- Fetal demise

Preeclampsia – differential diagnosis

- AFLP
- TTP
- ITP
- HUS
- Catastrophic APL syndrome
- Lupus flare

Screening tests

- Biochemical/biophysical markers
- Doppler studies
- Angiogenic factors

- *Unreliable*
- *Should be considered experimental*

Preeclampsia – risk factors

- Nulliparity
- Multiple gestations
- Hx of pre-e
- CHTN
- PGDM or GDM
- Thrombophilia
- SLE
- Obesity
- APL syndrome
- Advanced maternal age
- Renal dz
- ART
- Sleep apnea

Preeclampsia - Antepartum Management

- Without severe features - outpatient
  - Serial labs
  - Antenatal testing
  - Frequent visits
  - Delivery by 37 weeks gestation
  - BP cuff at home
  - Reliable patient

Preeclampsia – Antepartum management

- With severe features
  - Severe BP only
    - Inpatient expectant management, betamethasone
    - Antihypertensives
    - Delivery by 34 weeks gestation
    - Shared decision-making
  - Other severe features
    - Inpatient
    - Betamethasone if possible
    - Delivery

Maternal Contraindications to expectant mgmt

- Uncontrolled severe BP
- Persistent unrelenting headache
- Unrelenting Epigastric/RUQ pain
- Visual disturbances/motor deficit/altered sensorium
- Stroke
- MI
- HELLP syndrome
- Worsening renal function
- Pulmonary edema
- Eclampsia
- Suspected placental abruption

Fetal contraindications to expectant mgmt

- Abnormal fetal testing
- Fetal death
- No expectation for fetal survival
- Persistent reversed end-diastolic flow in UA

Intrapartum Management

- Seizure prophylaxis with magnesium sulfate
  - No consensus without severe features
  - Dose adjustment for renal impairment
- Antihypertensives
  - Rapid-acting for severe BPs
  - Long-acting meds can be initiated
- Mode of delivery – generally based on routine obstetric considerations

Preeclampsia - postpartum

- Pre-e can initially present in the postpartum period
- Health care providers must have increased suspicion for pre-e in any women who presents postpartum with
  - Headache
  - Elevated BP
  - Stroke symptoms
  - dyspnea

Preeclampsia - postpartum

- Magnesium sulfate x 24 hours for severe features
- Antihypertensives
- Postpartum care
- Patient education
  - Risk for pre-e in future pregnancies
  - Low-dose asa
  - Cardiovascular risks in subsequent years

Preeclampsia – prevention

- Low-dose aspirin
- Start before 28 weeks, ideally before 16 weeks
- Modest reduction in all preeclampsia diagnoses
- More significant reduction in early-onset severe pre-e
- No known adverse neonatal consequences