CRUNCH TIME

OB-GYN

Abnormal Uterine Bleeding

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Test for pregnancy
- Three populations:
    - Preadolescent: vaginitis, dermatitis, menarche, precocious
    - Childbearing age: fibroid, anovulatory bleeding, hormone use
    - Postmenopausal: consider malignancy or atrophic vaginitis

Clinical Findings

- Vaginal bleeding on pelvic examination
- Signs of anemia
- Workup
    - Complete blood count
    - Coagulation panel
    - Pregnancy test
    - Consider thyroid-stimulating hormone or prolactin if suspecting endocrine disorder
    - Outpatient ultrasound if stable

Management

- Airway, breathing, circulation, resuscitation
- Nonsteroidal anti-inflammatory drugs
- Estrogens, medroxyprogesterone (in consultation with Ob-Gyn)
    - Bleeding may resume 3-10 d after the end of hormone therapy
- Tranexamic acid: prescribe monthly use if bleeding is recurrent
- Balloon tamponade

How You Will Be Tested

- Differentiate between stable and unstable bleeder
- Understand that malignancy is a serious cause of dysfunctional uterine bleeding in the post-menopausal patient

Bartholin's Cyst

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Can be associated with sexually transmitted infection (STI)
- Obstruction of mucus-producing glands in the vagina
- Most commonly occur under the age of 40 y

Clinical Findings

- Painful fluctuant mass near posterior fornix of the introitus
- Pressure or discomfort

Management

- Incision and drainage on the vaginal mucosal side of mass
- Word catheter placement - creates a fistula from cyst to vestibule to allow drainage
  - Catheter will fall out in 8 wk
- Analgesia and compresses
- Antibiotics are not needed unless severe surrounding cellulitis or for STI treatment
- Sitz baths
- Follow up with Ob-Gyn

How You Will Be Tested

- Often associated with STI
- You will be given an image of a Bartholin cyst or abscess and asked to identify treatment

Breast Masses

Jennifer Farah, MD, and Mel Herbert, MD

Background

- 1 in 8 women will get breast cancer in their lifetime

Clinical Findings

- Peau d'orange: skin may be thick and irregular, resembling an orange peel
- Nipple discharge
- Nipple retraction
- Erythema or tenderness of breast tissue

Management

- Breast cancer
    - Urgent mammogram or ultrasound
    - Gynecology referral
- Breast abscess
    - Surgery referral

How You Will Be Tested

- You will be given a picture of a patient with concerning skin findings and know that this person does not have cellulitis and likely has breast cancer
- Red flags (weight loss, night sweats, fevers, abnormal nipple discharge, palpable lymph nodes)
- Management: Urgent mammogram or ultrasound, gynecology follow-up

Contraception & Emergency Contraception

Jennifer Farah, MD, and Jessica Mason, MD

Background

- Generally given within 72 h of a sexual assault

Clinical Findings

- Recent sexual assault

Management

- Mestranol/norethindrone (Plan B) 2 tabs; repeat in 12 h
- Copper intrauterine device (IUD) insertion up to 120 h after unprotected intercourse

How You Will Be Tested

- Remember that Plan B must be given within 72 h of intercourse
- Copper IUD may be inserted up to 120 h after unprotected intercourse

Ectopic Pregnancy

Jennifer Farah, MD, and Jessica Mason, MD

Background

- Generally 5-8 wk into pregnancy
- Risk factors
    - Prior ectopic pregnancy
    - Tubal ligation
    - Intrauterine device
    - Diethylstilbestrol exposure in utero
    - History of pelvic inflammatory disease
    - Cigarette smoking
    - Young age

Clinical Findings

- Can present in a variety of different ways
- Amenorrhea
- Vaginal bleeding
- Unilateral adnexal tenderness
- “Fullness” of the cul-de-sac
- Testing
    - Positive beta human chorionic gonadotropin (beta HCG)
        - >6,000-6,500 + abdominal ultrasound with empty uterus
        - >1,200-1,500 with transvaginal ultrasound with empty uterus
        - <1,200 repeat beta HCG in 48 h
- Consider heterotopic pregnancy in a patient undergoing in vitro fertilization

