WORK-UP OF AMENORRHEA

• Progestin challenge:
  • Medroxyprogesterone acetate (MPA) 10mg/d x 10 d
  • Norethindrone 5mg/d x 10d
  • Oral micronized progesterone 200mg/d x 10d
MENORRHAGIA

• Most common etiologies:
  • Fibroids
  • Endometrial polyps
  • Adenomyosis
  • Coagulopathy (VWF [most common], thrombocytopenia, hemophilia [Factor VIII])
  • Cervical/uterine CA
TREATMENT OPTIONS

• If not pregnant/no malignancy/no structural abnormality:
  • OCPs
  • POPs
  • DMPA
  • IUD
  • Uterine ablation
  • Hysterectomy
A 45 year-old G2P0 LMP 16 days ago, presents with heavy menstrual bleeding. Prior to 4 months ago her cycles occurred every 28-30 days, lasted for 5-6 d, with + cramps unrelieved by Ibuprofen. Now menses are q 24-32 days x 7-10 d with + cramps, clots. Pt is using super tampons and pads q 2 hours.

She takes no daily medications and has no other medical problems.


- What else do you need to know?
- What do you do now?
Table 3. Absolute Contraindications to Oral Contraceptive Use (Unacceptable Health Risk)*

<table>
<thead>
<tr>
<th>Contraindication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy</td>
</tr>
<tr>
<td>Postpartum &lt;6 weeks and breastfeeding</td>
</tr>
<tr>
<td>Age &gt; 35 years and heavy smoker (&gt;15 cigarettes/d)</td>
</tr>
<tr>
<td>Systolic blood pressure &gt; 160 mm Hg, diastolic blood pressure &gt; 99 mm Hg</td>
</tr>
<tr>
<td>Hypertension with vascular disease</td>
</tr>
<tr>
<td>Diabetes with neuropathy, retinopathy, nephropathy, or vascular disease</td>
</tr>
<tr>
<td>History of deep venous thrombosis or pulmonary embolism</td>
</tr>
<tr>
<td>Major surgery with prolonged immobilization</td>
</tr>
<tr>
<td>History of ischemic heart disease</td>
</tr>
<tr>
<td>History of stroke</td>
</tr>
<tr>
<td>Complicated valvular disease (with atrial fibrillation, pulmonary hypertension, bacterial endocarditis)</td>
</tr>
<tr>
<td>Severe headaches with focal neurologic symptoms</td>
</tr>
<tr>
<td>Current breast cancer</td>
</tr>
<tr>
<td>Active viral hepatitis, severe cirrhosis, benign or malignant liver tumors</td>
</tr>
</tbody>
</table>

* Adapted with permission from Improving Access to Quality Care in Family Planning: Medical Eligibility Criteria for Contraceptive Use. 2nd ed. Geneva, Switzerland, World Health Organization, 2000:1-12 (61).
• TCU 80A (Paragard®)  
  • X 10 y  
• LNG 20 (Mirena®)  
  • X 5 y  
• LNG 14 (skyla®)  
  • X 3 y
UTERINE ABLATION

- Requires endometrial sampling to r/o hyperplasia/CA and saline infusion sonography (SIS) to evaluate uterine cavity
  - Bipolar radiofrequency (Novasure)
  - Hot liquid filled balloon (ThermaChoice)
  - Cryotherapy (Her Option)
  - Circulating hot water (Hydro ThermAblator)
  - Microwave (Microwave Endometrial Ablation)
DYSPAREUNIA

• **Intromission**
  • Vestibulitis, vaginismus, fissures, vulvar lesions

• **Mid-Vaginal**
  • s/p surgery, lack of lubrication

• **Deep Dyspareunia**
  • Endometriosis, interstitial cystitis, adhesions, PID, adnexal masses
VAGINISMUS

• Severe pain or spasm of pelvic floor muscles during attempted penetration
• Difficulty inserting speculum
• Psychotherapy, vaginal dilators
CONTRACEPTION

• OCP (92-99%)
• Nuvaring (92-99%)
• Patch (92-99%)
• DMPA (97-99%)
• Nexplanon (99%)
• IUS (99%)
• Cervical Cap/Diaphragm (84-94%)
• Condoms/spermicide (85-98%)
• NFP (75%)
• Abstinence (99.9%)
• Emergency contraception (58-94%)
• Sterilization (99%)
DISORDERS OF THE VULVA/VAGINA

