Ob Emergencies

By Saima S Akhtar

Topics

Objectives

- Define pre eclampsia and eclampsia and list 4 risk factors for developing it.
- Describe the pathophysiology of pre eclampsia/eclampsia and symptoms, physical findings and lab abnormalities.
- Describe an approach to management and some maternal and fetal complications of PET.

Topics

Objectives

- List risk factors for shoulder dystocia
- Describe 4 immediate management steps for shoulder dystocia.
- 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.

Topics

Objectives

- List 4 risk factors for cord prolapse and describe the immediate management of it.
- Define placenta previa, placenta accreta, circumvallate placenta and succenturiate lobe.
- Describe 4 signs, symptoms or investigations that can differentiate between placental abruption and previa.

Topics

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

Topics

Topics

- Preeclampsia/Eclampsia
- Shoulder Dystocia
- Hemorrhage Postpartum (PPH)
- Cord prolapse
- Antepartum hemhorrage
- Malpresentation

Topics

Case 1 PET

- You are called to the antenatal floor to see a pt with a BP of 160/110
- 18 y/o primip
- Admitted at 37 wks 2 days ago
- BP 140/90, 150/98, 2+ prot
- 24 hr urine pending
- BW N

Topics

PET

- BP 160/114 HR 92
- Feels awful, headache
- RUQ tender
- Reflexes 3+
- Pv 2 cm 70%

Topics

Case 1 PET

- Management?
- BP control
- Repeat bloodwork
- Delivery-induction vs c-section?
- MgSo4?

Topics

Case 1 PET

- Prior to the antihypertensive you were going to give the pt, she begins to seize…
- Management:
  - Call for help
  - MgSO4 4g bolus iv>>1g/hr
  - O2
  - Pt on her side
  - Mouth guard

Topics

CLASSIFICATION OF HDP

PREEXISTING HTN

WITH COMORBID CONDTIONS
WITH PRE ECLAMPSIA

GESTATIONAL HTN

WITH COMORBID CONDITIONS
WITH PRE ECLAMPSIA

PRE ECLAMPSIA = NEW OR WORSENING PROTEIN OR RESISTANT HTN OR ADVERSE CONDITIONS

Topics

Diagnosis of HTN

- Diastolic > 90 avg 2 measurements
- Systolic > 140 should be followed closely
- Severe HTN = systolic >160, diastolic> 110
- Office (whitecoat) HTN defined as office diastolic>90 but home BP<135/85

Topics

Clinically Significant Proteinuria

- Proteinuria should be strongly suspected when dipstick> 2+
- Proteinuria defined as > >.3g per 24 hrs or >30mg/mmol urinary creatinine in a spot urine sample
- Not clear whether there is a role for quantification of proteinuria for prognosis

Topics

PET

- Incidence 3-14% worldwide
- Risk factors
- clinical manifestations= the result of micrangiopathy of target organs eg brain, liver, kidney, placenta
- pathogenesis

Topics

Risk Factors for PET

Risk Factors for the Development of Preeclampsia

Nulliparity
Preeclampsia in a previous pregnancy
Age > 35 years or teenager
Ethnicity (African-American, Hispanic)
Family history of pregnancy-induced hypertension
Chronic hypertension
Chronic renal disease
Antiphospholipid antibody syndrome
Vascular or connective tissue disease
Diabetes mellitus
Multifetal gestation
High body mass index
Angiotensinogen gene T235
  Homozygous
  Heterozygous
Positive rollover, uterine artery Doppler, or angiotensin challenge test
Thrombophilia
Male partner whose previous partner had preeclampsia
Hydrops fetalis
Unexplained abnormal maternal analyte screen for Down syndrome
Unexplained fetal growth restriction

Topics

Pathogenesis of PET

- Impaired trophoblast invasion
- abN trophoblast differentiation
- Placental ischemia
- Immunologic factors
- Genetic factors(2-5X risk w fam hx)
- Systemic endothelial dysfunction
- Treatment=delivery

Topics

Severe Preeclampsia

Criteria for Severe Preeclampsia

New onset proteinuric hypertension and at least one of the following:

Symptoms of central nervous system dysfunction:
  Blurred vision, scotomata, altered mental status, severe headache

Symptoms of liver capsule distention:
  Right upper quadrant or epigastric pain
  Nausea, vomiting

Hepatocellular injury:
  Serum transaminase concentration at least twice normal

Severe blood pressure elevation:
  Systolic blood pressure ≥160 mm Hg or diastolic ≥110 mm Hg
  on two occasions at least six hours apart

