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

Importance

- 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.

ABFM Certification Examination Content

Cardiovascular	**10%**
Endocrine	**7%**
Gastrointestinal	**6%**
Hematologic/Immune	**3%**
Integumentary	**5%**
Musculoskeletal	**10%**
Nephrologic	**3%**
Neurologic	**3%**
Nonspecific	**8%**
Psychogenic	**6%**
Reproductive—Female	**3%**
Reproductive—Male	**1%**
Respiratory	**11%**
Special Sensory	**2%**
Population-based Care	**4%**
This includes topics such as biostatistics and epidemiology, evidence-based medicine, prevention, health policy and legal issues, bioterror, quality improvement, and geographic/urban/rural issues.	
Patient-based Systems	**4%**
This includes topics such as clinical decision-making, communication and doctor-patient interaction, family and cultural issues, ethics, palliative care, and end-of-life care.	
Module	**13%**
Selected from eight possible choices at the time of the examination. (See descriptions below.)	

Total does not equal 100% because of rounding

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
- Pap smear (if appropriate)

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

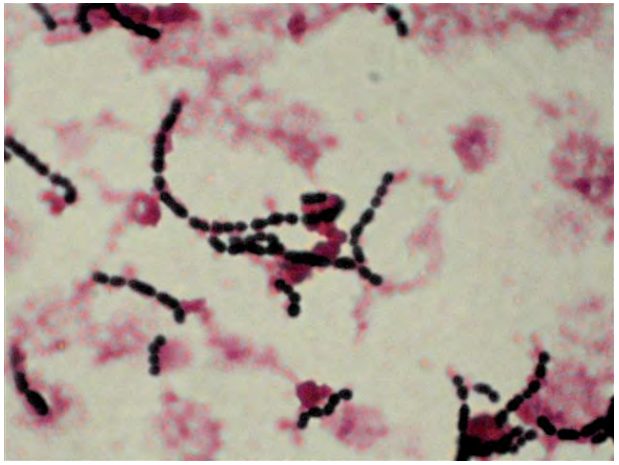
- Maternal serum alpha-fetoprotein (MSAFP)
  - 16 to 18 weeks
  - High: neural tube defect
  - Low: Trisomy 21 or 18

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 (<24 weeks)
    - Guidelines vary
    - BMI $\geq$ 25 and one or more of
      - Gestational diabetes in previous pregnancy
      - HgbA1C $\geq$ 5.7
      - Impaired fasting glucose
      - First degree relative with diabetes mellitus
      - High risk ethnicity (African American, Latino, Native American, Asian American, Pacific Islander)
      - PMH of hypertension, CV disease, hyperlipidemia, PCOS
      - Physical inactivity

Gestational diabetes

- 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
  - Induction at 39 weeks if not 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 $\geq$ 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

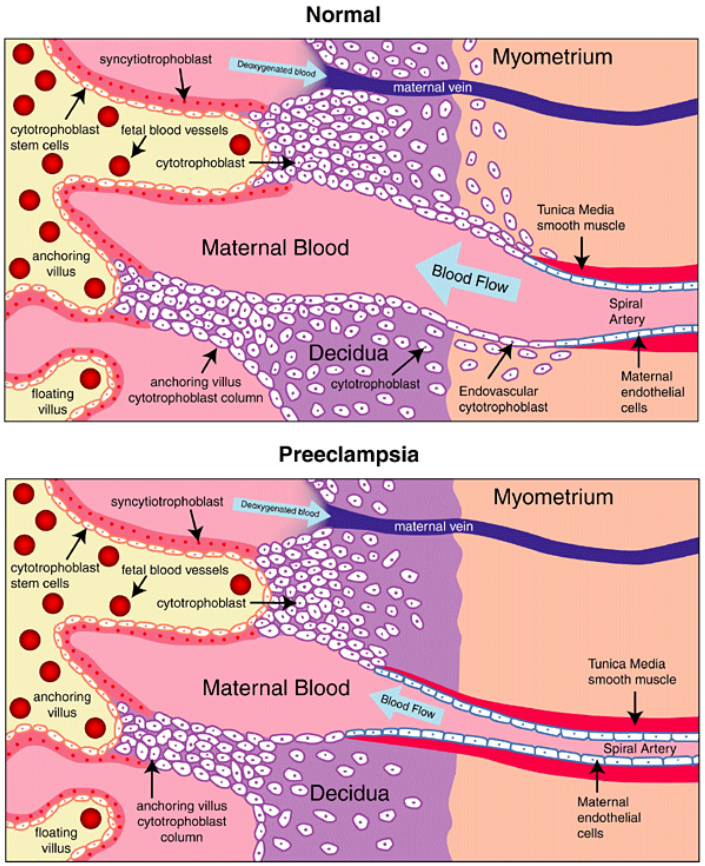
- Diagnosis
  - Blood pressure parameters
  - History and physical
  - Labs
    - Urine protein:creatinine ratio
    - UA
    - 24-hour urine specimen
    - CBC
    - Uric acid
    - CMP

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
  - May 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
  - Any bleeding that is more than expected or that results in signs/symptoms of hypovolemia
  - >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
    - Contraindicated in asthma

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
- United States Preventive Services Task Force. www.uspreventiveservicestaskforce.org
- Weismiller, D.G. (2016). Maternity Care I. *AAFP Board Review Course.*
- Weismiller, D.G. (2016). Maternity Care II. *AAFP Board Review Course.*