• Vulvar intraepithelial neoplasms (VIN)
• Lichen sclerosis
• Vaginitis
VIN

- Assoc with HPV 16, 18, 31 (HR-HPV)
- Smoking is a risk factor
- VIN 2,3 often associated with SCC, lichen sclerosus
- Melanomas ~5%
- Dx: colpo and bx
- Tx:
  - Laser ablation
  - Vulvectomy
  - Excision
White plaques of vulvar high-grade squamous intraepithelial lesions (HSIL)

Raised whitish plaques as a manifestation of high-grade squamous intraepithelial lesions of the vulva (HSIL).

Courtesy of Christine Holschneider, MD.
Lichen sclerosus and squamous cell carcinoma

Severely itchy vulvar LS with scarring, loss of vulvar architecture and thick indurated areas of SCC.

Reproduced with permission from: F William Danby, MD, FRCPC, FAAD and Lynne J Margesson, MD.
BARTHOLIN CYST/ABSCESSESS
BARTHOLIN TREATMENT

• Word catheter
• Marsupialization
• Antibiotics
A vertical oval incision is made over the center of the cyst/abscess where it protrudes at the vestibule and outside the hymenal ring. The cyst cavity can be irrigated with saline solution and loculations can be broken up with a hemostat, as needed. The cyst wall is then everted and sutured onto the edge of the vestibular mucosa with interrupted 2-0 absorbable suture.
VAGINITIS

• Normal vaginal pH 3.5-4.5

• BV
  • Wet prep: clue cells; pH >4.5, “whiff test”
  • Tx with metronidazole, clindamycin

• Trich
  • Wet prep: motile trichomonads; metronidazole or tinizadole PO 2 g in single dose.

• Yeast
  • KOH: pseudohyphae, budding yeast; vaginal antifungal creams, fluconazole 150mg PO x one*
CYSTOCELE

- Bladder prolapse
- Pt may feel a bulge
- Usually parous, overweight
- Tx with pessary, surgery, vaginal estrogens
RECTOCELE

• Prolapse of rectum into posterior vagina
• Usually parous
• May feel need to push on posterior wall when having a BM
• Tx: vaginal estrogen, pessary, surgery
VAGINAL PROLAPSE

• Usually seen with uterine prolapse, cystocele, rectocele
• Pessary, vaginal estrogen, surgery
MENOPAUSE

• Unintentional cessation of menses x 12 months
• Usually between 45-55 y/o
• Premature: before 40 y/o
• Hot flashes, night sweats, weight gain, loss of bone mineral density
• WHI and estrogen:
  • Tx for shortest duration of time with lowest dose
  • Tx no more than 5 years
  • Tx within 10 yrs of LMP
INFERTILITY

• Inability to conceive within 12 months of trying
  • 6 months for women >35y/;
  • Caveat: known etiology (i.e. male factor, prior HSG showing bilat occlusion)
• Male factor – 26%
• Ovulatory dysfunction – 21%
• Unexplained – 28%
INFERTILITY

• Semen analysis
• Menstrual history, past medical history
• Pap and PCR for gonorrhea, chlamydia, Ureaplasma urealyticum, Mycoplasma hominis
• Hysterosalpingogram
• Antimüllerian hormone level (low values (0.2–0.7 ng/mL) = good predictor of poor ovarian stimulation response)
• TSH
• Day 3 FSH
  • Day 3 E2 (high E2 (>100 pg/mL) can inhibit FSH secretion resulting in an artificially low FSH value);
  • Inhibin B (Low levels <45 pg/mL have been associated with poor response to gonadotropins)
• Day 20-22 Progesterone
PREGNANCY REVIEW

Elyse Watkins, DHSc, PA-C
LEARNING OBJECTIVES

At the conclusion of this presentation, learners will be able to:

• Identify key signs and symptoms of common obstetric medical conditions to help establish a differential diagnosis
• Utilize evidence-based laboratory and imaging modalities to support a working diagnosis
• Describe evidence-based treatments of commonly encountered obstetric conditions
• Recognize obstetrical emergencies and necessary clinical interventions
NCCPA BLUEPRINT