Thrombocytopenia:
  Less than 100,000 platelets per cubic millimeter

Proteinuria:
  Over 5 grams in 24 hours or 3+ or more on two random samples four hours apart

Oliguria < 500 mL in 24 hours

Intrauterine fetal growth restriction

Pulmonary edema or cyanosis

Cerebrovascular accident

Topics

Severe Pre eclampsia

- Severe pre eclampsia should be defined as pre eclampsia with onset < 34 wks with heavy proteinuria or with one or more adverse conditions

- The term PIH should be abandoned

Topics

Complications of PET

- Seizures
- Abruption
- Thrombocytopenia
- Cerebral hemorrhage
- Pulmonary edema
- Liver hemorrhage/rupture
- Renal failure

Topics

Eclampsia

- Generalized seizures in the setting of preeclampsia
- 4-5/10,000 births in developed countries

  antepartum-38-53%

  intrapartum-18-36%

  <48 hrs pp-5-39%

  >48 hrs pp-5-17%

Topics

Treatment of HDP

- Lifestyle changes
- ✓ Insufficient evidence on exercise, workload reduction or stress reduction
- ✓ Some bedrest may be useful in gestational HTN
- ✓ Strict bedrest is NOT recommended in pre eclampsia

Topics

Antihypertensive Therapy

- Severe HTN > 160/110
- ✓ BP should be lowered to < 160 systolic and < 110 diastolic
- ✓ Initial rx with labetolol, nifedipine caps, nifedipine PA tabs or hydralazine
- ✓ MgSO4 is no an anti hypertensive
- ✓ Continuous FHR monitoring until BP stable

Topics

Antihypertensive Therapy

- Non severe HTN(140-159/90-109)
- ✓ Without comorbid conditions BP should be kept at 130-155/80-105
- ✓ With comorbid conditions, BP should be 130-139/80-89
- ✓ Initial rx with methyldopa,labetolol, other beta-blockers, ca channel blockers
- ✓ ACE inhibitors, ARBs, atenolol, prazosin not recommended

Topics

Steroids and Mode of Delivery

- Antenatal corticosteroids should be considered in any pre eclampic < 34 wks
- May be considered in gest HTN <34 wks
- Vag delivery unless ob indications
- Cx ripening if necessary
- Maintain BP < 160/110 thru labor
- Ergometrine contraindicated

Topics

Anesthesia and Fluids

- Inform anesthesia of PET and plt count
- Regional anesthesia is appropriate with plts > 75, even with low dose ASA
- Epidural OK 12 hrs after prophylactic dose of LMWH and 24 hrs after a therapeutic dose
- Early epidural recommended for pain control

Topics

Anesthesia and Fluids

- Minimize iv/oral fluids to avoid pul edema
- Don't routinely treat oliguria (<15 ml/hr) with fluids
- Dopamine and lasix not recommended for persistent oliguria
- Central line not routinely recommended
- Pul art cath not recommended

Topics

Antihypertensives

hydralazine	5 mg iv, 5-10 q 30 min
labetolol	20 mg iv, 20-80 q 20 min
nifedipine	5-10 mg cap q 30 min
diazepam	5-10 mg iv

Topics

Antihypertensives

- Hydralazine
  - Direct arteriolar vasodilator
  - 5 mg iv then 5-10 mg q 20 min (max 30 mg)
  - Onset 10 -30 min
  - Used extensively in this setting
  - May be assoc w more maternal hypotension that labetolol

Topics

Antihypertensives

- Labetolol
  - Alpha and beta adrenergic blocker
  - Rapid onset(<5min)
  - Effective and safe
  - 20 mg iv, then 20 -80 mg q 20-30 min(max 300mg)
  - 1-2 mg/min infusion(200mg in 200 cc NS)
  - Be cautious in asthma, COPD, CHF
  - Associated with more NN bradycardia

Topics

Antihypertensives

- Nifedipine
  - Ca channel blocker
  - 5-10 mg capsule po q 30 min(max 50 mg)
  - 10 mg PA tab q 45 min (max 80mg/d)
  - S/L use may lead to excessive reduction in BP
  - Risk of neuromuscular blockade < 1% with MgSO4 and nitroglycerin together

Topics

Antihypertensives

- Diazepam
  - Benzodiazepine
  - Depresses RAS and basal ganglia, not medullary centre
  - 5-10 mg iv (max 20 mg)
  - Used extensively in the past—current recommendations do not include benzos or phenytoin for eclampsia unless there is a contrindication to MgSO4 or it is ineffective

Topics

Magnesium Sulfate

- Mech of action is unclear
  - Impedes acetylcholine release?
  - Decr sens of the motor end plate?
  - Central anticonvulsant effect?