Management

- Unstable patients go to the operating room
- If pregnancy <4 cm and patient stable, consider methotrexate administration in conjunction with Ob-Gyn

How You Will Be Tested

- Know risk factors of ectopic pregnancy
- How to manage unstable patients (immediate surgical consultation)
- Hormone levels associated with imaging on transabdominal vs transvaginal ultrasound

Endometriosis

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Endometrial tissue (glands + stroma) outside of the uterus, which adheres to other structures
- Most commonly adheres to ovaries
- Presents in premenstrual time frame and resolves when menses start
- Can lead to dysmenorrhea, dyspareunia, and infertility

Clinical Findings

- Low back and abdominal pain
- Tender nodules in posterior fornix on pelvic exam
- Pain on movement of the uterus

Management

- Depends on patient's reproductive wishes
    - Nonsteroidal anti-inflammatory drugs
    - Hormonal therapy
    - Surgery

How You Will Be Tested

- Definitive diagnosis made with biopsy of tissue on laparotomy or laparoscopy
- You likely will not be tested exclusively on endometriosis; you will be given a patient with a more urgent diagnosis and intervention with pelvic pain

Endometritis

Jennifer Farah, MD, and Jessica Mason, MD

Background

- Most common cause is premature rupture of membranes (PROM)
- Normal vaginal/cervical flora that ascend into upper reproductive tract
- Can also be caused by cesarean section and instrumentation

Clinical Findings

- Malodorous lochia
- Postpartum fever
- Tender uterus

Management

- Admission
- Broad-spectrum IV antibiotics

How You Will Be Tested

- Know the risk factors
- Know that vaginal flora commonly cause it
- Generally if presenting within first 48 h likely to be *Staphylococcus* or *Streptococcus* infection

Fibroids

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Most common pelvic tumor in females
- Most common in African American women
- Come from myometrial smooth muscle
- Benign
- Estrogen dependent
- Shrink after menopause

Clinical Findings

- Heavy periods
- Pelvic pain
- Dyspareunia
- Urinary complaints
- Torsion
- Degeneration of fibroid causing pain
- Testing
    - Beta human chorionic gonadotropin
    - Pelvic ultrasound to see the fibroid
    - Abnormal contour on bimanual exam

Management

- Dependent on reproductive goals
- Nonsteroidal anti-inflammatory drugs
- Can consider surgery

How You Will Be Tested

- Can be a confounder for a more urgent cause of pelvic pain

First Trimester Bleeding

Vanessa Cardy, MD; Mel Herbert, MD; and Jessie Werner, MD

Background

- Multiple etiologies

Clinical Findings

- Vaginal bleeding
- Positive beta human chorionic gonadotropin (HCG)
- Pelvic pain

Management

- Identify and treat cause
    - Pelvic exam
    - Look for trauma
- Lab tests
    - Beta HCG
    - Coagulation panel
    - Type and cross
- RhoGAM if the patient is Rh negative to prevent isoimmunization against future pregnancy
- Consider Ob-Gyn consult

How You Will Be Tested

- Types of spontaneous abortion
- How to identify an ectopic pregnancy

Gestational Diabetes

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Patients are unable to increase insulin secretion to meet the increased demands of pregnancy
- Can also lead to fetal hyperinsulinemia

Clinical Findings

- Fetal
  - Macrosomia
  - Myocardial hyperplasia
  - Delayed lung maturation
  - Stillbirth
- Maternal
  - Preterm labor
  - Hypoglycemia
  - Spontaneous abortion
  - Pyelonephritis
  - Diabetic ketoacidosis

Management

- Tight glucose control
- Close weight monitoring
- Ob-Gyn consult
- Referral to nutrition

