OB EMERGENCIES II

Clerkship Teaching Series

Outline

1. Antepartum Hemorrhage (APH)
2. Postpartum Hemorrhage (PPH)
3. Breech

ANTEPARTUM HEMORRHAGE

Objectives

- Define placenta previa, placenta accreta, circumvallate placenta and succenturiate lobe.
- Describe 4 signs, symptoms or investigations that can differentiate between placental abruption and previa.

Case

- A 24 y/o pt at 32 weeks presents with painful vaginal bleeding of a moderate amount.
- Her pregnancy has been complicated by HTN and heavy smoking.
- What does your initial assessment and investigation include?

Antepartum Hemhorrage

- Placenta previa--20%
- Abruptio Placenta--30%
- Unclasified--45%
- Lower genital tract lesions--5%

- General mx: never do a pelvic exam!!!
- Rapid asessment,, grp and X match
- Active vs expectant mx

Placenta Previa

- 1/250 deliveries
- Classically painless bleeding
- Malpresentations common
- Uterus soft, nontender
- Pph, accreta more likely
- abN placenta and cord insertion
- Diagnosis=ultrasound
- 5% in 2nd trimester
- Cesarean section

Abruptio Placenta

- 1/150 deliveries
- Premature separation of the placenta
- Risk Factors
  - HTN
  - High parity and age
  - Prolonged PROM
  - Sudden decompression
  - Trauma
  - Smoking, cocaine

Abruption-Clinical

- Pain
- Uterine tenderness
- Incr uterine tone, irritability
- Concealed may present with acute abd and shock
- DIC
- Mx:expectant vs active, labor vs c/s

Abruptio Placentae	Placenta Previa
Assoc with HTN, trauma	Apparently causeless
Abd pain/backache	painless
Uterine tenderness	Uterus not tender
Increased uterine tone	Uterus soft
Normal presentation	Malpresentation/high
FH may be absent	FH usually normal
shock/ anemia out of proportion to bld loss	Shock and anemia correspond to bld loss

Vasa Previa

- Velamentous insertion of the cord--1% singletons and 5 % multiples
- 1/5000 vasa previa
- Test for fetal hb: add a few drops of bld to 10 mls 0.1% NaOH--fetal hb stays pink (Apt test)
- Fetal mortality 50-70%

POSTPARTUM HEMORRHAGE

Objectives

- Define postpartum hemorrhage and list 8 risk factors for it.
- Describe 4 immediate management steps in PPH.
- Name 4 different uterotonic drugs used in PPH.

Case 3

- 32 y/o G7P6 was delivered at home by a midwife. She is being brought in by ambulance for profuse bleeding.
- BP stable, HR 82
- On assessment: stable hemodynamically, placenta in situ, cord avulsed, still bleeding
- Ivs in place

Case 3

- Management
- ABCs
- Group and X-match, CBC, INR
- Anesthesia
- Prepare for OR (manual removal)
- Beware accreta, inversion
- Uterus still boggy after removal…

.

PPH

- 3% births major cause M&M
- Defined traditionally as EBL> 500 cc after vag del or >1000cc after C/S
- Physicians notoriously underestimate
- Excessive bleeding leading to symptoms or Hct drop of 10%

Etiology of PPH – the 4 T's

1. Tone (atony)
2. Tissue (retained products)
3. Trauma (vaginal laceration)
4. Thrombin (coagulation d/o)

Uterine Atony

- 80-90% cases
- Risk Factors
  - High parity
  - Multiple preg
  - Polyhydramnios
  - APH
  - Infection
  - Prolonged labor
  - Precipitous labor
  - Deep anesthesia
  - Full bladder
  - Augmented labor

Management of PPH

- Fundal massage
- Iv access/fluids
- Uterotonic drugs
- Remove fragments/clots
- Repair lacerations
- Tamponade
- Arterial embolization
- laparotomy