- 4 g iv bolus(20 cc of 20% soln) over 10-15min
- Maintenance is 1-3 g/h(alt 10 g im)

Topics

MgSO4

- First line treatment of eclampsia
- Recommended as prophylaxis against eclampsia in severe pre eclampsia
- May be considered in non severe PET—decreased eclampsia but increased C/S rates and expense

Topics

MgSo4

- Cochrane reviews: MgSo4 safer and more effective than diazepam or phenytoin for prevention of recurrent seizures
- SE: Mg toxicity
  - Loss of DTRs @ 8-10 mEq/L
  - Respiratory paralysis @10-15 mEq/L
  - Cardiac arrest @ 20-25 mEq/L

Topics

MgSo4

- Monitor:
  - RR hourly
  - Patellar reflexes hourly
  - U/O <20cc/hr--decrease dose
  - Serum Mg levels q 4 hrs 94-8mEq/L)
- Crosses the placenta freely--rarely NN depression
- Calcium gluconate--1g iv over 3-5 min(10cc of 10% soln) antidote!

Topics

Case 2

- You arrive to take call at 5 pm. The pt in room 1 has been laboring since yesterday morning.
- 32 y/o G2P1 induced for postdates at 41 weeks.
- Healthy pregnancy, no GDM
- Previous SVD 8 lb 4 oz babe
- Fully dilated since noon

Topics

Case 2

- The nurses have taken her to the back room for forceps
- Deliver the head over 2 contractions with T-M forceps
- “turtle” sign
- You can’t reach the anterior shoulder and the baby’s face is getting bluer…

Topics

Case 2

- Management:
  - Call for help, anesthesia, episiotomy
  - McRobert’s maneuvre
  - Suprapubic pressure
  - Post shoulder to oblique
  - Deliver the posterior arm
  - Wood’s corkscrew maneuvre
  - Zavanelli maneuvre (cephalic replacement)

Topics

Shoulder Dystocia

- 0.2-2% births
- Obstetrical emergency
- Most occur in the absence of risk factors
- Be prepared!
- Goal to prevent fetal asphyxia and avoid trauma

Topics

Shoulder Dystocia

- Definition=difficulty delivering the shoulders (subjective)
- Time to delivery?
  - Avg time from del of head to expulsion of body—24 sec
  - 24 + 2SD=60 sec
  - Prosp series—del of head to body expul time>60—descr a subpop of incr BW, sh dystand low 1 min Apgar

Topics

Shoulder dystocia

- Pathophysiology
- Risk Factors (50% cases have NO risk factors)
  - Macrosomia
  - DM
  - Operative vaginal delivery
  - Previous sh dystocia
  - Postdates
  - Male fetal gender

Topics

Macrosomia

- Can be defined as
  - EFW >4500g (1.5%)
  - EFW >4000g (10%)
  - EFW > 90th%ile for GA
- Clinical EFW as accurate as U/S biometry at upper wt ranges
- 95% of infants > 4000g will NOT have sh dystocia
- 50% cases occur in BW < 4000g

Topics

Rate Relationship Between Birth Weight and Shoulder Dystocia

Birth weight, grams	Nondiabetic women, percent	Diabetic women, percent
Less than 4000	0.1 to 1.1	0.6 to 3.7
4000 to 4449	1.1 to 10.0	4.9 to 23.1
4500 or more	4.1 to 22.6	20.0 to 50.0

Topics

Risk Factors for Macrosomia

High body mass index
Multiparity
Advanced maternal age
Maternal diabetes
Postterm pregnancy
Nonsmoker
Male infant
Low caffeine intake
Married
Previous macrosomic infant
Preeclampsia
Excessive weight gain in pregnancy
Obesity
Ethnicity
Maternal birthweight over 4000 grams

Topics

Macrosomia

- Review of the literature: labor induction for suspected macrosomia does NOT decr rate of sh dystocia but does incr C/S rates
- Prophylactic C/S for EFW > 5000 g in non diabetic pts and > 4500g in diabetic pts is not unreasonable

Topics

Diabetes

- Maternal diabetes increases the rate of sh dystocia 2-6 X
- Chest to head and shoulder to head ratios are increased in infants of diabetic mothers

Topics

Op Vag Delivery

- Combination of macrosomia, prolonged second stage and mid-pelvic delivery---- associated with a 21% inc of shoulder dystocia
- Classic study Benedetti, Gabbe O&G 1978