How You Will Be Tested

- Tight control with insulin; do not discharge patient with oral medication

HELLP Syndrome

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- **H**emolytic anemia, **E**levated **L**iver enzymes, **L**ow **P**latelets
- Variant of preeclampsia
- Occurs most commonly in week 28-36 of gestation
    - Can occur postpartum

Clinical Findings

- Hemolytic anemia
- Elevated liver enzymes/liver failure
- Low platelets
- Hypertension
- Proteinuria
- Physical exam
    - Right upper quadrant pain
    - Vomiting

Management

- Urgent Ob-Gyn consultation
- Magnesium (to prevent eclamptic seizures and for BP control)
- Control hypertension (labetalol or hydralazine)
- Correct coagulopathies
- Urgent delivery
- Testing
    - Complete blood count
    - Coagulation panel
    - Lactate dehydrogenase
    - Chemistry
    - Urinalysis
    - Fetal monitoring
    - Liver function panel

How You Will Be Tested

- Recognizing the syndrome given the clinical scenario
- Treatment of the syndrome

Human Papillomavirus (HPV)

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Venereal and anogenital warts
- “Cauliflower-like” projections that can coalesce
- Cervix can have flat lesions
- Diagnosis is generally clinical

Clinical Findings

- Tender, fleshy growths
    - Men
        - Urethra
        - Frenulum
        - Perianal region
    - Women
        - Can occur anywhere
- Can test for HPV strains on pap smear and do a dilute acetic acid test (after 3 min of soaking, lesions will turn gray)

Management

- Podofilox or imiquimod
- Surgical therapies (Ob-Gyn or dermatology)

How You Will Be Tested

- Know what the warts can look like
- Understand the association with malignancy

Mastitis

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Infection of the breast tissue
- Differentiate from cancer

Clinical Findings

- Breast tenderness
- Erythema
- Swelling
- Fever
- Malaise

Management

- Nonsteroidal anti-inflammatory drugs
- Alternate hold and cold compresses as needed
- Able to keep breastfeeding
- Antibiotics
    - Cephalexin, dicloxacillin, or clindamycin for *Staphylococcus* or *Streptococcus* coverage

How You Will Be Tested

- Obtain a breast ultrasound to look for abscess or malignancy
- Able to keep breastfeeding - no need to “pump and dump”

See: EM:RAP 2016 May - Community Medicine Rants - Breast Abscess

Miscarriage

Jennifer Farah, MD, and Jessica Mason, MD

Background

- Several types:
  - Threatened abortion
  - Inevitable abortion
  - Incomplete abortion
  - Complete abortion
  - Missed abortion
  - Septic abortion

Clinical Findings

- Threatened abortion
  - Vaginal bleeding with no passage of products of conception (POC) and no dilation of cervical os
- Inevitable abortion
  - Vaginal bleeding **and** cervical os dilation
- Complete abortion
  - Minimal or resolved bleeding
  - POC has completely passed
  - Uterus is firm and nontender
  - Cervical os is closed
- Missed abortion
  - Failure to pass POC days to weeks after fetal death
- Septic abortion
  - Uterine infection after any type of abortion (fever, leukocytosis, pelvic pain)

Management

- Threatened abortion
  - Ob-Gyn follow-up and RhoGAM if Rh negative and bleeding
- Inevitable abortion
  - Expectant, medical, or surgical management
- Complete abortion
  - Ob-Gyn follow-up as needed
- Missed abortion
  - Expectant, medical, or surgical management
- Septic abortion
  - Antibiotics, Ob-Gyn consultation

How You Will Be Tested

- You will be given a clinical scenario and asked to identify the abortion type given bleeding status, cervical os status, and status of POC
- Remember to give RhoGAM to Rh-negative mothers

Nuchal Cord

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Obstetrical emergency
- Present in up to 35% of cephalad deliveries