Uncomplicated Pregnancy
Normal labor/delivery
Prenatal diagnosis/care

Complicated Pregnancy
Abortion
Abruptio placentae
Cesarean section
Dystocia
Ectopic pregnancy
Fetal distress
Gestational diabetes
Gestational trophoblastic disease
Hypertension disorders in pregnancy
Multiple gestation
Placenta previa
Postpartum hemorrhage
Premature rupture of membranes
Rh incompatibility
NAEGELE’S RULE

• Count back three months from the LMP and add seven days
BLEEDING DURING PREGNANCY

• Depends upon trimester
• Corpus luteum, progesterone
• Postcoital
• Placenta previa
• Placental abruption
• Ectopic
• Gestational Trophoblastic Disease
• Differentiate physiologic vs pathologic
ECTOPIC

- ~1:80 pregnancies
- 5% of maternal death
- Risk factors
  - PID
  - Cigarette smoking
  - Prior ectopic
  - Hx tubal sterilization
  - Preg with IUD in situ
  - Assisted Reproductive Technology
ECTOPIC

- Pain, hx irreg menses with +HCG
- If HCG >1500 and no Gestational Sac on utz – think ectopic
- If HCG >2000 with no Gestational Sac = ECTOPIC
- If HCG does not doubles in 48h – think ectopic
- PGN >25 = normal Intrauterine pregnancy
THREATENED AB, MISSED AB, INCOMPLETE AB
(AB= ABORTION)

• Threatened:
  • 1st trimester bleeding
  • Normal Gestation Sac, +cardiac activity
  • ~94% will progress to normal pregnancy
• Missed:
  • 1st trimester bleeding
  • Abn ultrasound
  • Dilation & Curettage
• Incomplete:
  • 1st trimester hemorrhage, sepsis
  • Dilation & Curettage
RECURRENT SPONTANEOUS ABORTION

• 3 or more pregnancy losses prior to 20wks

• Work-up:
  • Mycoplasma, listeria, toxoplasma
  • Genetic counseling
  • Smoking >20 cigs/day
  • DM
  • SLE, antiphospholipid Ab
  • TSH
TESTING IN PREGNANCY

• Initial:
  • ABO/Rh, Antibody screen, Hgb/Hct, Pap, GC/CT, Rubella, VDRL, UA, HBSAg, HIV
• 8-18 wks:
  • Quad screen, Amnio/CVS
• 24-28 wks:
  • Hct/Hgb, 1 hr glucola, Antibody screen
• 32-36 wks:
  • Hgb/Hct, Group B Strep
ULTRASOUND IN PREGNANCY

• **First trimester** for dating/evaluating viability
  • Gestational Sac by 5 wks, cardiac activity by 6 wks
  • HCG ~1500 mIU/ml to see Gestational Sac

• **Second trimester** for fetal anomalies

• **Third trimester** useless for dating;
  • used for estimating fetal weight, amniotic fluid index, cervical length
A 22 y/o G1 presents @ 5 wks by LMP with vaginal bleeding.

- What do you need to know?
- What do you do next?
ANEUPLOIDY SCREENING

• 1st trimester screening
  • Maternal age, correct dates
  • CVS 10-12 wks
  • fetal nuchal translucency (NT) thickness, HCG, PAPP-A (pregnancy associated plasma protein A), Inhibin A
    • Between 10-13w6d
    • ↑NT = high likelihood of Down Syndrome
    • ↑HCG, ↓PAPP-A, ↑inhibin A = risk for Down syndrome
    • nasal bone abn ↑detection of Down syndrome
ANEUPLOIDY SCREENING

• 2\textsuperscript{nd} trimester screening
  • 16-19w6d
  • AFP, HCG, UE3
  • If AFP↑ = likely NTD
  • If AFP↓, HCG↑, and UE3↓ = risk for Down syndrome (Trisomy 21)
  • If AFP↓, HCG↓, and UE3↓ = likely Edwards Syndrome (Trisomy 18)
  • Ultrasound
MONITORING FETAL HEALTH

• **Non-stress test (NST)**
  • External fetal monitoring

• **Biophysical profile (BPP)**
  • Fetal breathing (rhythmic)
  • Fetal movement (at least 3)
  • Fetal tone (extension and flexion)
  • Amniotic fluid index (>2cm)
  • With Non-Stress test (NST)
POOR VARIABILITY
ABNORMALITIES OF EXTERNAL FETAL MONITORING