Uterotonic Drugs

- Oxytocin
  - 5 u im-onset in 3-4 min
  - 5 u iv-onset in 30-60 sec
  - Short duration of action-infusion 30-50 u/L
  - Antidiuretic effect in large doses
- Ergometrine
  - 0.25 mg im/iv
  - Slower onset
  - Prolonged contraction 60-90 min
  - Vasopressor effect—contraind in HTN

Uterotonic Drugs

- 15 methylprostaglandin F2 A (Hemabate)
  - 0.25 mg im/intramyometrial q15-90 min(max 2mg)
  - 10X as potent as natural PG
  - Oxytocic effect lasts 6 hrs
  - Caution in asthma
- Misoprostol
  - 800-1000 mcg pv/pr

PPH

- Tamponade
  - Bimanual compression
  - Aortic compression
  - Uterine packing
  - Sengstaken-Blakemore tube
  - #24 Foley with 30 cc balloon
- Arterial embolization
  - If stable, gelfoam pledgets
  - Arterial cath can be placed prophylactically

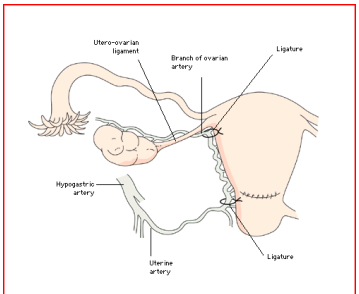
PPH

- Laparotomy
  - Vertical midline
  - Uterine artery ligation
  - Internal iliac artery ligation
  - B-Lynch sutures
  - Hysterectomy

Recomb.Factor VIIa—approved for hemophilia A&B, congen factorVII def

90-100mcg/kg—good results in 10 min in pp atony

PPH



Uterine artery ligation Sutures are placed to ligate the ascending uterine artery and the anastomotic branch of the ovarian artery. The procedure should be performed on each side.

PPH

- Prophylaxis
  - Awareness of risk factors (iv in place)
  - Active mx of the third stage
    - Do not "fundus fiddle"
    - Oxytocin with the ant shoulder
    - Massage and expel clots after delivery
    - Iv oxytocin for 2 hours pp
    - Close surveillance for 2-3 hrs pp

Symptoms Related to Blood Loss with Postpartum Hemorrhage[1]

Blood loss, percent (mL)	Blood pressure, mm Hg	Signs and symptoms
10 to 15 (500 to 1000)	normal	Palpitations, dizziness, tachycardia
15 to 25 (1000 to 1500)	slightly low	Weakness, sweating, tachycardia
25 to 35 (1500 to 2000)	70 to 80	Restlessness, pallor, oliguria
35 to 45 (2000 to 3000)	50 to 70	Collapse, air hunger, anuria

[1]Adapted from Bonnar, J. Baillieres Best Pract Res Clin Obstet Gynaecol 2000; 14:1.

BREECH

Objectives

- Describe the types of breech presentation and the incidence with gestational age
- List risk factors for breech presentation
- Describe management options for breech at term including ECV
- Be familiar with the Term Breech Trial and it's consequences

Case 6

- A 21 year old primip presents for a routine antenatal visit at 28 weeks. You remark that the fetus is in a breech position and she immediately is worried that she will end up with a cesarean section. How would you counsel her at this stage?
- How would your discussion differ if she presented at 36 weeks?

Breech

- Frank breech—both hips flexed and both knees extended (50-70% at term)
- Complete breech—both hips and both knees flexed (5- 10 % at term)
- Footling/incomplete breech—one or both hips not flexed, feet or knees presenting (10-40% at term)

Breech

- Incidence decreases with increasing gestational age
  - ✓Early pregnancy—40 %
  - ✓32 weeks—16 %
  - ✓Term—3-4 %
  - ◆Pathogenesis—may be chance or a marker for underlying maternal, fetal or placental conditions