Clinical Findings

- Umbilical cord wrapped around neck
- Fetal asphyxia if not recognized and treated

Management

- Attempt to reduce over fetal head

How You Will Be Tested

- Next step in management - if loose, attempt to reduce over head
- If tight, clamp in 2 places, cut, and expeditiously deliver the baby

Ovarian Cysts & Tumors

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Abdominal pain in the setting of negative pregnancy test
- Can come from leakage of fluid (cyst rupture)
- Can come from mass effect pushing on adjacent structures

Clinical Findings

- Unilateral pelvic pain
- Cyst rupture
  - Sudden onset pain
  - May progress to bleeding and peritonitis
- Testing
  - Pregnancy test
  - Pelvic ultrasound
    - Mass and or cyst present
    - Look for torsion
      - Increased risk of torsion if cyst >5 cm in diameter
      - Torsion = surgical emergency

Management

- Airway, breathing, circulation, resuscitation
- Consider Ob-Gyn consultation
- May require surgery if actively torsing or bleeding
- If a simple cyst is identified, follow-up imaging is needed

How You Will Be Tested

- Be able to differentiate between a ruptured simple cyst and a ruptured ectopic pregnancy (stable vs unstable)

Ovarian Torsion

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Significant risk of torsion if mass >5 cm
- The ovary has a dual arterial supply (you may not see complete ischemia in torsion)
- Risk factors:
  - Adnexal mass
  - Pregnancy
  - Induction of pregnancy

Clinical Findings

- Vague findings
  - Sudden onset, difficult to localize abdominal pain
  - Can be intermittent
  - Exam may be normal between episodes
  - Pain may radiate into back
  - Adnexal tenderness or pelvic exam

Management

- Pregnancy test to rule out ectopic pregnancy
- Ob-Gyn consultation for laparoscopy and possible salpingo-oophorectomy

How You Will Be Tested

- Remember to always call Ob-Gyn if you suspect a torsion
- May have pelvic congestion with good arterial blood flow since the ovary has a dual blood supply

Pelvic Inflammatory Disease, Fitz-Hugh Curtis, & Tubo-Ovarian Abscess

Jennifer Farah, MD, and Jessica Mason, MD

Background

- Ascension of cervicitis
- Most common risk factors
    - Multiple sex partners
    - Recent placement of intrauterine device (IUD)
    - Adolescence
    - Recent menses
    - Smoking
    - Previous pelvic inflammatory disease (PID)
- Gonorrhea and chlamydia are the most common causes

Clinical Findings

- Woman with bilateral lower abdominal pain
    - Generally occurs a few days after menses
- Vaginal discharge
- Fevers, chills, malaise
- Cervical motion tenderness
- Abdominal and bilateral adnexal tenderness
- Fitz-Hugh-Curtis
    - Bacterial perihepatitis as a result of PID causing right upper quadrant pain
- Tubo-ovarian abscess
    - Focal unilateral pain
    - “Complex” mass

Management

- Treatment: Antibiotics
    - Admission for IV antibiotics if pregnant or toxic appearing
    - Gonorrhea and chlamydia treatment
- Tubo-ovarian abscess
    - Consider Ob-Gyn consultation for possible surgical drainage

How You Will Be Tested

- Understand clinical presentation of PID
- Know the common pathologic causes of PID (gonorrhea and chlamydia)
- Know that patient is at increased risk for ectopic pregnancy

Placenta Previa

Vanessa Cardy, MD; Mel Herbert, MD; and Jessie Werner, MD

Background

- Placenta has implanted over the cervical os or within 2-3 cm
- Bleeding caused by shearing forces of the lower uterine segment or trauma
- Risk factors:
    - Previous placenta previa
    - Uterine fibroids
    - Smoking
    - Advanced maternal age

Clinical Findings

- Bright red, painless bleeding in someone who is pregnant (usually second or third trimester)

Management

- Do not perform a bimanual exam on this patient (may precipitate hemorrhage)
- Trans-abdominal ultrasound to identify location of cervix
- Airway, breathing, circulation, resuscitation
- Complete blood count and coagulation panel
- Type and cross
    - RhoGAM if Rh negative
- Urgent Ob-Gyn consultation

How You Will Be Tested

- Know the risk factors and presentation
- Understand that this requires urgent Ob-Gyn evaluation
- Don’t forget to give RhoGAM!

