FAMILY MEDICINE BOARD REVIEW:
MATERNITY CARE

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Conflicts of Interest/Disclosures

√ I have no disclosures or conflicts of interest.
Objectives

- Review basic prenatal care including routine laboratory work up, diagnostic tests, and screening recommendations
- Define the various levels of hypertension in pregnancy and their management
- Describe the diagnosis of diabetes in pregnancy and its management
- Recognize the various complications that can occur during delivery and how to manage them
Maternity care

This module covers prenatal care, antepartum care, and postpartum care. It does not include the management of high-risk pregnancy, but may include the management of acute and chronic disease in pregnant women. Topics covered include such things as screening, nutrition, management of labor and delivery, complications of pregnancy, and key concepts of advanced life support in obstetrics. Selected neonatal problems such as ABO incompatibility and neonatal resuscitation may also be covered.
Routine prenatal care

- Initial visit
  - 6 to 8 weeks

- Visit frequency
  - Initial visit to 28 weeks: q4 weeks
  - 28 to 36 weeks: q2 weeks
  - > 36 weeks: q1 week

- Postpartum visit
  - 4 to 6 weeks after delivery
Initial prenatal labs

- Blood type/Rh/Antibody
- Hemoglobin and hematocrit
- Rubella antibody titer
- Chlamydia and gonorrhea
  - If less than 24yo
- Hepatitis B surface antigen
- Syphilis screen
- HIV screening
- Urine culture
- Cervical cytology
  - If indicated
- Cystic fibrosis screen

"The red circles are your red blood cells. The white circles are your white blood cells. The brown circles are donuts. We need to talk."
Asymptomatic bacteriuria

- > 100,000 of a single species
  - E coli most common
- Higher rate of preterm labor
- Treatment
  - Cephalexin 250mg PO QID x7 days
Additional screening

- Maternal serum alpha-fetoprotein (MSAFP)
  - 16 to 18 weeks
  - High: neural tube defect
  - Low: Trisomy 21 or 18
Additional screening

- Ultrasonography
  - 18 to 20 weeks
  - Not recommended for routine use
    - High evidence for determining placental location, fetal location, fetal viability, and fetal number
    - Not good at detecting minor fetal abnormalities
      - Able to detect major abnormalities
GBS screening

- 35 to 37 weeks
- Everyone gets screened
  - Except
    - Any GBS bacteriuria during the pregnancy
    - Previous infant with GBS sepsis
- Treatment
  - Penicillin
  - Cefazolin
  - Clindamycin
  - Vancomycin
Gestational diabetes

- Routine screening at 24 to 28 weeks
  - Earlier screening
    - Prior history of gestational diabetes
    - Known impaired glucose intolerance
    - Obesity
  - Initial test: 50g oral glucose tolerance test
    - > 135 or 140: 3 hours glucose tolerance test
    - 3 hour glucose tolerance test
      - 2 or more elevated values: gestational diabetes
  - Other tests
    - HgbA1C > 6.5%
      - More accurate in earlier pregnancy
    - Random plasma glucose > 200
    - Fasting plasma glucose > 126
Gestational diabetes

- **Management**
  - Nutritional counseling
    - No clear consensus on when to start medication
  - Medications
    - Metformin
    - Glyburide
    - Insulin
  - Biweekly NSTs after 32 weeks

- **Goal blood sugars**
  - Fasting <95
  - 2 hour postprandial <120

- **Delivery**
  - Manage expectantly if well controlled
  - Cesarean section if estimated fetal weight >4,500 grams
Gestational diabetes

- Complications
  - Maternal
    - Gestational hypertension
    - Preeclampsia
    - Cesarean delivery
    - Diabetes later in life
  - Fetal
    - Macrosomia
    - Shoulder dystocia
    - Birth trauma
    - Hypoglycemia
    - Hyperbilirubinemia
Gestational hypertension

- > 140/90 on two separate occasions
  - >160 systolic or >110 diastolic once
- Can be only during pregnancy
  - Transient hypertension of pregnancy
- Can persist after pregnancy
  - Chronic hypertension
- Management
  - Labetalol
  - Nifedipine
  - Methyldopa
- Complications
  - IUGR
  - Preeclampsia
Preeclampsia

- **Definition**
  - Elevated blood pressure after 20 weeks
  - Proteinuria
    - > 0.3g protein in 24-hour urine specimen
    - Urine protein:creatinine ratio of ≥ 0.3
    - Not required if hypertension and severe features present

- **Eclampsia**
  - Preeclampsia with seizures
Preeclampsia

- Severe features
  - SBP >160 or DBP >110 twice
  - Platelets <100,000
  - Elevated LFTs
    - Two times normal range
  - RUQ pain not relieved by medication
  - New visual disturbances
  - Worsening renal disease
    - Doubling of creatinine
Preeclampsia

- Risk factors
  - UTIs during pregnancy
  - Multiple gestation
  - Preeclampsia in previous pregnancy
  - Age extremes in pregnancy
  - Gestational diabetes
  - Hypertension
Preeclampsia

- Diagnosis
  - Blood pressure parameters
  - History and physical
  - Labs
    - Urine protein:creatinine ratio
    - UA
    - 24-hour urine specimen
    - CBC
    - Uric acid
    - CMP
Preeclampsia

- **Management**
  - **Magnesium sulfate**
    - In severe preeclampsia only
    - Reduces risk of seizures
  - **Antihypertensive therapy**
    - If blood pressure consistently over >160/110
  - **Delivery**
    - Okay to delivery vaginally

- **Postpartum care**
  - Continue magnesium sulfate for at least 24 hours
  - Likely to need antihypertensives upon discharge
Preeclampsia

- Prevention
  - Aspirin 81mg after first trimester
    - If history of preeclampsia before 34 weeks
    - If high risk for preeclampsia
    - Recurrent preeclampsia
Preeclampsia

- Complications
  - Maternal
    - Increased risk of permanent hypertension
    - Increased risk of CVA
    - Increased risk of ischemic heart disease
    - Increased risk of thrombotic events
  - Neonatal
    - IUGR
    - Hyperbilirubinemia
Postpartum hemorrhage

- **Definition**
  - >500ml in vaginal delivery
  - >1,000ml in cesarean section
  - Early: within 24 hours of delivery
  - Late: 24 hours to six weeks after delivery

- **Management**
  - ABCs
  - Bimanual massage
  - Evaluate the cause
    - Four Ts
      - Tone
      - Tissue
      - Trauma
      - Thrombin
Postpartum hemorrhage

- **Medications**
  - Oxytocin
  - *Misoprostol (Cytotec)* 800-1000mcg per rectum
  - *Methylergonovine (Methergine)* 0.2mg IM
    - Contraindicated in hypertension
  - *Carboprost (Hemabate)* 0.25mg IM
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Additional reading

- Nutrition in pregnancy
- Ectopic pregnancy
- Intrahepatic cholestasis of pregnancy
- Preterm labor
- Late pregnancy bleeding
- Labor induction
Questions?
Resources

- American Academy of Family Physicians. www.aafp.org
- American Board of Family Medicine. www.abfm.org
- American Congress of Obstetricians and Gynecologists. www.acog.org
- Google Image. www.google.com/image