• **Early decels**: compression of fetal head (during contraction)

• **Late decels**: fetal hypoxemia, uteroplacental insufficiency

• **Variable decels**: cord compression (could also be position of mother)

• **Prolonged decels**: > 2min, -15 bpm change
AMNIOTIC FLUID INDEX

• **Oligohydramnios** (4%): Amniotic Fluid Index <7 cm
  • IUGR, pulm hypoplasia, renal agenesis, polycystic kidneys, PIH, post-dates (>42 wks)

• **Polyhydramnios** (1%): Amniotic Fluid Index >25 cm
  • GDM, multiple gestation, GI abn, hydrops, Parvovirus, Trisomy

PLACENTAL ISSUES

• Placenta previa
  • Complete or total: internal os completely covered by placenta
  • Partial: internal os partially covered by placenta
  • Marginal: placenta at the margin of the internal os
  • Low-lying: placenta is implanted in the lower uterine segment

• Placental abruption
  • Maternal HTN most common cause
  • Cocaine use, cigarette smoking, trauma
  • Must be in the differential in 2nd and 3rd trimester bleeding
  • Medical emergency!
PRETERM LABOR/PREMATURITY 
RUPTURE OF MEMBRANES

PTL: 20 – 36 wks gestation; + uterine contractions of sufficient frequency and intensity to effect progressive effacement and dilation of the cervix
- precedes almost half of preterm births
- leading cause of neonatal mortality in the United States
- Tx: PGN, tocolytics

PROM: ROM before onset of labor >37 wks

PPROM: Preterm premature ROM <37 wks
- risk of chorioamnionitis if >24 hrs
CERVICAL INCOMPETENCE/INSUFFICIENCY

- >1 2nd trimester pregnancy loss with rapid dilation
- Progressively earlier deliveries
- Cervix is shortened on ultrasound
- Cerclage at 12-14 wks
- Hydroxyprogesterone weekly until 36 wks
GESTATIONAL DIABETES MELLITUS

• Large for gestational age, hypertension, preeclampsia, respiratory distress, perinatal morbidity/mortality (↑ C-sec rates)
• Up to 60% chance of developing T2DM in 10-20 yrs
• > 40% have GDM with subsequent pregnancies
GESTATIONAL DIABETES MELLITUS

• 50-g Glucola 1 hour OGTT at initial visit/26-28 wks
• 75-g Glucola 2 hour OGTT at initial visit/26-28 wks
• 100-g Glucola 3 hour OGTT if “fail” 1 hour
• **Treatment:**
  • FBG $\geq 95$ mg/dl
  • $1 \text{ hr} \geq 135\text{-}140$ mg/dl
  • $2 \text{ hr} \geq 120$ mg/dl (150 mg/dl)
• Insulin (Reg/NPH)
• Metformin
• Glyburide
GESTATIONAL TROPHOBLASTIC DISEASE

• Hydatidiform mole (HM)
• Aberrant fertilization
• Potential to be locally invasive
• **Malignant GTD** is referred to as gestational trophoblastic neoplasia (GTN)
  • Invasive mole, choriocarcinoma, placental site trophoblastic tumor, and epithelioid trophoblastic tumor
GESTATIONAL TROPHOBLASTIC DISEASE

- **Complete moles**: diploid, ↑ hCG (>100,000 mIU/ml)
  - ↑ risk of GTN (~20% higher than partial)
- **Partial moles**: triploid,
  - risk of GTN ~5%, fetus may be present
- **Risk factors** for GTD are AMA or <20 y/o, previous GTD
- Typically present as abn bleeding, hyperemesis, preeclampsia <20 wks
- Classic ultrasound of complete mole is ‘snowstorm or swiss cheese’ pattern.
RH INCOMPATABILITY
RH(D) ANTIGEN

• Check Rh status and antibody screen at initial ob visit
• If Rh neg, check antibody screen again at 28 wks
  • If ab screen neg, administer RhoGAM® (Rh0 (D) immune globulin)
• If Rh neg and antibody screen positive – check titers (indirect coombs), refer to perinatology
• Beware: C, c, E, e, and G also exist and alloimmunization can still occur
HYPERTENSIVE DISORDERS OF PREGNANCY

• PIH or Gestational HTN
  • BP > 140/90 mm/Hg
  • If BP sustained at > 160/90 mm/Hg – deliver preterm