Placental Abruption

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Bleeding between placenta and uterus
- Bleeding can be concealed
- Risk factors:
    - Hypertension
    - Advanced maternal age
    - Oligohydramnios
    - Cocaine use
    - Previous abruption
    - Smoking
    - Multiparity
    - Trauma

Clinical Findings

- Vaginal bleeding (not always)
- Fetal distress/death
- Disseminated intravascular coagulation
- Maternal death
- Ultrasound has low sensitivity
- Physical exam
    - Check for vaginal bleeding (if no placenta previa)
    - Check for uterine tenderness

Management

- Airway, breathing, circulation, resuscitation
- RhoGAM if Rh negative
- Left lateral decubitus position
- Observation and fetal monitoring following minor trauma to look for fetal distress

How You Will Be Tested

- Know this as a concerning cause of vaginal bleeding in the third trimester
- This is associated with abdominal pain and uterine tenderness (versus placenta previa which is painLESS vaginal bleeding)

Postpartum Hemorrhage

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Two types:
    - Early - within first 24 h of delivery
    - Late - 24 h to 6 wk post delivery
- Most common postpartum complication globally
- Most common cause of postpartum maternal death
- Physiologic changes in pregnancy can mask significant hemorrhage

Clinical Findings

- Early
    - Uterine atony
        - "Enlarged, boggy mass"
    - Placenta accreta
    - Retained placenta
    - Laceration
    - Uterine inversion
        - Mass in the vaginal canal
    - Coagulopathy
- Late
    - Retained placenta
    - Uterine inversion
        - Mass in the vaginal canal
    - Infection
    - Sloughing of placental attachment

Management

- Treatment
    - Airway, breathing, circulation, resuscitation
    - Removal of retained products of conception
    - Repair of laceration
    - Ob-Gyn consultation
    - Uterine massage if uterine atony is the cause
- Tocolytic
    - Oxytocin 10-40 units in 1 L of IV fluids wide open
    - Works specifically in uterine atony
- Testing
    - Complete blood count
    - Type and cross

  - Coagulation panel
  - Ultrasound to identify retained products

How You Will Be Tested

- Know common cause is uterine atony
- Know management

Preeclampsia & Eclampsia

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Both can occur up to 4 wk postpartum

Clinical Findings

- Preeclampsia
  - **New** onset of hypertension: systolic BP >140 or diastolic BP >90
  - Proteinuria and combination of
    - Headache
    - Blurry vision
    - Right upper quadrant/epigastric pain
    - Abnormal liver function tests/platelets
- Eclampsia
  - Seizures in a patient with preeclampsia

Management

- Rule out HELLP syndrome (hemolysis, elevated liver enzymes, and low platelets)
- Lab work
  - Complete blood count
  - Chemistry
  - Magnesium level
  - Liver function tests
  - Urinalysis
- Aggressive BP control (labetalol or hydralazine)
  - Labetalol
    - 20 mg IV bolus
    - Repeat boluses of 40-80 mg IV
  - Hydralazine
    - 5-10 mg IV bolus
    - Repeat boluses of 5-10 mg IV
- IV magnesium and infusion
  - 4-6 g IV loading, then infusion of 2 g/h IV
  - Watch for signs of magnesium toxicity
    - Hyporeflexia
    - Respiratory failure
- Transfer to high-risk obstetrics ASAP

How You Will Be Tested

- Know the criteria for diagnosis
- Know that eclamptic seizures are treated with magnesium
- Know which medications to use for BP control and which are teratogenic