Breech Risk Factors

- Abnormal uterus
  - ✓Uterine anomalies
  - ✓Leiomyomata
  - ✓Placenta previa
  - ✓Multiparity
  - ✓Poly/oligohydranios
  - ✓Contracted maternal pelvis
- Altered fetal shape
- Altered fetal mobility

Breech Risk Factors

- Altered fetal shape
  - ✓Fetal anomaly
  - ✓Extended fetal legs
- Altered fetal mobility
  - ✓Crowding from multiple gestation
  - ✓Fetal asphyxia
  - ✓Impaired growth
  - ✓Neurologic impairment
  - ✓Short cord

Breech Diagnosis

- Clinical exam not infallible!
- Ultrasound! To confirm presentation, exclude abnormality and placental site
- Sometimes diagnosed by vag exam in labor…

Breech Management

- Breech delivery
- ECV external cephalic version
- Cesarean section

Breech Delivery

- Will continue to occur even with a policy of routine c/s because of : precipitate delivery, severe fetal anomaly or death, mother's preference
- Therefore it is essential to maintain skills
- Preterm delivery by c/s is preferred because the fetal head: abd circunference is larger than at term>head entrapment in a partially dilated cx

Vaginal Breech Delivery Criteria

- No contraindication for vaginal birth
- Absence of fetal anomaly
- EFW 2000 – 4000g
- 36 wks or more
- Flexed fetal head—no hyperextension
- Frank or complete
- Normal progress of labor
- Continuous FHR monitoring
- Staff skills and facilities for emerg C/S

ECV

- A procedure whereby the baby is turned from breech to cephalic position by manipulating through the mother's abdomen
- Potential to reduce cesarean deliveries and the associated higher maternal morbidity
- Effective! Significant reduction in noncephalic births(RR .38) and C/S(RR.55) in a systematic review of 5 randomized trials of term ECV

ECV Risks

- Maternal discomfort
- Need for emergency C/S—very low
- Nonreassuring FHR
- Placental abruption
- Premature labor
- Fetomaternal hemorrhage

ECV Contraindications

- Indication for cesarean delivery
- Ruptured membranes
- Nonreassuring FHR
- Hyperextended fetal head
- Significant fetal/uterine anomaly
- Abruptio placentae
- Relative contraind—prev C/S, decre AFV

Factors Associated with ECV Failure

- Nulliparity
- Anterior placenta
- Decreased AF
- Low birth weight
- Maternal obesity
- Descent of the breech into the pelvis
- Posteriorfetal spine

ECV Timing

- Should be offered at 36 wks
- Advantage is that baby is mature and can be delivered if any complications
- Spontaneous reversion after successful ECV or spontaneous version after failed ECV is less likely
- Effectiveness before term is not clear but currently not recommended

Early ECV Trial

- Randomly assigned 233 singleton breech to ECV at 34 - 36 wks or 37- 38 wks
- Early ECV > lower rate of breech at delivery but not statistically significant
- Successful ECV 34% early and 23 % late
- Reversion to breech 4/34 early and 1/18 late

Cesarean Section for Term Breech

- Term Breech Trial—large multicentre trial compared planned vaginal delivery with planned C/S
- Lower rates of perinatal and neonatal death with planned C/S
- Lower rates of short term neonatal morbidity with planned C/S
- Small increase in maternal morbidity

Term Breech Trial

- 2 year outcomes showed NO DIFFERENCE in risk of death/neurodevelopmental delay between planned vag vs C/S groups
- Maternal morbidity similar at 2 years
- Policy of planned C/S not more costly

Other Malpresentation

- Face—can spontaneously deliver
- Brow—most often will not deliver spontaneously
- Transverse lie—C/S usually

Resources

- Obstetrics and Gynecology: Current Diagnosis and Treatment. Lange 10th Edition, 2007. Section III, Pregnancy Risk.
- Essential Management of Obstetric Emergencies. Baskett, T F. Clinical Press Limited, 3rd Ed., 1999. pages 64-87, 130-151, 233-249.