• Pre-eclampsia
  • BP > 140/90 mm/Hg after 20 wks with proteinuria > 300 mg/24 hours, low plt (<100,000 microliter), serum creatinine > 1.1 mg/dl, AST > 70 u/l, ↑ uric acid > 5.6 mg/dl, ↑ D-dimer, LDH > 600 u/l
  • Visual changes, clonus, abd pain, rapid weight gain, edema
  • Eclampsia - + seizures; MgSO4, lorazepam
HYPERTENSIVE DISORDERS OF PREGNANCY

• Pre-existing (chronic) HTN (prior to 20 wks)
  • ACEI (?)
  • Methyldopa, hydralazine
  • Labetolol
  • Nifedipine
MULTIPLE GESTATION

• Associated with preterm delivery
• More common with assisted reproductive technologies
• Vaginal delivery if twins and both head down
• Usually delivered in OR
NORMAL LABOR AND DELIVERY

Dilation: cervical opening; Effacement: cervical thinning; Station: place in pelvis
STAGES OF LABOR

stage 1: latent and active; stage 2: cervical dilation and pushing; stage 3: expulsion of fetus and placenta
DYSTOCIA

• Up to 3% of births
• Turtle sign
• McRoberts maneuver
• Obstetric emergency!
McRoberts maneuver and suprapubic pressure

An assistant applies pressure suprapubically with the palm or fist, directing the pressure on the anterior shoulder both downward (to below the pubic bone) and laterally (toward the baby’s face or sternum), and in conjunction with the McRoberts maneuver. Suprapubic pressure is supposed to adduct the shoulders or bring them into an oblique plane, since the oblique diameter is the widest diameter of the maternal pelvis. It is most useful in mild cases and those caused by an impacted anterior shoulder.
CESAREAN SECTION

• Vertical or low-transverse
• Due to failure to progress in labor, fetal distress, repeat from prior cesarean
• Risk of infection, dehiscence, thrombosis
• **Lochia**
  • Vaginal discharge after delivery

• **Postpartum depression** (immediate to 12 months)
  • Risk factors – previous depression! Marital discord
  • S/Sxs – bonding, crying, anxiety, excessive sleepiness
  • Tx – antidepressants, referral
  • If untreated: risk of suicide, infanticide
POSTPARTUM HEMORRHAGE

• Obstetric emergency!
• Loss of >500ml of blood within 24 hours after vaginal delivery or > 1000 mL following cesarean delivery
• Leading cause of maternal morbidity and mortality in developing world
• Fluids: 14-G NS wide-open
• Uterine massage
POSTPARTUM HEMORRHAGE

- 2-4 units **PRBC**
- 6 units **PRBC** if massive hemorrhage (blood loss >1500 ml)
- **Oxytocin** 10 IU IV/IM
- **Methergine** 0.2 mg IM
- **Carboprost tromethamine** (Hemabate) IM (if no asthma)
Dr Patrick Bose, Dr Fiona Regan, Miss Sara-Paterson Brown

*Multidisciplinary observations of estimated blood loss revealed that scenarios (e-f) are grossly underestimated (> 30%)

For Further Information please contact Miss Sara-Paterson-Brown
Delivery Unit, Queen Charlotte’s Hospital, London
## Symptoms related to blood loss with postpartum hemorrhage

<table>
<thead>
<tr>
<th>Blood loss, percent (mL)</th>
<th>Blood pressure, mm Hg</th>
<th>Signs and symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 to 15 (500 to 1000)</td>
<td>Normal</td>
<td>Palpitations, lightheadedness, mild increase in heart rate</td>
</tr>
<tr>
<td>15 to 25 (1000 to 1500)</td>
<td>Slightly low</td>
<td>Weakness, sweating, tachycardia (100 to 120 beats/minute)</td>
</tr>
<tr>
<td>25 to 35 (1500 to 2000)</td>
<td>70 to 80</td>
<td>Restlessness, confusion, pallor, oliguria, tachycardia (120 to 140 beats/minute)</td>
</tr>
<tr>
<td>35 to 45 (2000 to 3000)</td>
<td>50 to 70</td>
<td>Lethargy, air hunger, anuria, collapse, tachycardia (&gt;140 beats/minute)</td>
</tr>
</tbody>
</table>

The End.
Thank you!