Premature Labor

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Labor starting prior to 37 wk estimated gestational age (EGA)
- Risk factors:
  - Premature rupture of membranes
  - Polyhydramnios
  - History of abruption
  - Drug use

Clinical Findings

- Active labor (cervical change) prior to 37 wk EGA
- Pooling of fluid
  - Ferning
  - Nitrazine test turns blue, suggesting fluid from ruptured membranes

Management

- Consider transfer to obstetrics center or high-risk center at less than 34 wk EGA
- Consult Ob-Gyn
- Fetal monitoring
- Consider tocolytics (if not a placental abruption)
- Consider steroids for lung maturation (between 24-34 wk EGA)

How You Will Be Tested

- Ultrasound is the first step, if the patient is stable, to locate the placenta (make sure no placenta previa)
- Be able to confirm that this is not an abruption

Premature Rupture of Membranes

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Amniotic sac ruptures before the onset of labor
- Increased risk of infection in mother and baby

Clinical Findings

- "Gush" of fluid
- Can also be a slow leak
- Nitrazine paper
    - If it turns blue, suggests premature rupture
- Ferning - dried fluid pattern
- Pooling of fluid in the posterior fornix

Management

- Check vitals
- Assess fetal heart rate
- Cardiotocographic monitoring
- Check for sexually transmitted infection
- Consult Ob-Gyn
- If prolonged premature rupture of membranes, consider antibiotics

How You Will Be Tested

- How to identify whether rupture of membranes has happened with testing
- Understand the risk of infection in prolonged rupture

Prolapsed Cord

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Presenting part compresses prolapsed cord
- Obstetrical emergency
- Risk factors:
    - Premature birth
    - Large decrease in amniotic fluid volume with rupture of membranes

Clinical Findings

- Cord presents from the vaginal introitus
- Fetal bradycardia

Management

- Elevate the presenting part (do not move your hand)
- Place patient in knee to chest or Trendelenburg position
- Operating room for urgent delivery

How You Will Be Tested

- Know that the presenting part must be elevated off the cord to prevent fetal hypoxemia

Rhesus Isoimmunization

Jennifer Farah, MD, and Jessica Mason, MD

Background

- Rhesus (Rh) immunoglobulin
- Rh-negative mother
- Child may be Rh positive
- Given in situations to prevent “mixing of the blood”

Clinical Findings

- Miscarriage
- Bleeding
- Trauma
- Placenta previa or abruption

Management

- RhoGAM: must be given within 72 h
  - <12 wk: 50 μg
  - > 12 wk: 300 μg

How You Will Be Tested

- Understand situations that can lead to “mixing” of blood

Sexual Assault

Vanessa Cardy, MD; Mel Herbert, MD; and Jessica Mason, MD

Background

- Affects men, women, and children
- Assailant is usually known to victim
- No consistent "physical exam findings"

Clinical Findings

- Defensive injuries
- Can have no obvious physical exam findings

Management

- Obtain history and physical with as much detail as possible
- Sexual assault kit (if patient consents)
- Emergency contraception
- Sexually transmitted infection prophylaxis
- Offer hepatitis vaccination
- Discuss human immunodeficiency virus (HIV) post-exposure prophylaxis
- Discuss with social worker/sexual assault support team

How You Will Be Tested

- Know who can perform the sexaul assault exam

Sheehan Syndrome

Jennifer Farah, MD, and Jessica Mason, MD

Background

- Panhypopituitarism
    - Caused by ischemic necrosis due to blood loss during or after childbirth
    - Hemorrhagic shock during birthing process

Clinical Findings

- Signs/symptoms:
    - Inability to produce breast milk
    - Fatigue
    - Lack of menstrual bleeding
    - Loss of pubic and axillary hair
    - Low blood pressure

Management

- Obtain chemistry and thyroid-stimulating hormone
- Obtain brain imaging

How You Will Be Tested

- Remember to consider this diagnosis in the setting of a large amount of blood loss during birthing process
- Remember the symptoms caused by panhypopituitarism

Shoulder Dystocia

Jennifer Farah, MD, and Jessica Mason, MD

Background

- Failure of baby's anterior shoulder to pass below pubic symphysis

Clinical Findings

- Symptoms/signs:
  - Protracted labor
  - Turtle sign (appearance and retraction of fetal head)
  - Facial flushing (baby's face is puffy and flushed)

Management

- Mother
  - Foley catheter to decompress bladder
  - McRoberts maneuver
    - Legs in hyperflexion
    - Suprapubic (not fundal!) pressure
  - Positioning on all fours
  - Episiotomy
- Baby
  - Corkscrew maneuver
    - Rotate baby's posterior shoulder into anterior plane
  - Deliver posterior arm
  - Fracture baby's clavicle

How You Will Be Tested

- Clinical signs and maneuvers

Uterine Inversion

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Occurs with excessive traction on umbilical cord during placental delivery
- Other risk factors:
    - Connective tissue disorder
    - Uterine structure abnormalities
- Complete inversion - body of uterus inverts outside of cervix
- Incomplete inversion - body of uterus does not invert outside of cervix (occult and can be missed)

Clinical Findings

- Signs/symptoms
    - Acute abdominal pain
    - Hypotension
    - Hemorrhage
    - Shock

Management

- Lab work
    - Complete blood count
    - Coagulation panel
    - Type and cross
- Airway, breathing, and circulation
- Check for complete vs incomplete inversion
- Manual compression and restoration of uterus
- Don’t start oxytocin unless uterus has been replaced in anatomical position

How You Will Be Tested

- Be able to identify a uterine inversion when it occurs
- You may be shown an image of an inverted uterus

Uterine Prolapse

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Multigravid patient
- Pelvic floor weakness

Clinical Findings

- Bulging or pressure-like sensation
- Difficulty urinating
- Apical vault prolapse
- Uterine procidentia

Management

- Vaginal pessary
- Pelvic floor exercises
- Surgical repair

How You Will Be Tested

- Understand the difference between uterine prolapse and inversion

Uterine Rupture

Vanessa Cardy, MD; Mel Herbert, MD; and Jessie Werner, MD

Background

- Risk factors
    - Vaginal birth after cesarean (VBAC) delivery
    - Trauma
    - Polyhydramnios
    - Multiple fetuses present
    - Placenta accreta

Clinical Findings

- Symptoms/signs:
    - Increased pain
    - Decreased contracts
    - Change in fetal station
    - Fetal distress

Management

- Airway, breathing, and circulation
- Advanced trauma life support guidelines if trauma
- Urgent cesarean section

How You Will Be Tested

- How to manage and clinical signs

Vaginitis (Bacterial & Yeast)

Vanessa Cardy, MD, and Mel Herbert, MD

Background

- Abnormal discharge can present from vagina or cervix or from pelvic inflammatory disease
- Usually infectious but variety of causes:
  - Foreign body
  - Vaginal atrophy in postmenopausal women
  - Irritants
- In premenopausal women, most common is bacterial vaginosis

Clinical Findings

- Bacterial vaginosis
  - Thin gray discharge
  - Fishy odor
  - Clue cells on microscopy
  - Can be sexually transmitted
  - pH >4.5
- Candida vaginitis
  - Cottage cheese discharge
  - Inflammation
  - Pruritus
  - May present with dysuria
  - Look for hyphae
  - Erythema of vulva and satellite lesions
  - pH <4.5

Management

- Bacterial vaginosis
  - Metronidazole or clindamycin (remember: metronidazole can cause disulfiram reaction) orally or intravaginally
- Candida vaginitis
  - Oral fluconazole
  - Per vaginal imidazole

How You Will Be Tested

- Recognize the appearance of candida discharge
- For bacterial vaginosis, remember to treat the patient's partner as well