Topics

Previous Sh Dystocia

- Incidence of recurrence 1-17%
- May be an underestimate—many mothers choose C/S for next delivery
- Birth trauma more likely in the recurrent episode 29 vs 19%
- Incr mat pre preg wt
- Incr mat wt gain in preg
- Incr BW

Topics

Postdates

- A large proportion of sh dystocia cases occur in posterm pregnancies
- The majority of postterm preg are uncomplicated
- Cohort study of term and postterm births from Norway reported a RR 1.3 for sh dystocia in the postterm group

Topics

Male Fetal Gender

- Freq of males 55-68% in sh dystocia cases
- Freq males 51% in overall birth pop
- 70% babies > 4500g are male
- Shoulder dimensions? As in IDM?

Topics

Management of Sh Dystocia

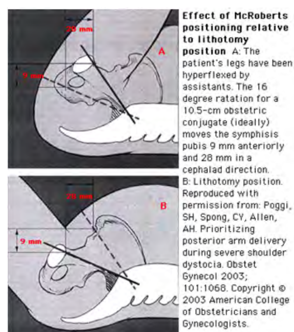
- After del of the head umb art pH falls .04 pH units per min
- 7 min to deliver a previously well-oxygenated infant before asphyxia occurs
- DON'T! pull on the neck/head
  put fundal pressure
- Call for help
- Re-position mom
- episiotomy

Topics

Management

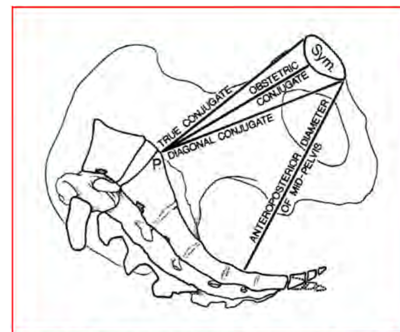
- Suprapubic pressure—down and lateral to adduct the shoulders and disimpact the ant shoulder
- McRobert's maneuvre-hyperflex the pt's legs
  - Straightens the lumbosacral lordosis
  - Widens the pelvis to it's max dimension
  - Incr pushing efficency
  - Successful alone in 42% cases

Topics



Effect of McRoberts positioning relative to lithotomy position A: The patient's legs have been hyperflexed by assistants. The 16 degree ratation for a 10.5-cm obstetric conjugate (ideally) moves the symphisis pubis 9 mm anteriorly and 28 mm in a cephalad direction. B: Lithotomy position. Reproduced with permission from: Poggi, SH, Spong, CY, Allen, AH. Prioritizing posterior arm delivery during severe shoulder dystocia. Obstet Gynecol 2003; 101:1068. Copyright © 2003 American College of Obstetricians and Gynecologists.

Topics



Pelvic Inlet Three anteroposterior diameters of the pelvic inlet are illustrated: the true conjugate, the obstetrically important obstetric conjugate, the obstetrically important obstetric conjugate, and the clinically measurable diagonal conjugate. The anteroposterior diameter of the mid-pelvis is also shown (P: sacral promontory; Sym: symphysis pubis). Reproduced with permission from: Pritchard, JA, MacDonald, PC. Williams Obstetrics, 16th Edition, Appleton-Century-Crofts, New York 1980. Copyright ©1980 McGraw Hill. p. 278.

Topics

Management

- Delivery of the post arm
- Wood's corkscrew maneuvre
- Gaskin all-fours
- Clavicular fracture-shortens the bisacromial diameter, risk to subclavians
- Zavanelli maneuvre
- Symphysiotomy-rare

Topics

Complications of Sh Dystocia

- Fetal
  - Brachial plexus injury-<10% permanent disabilty
  - Fractures-clavicular, humeral, heal readily
  - Asphyxia-hypoxic brain damage
  - Death is rare

Topics

Complications of Sh Dystocia

- Maternal
  - Pph
  - Genital tract lacerations

Topics

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

Topics

Case 3

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

.

Topics

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%

Topics

Etiology of PPH

- 1. Uterine atony 80-90% cases
  - High parity
  - Multiple preg
  - Polyhydramnios
  - APH
  - infection
  - Prolonged labor
  - Precipitous labor
  - Deep anesthesia
  - Full bladder
  - Augmented labor

Topics

Etiology of PPH

- 2. Mechanical factors preventing contraction
  - Retained placenta/fragments
  - Fibroids
  - Clots
  - Uterine anomalies

  3. Genital tract trauma

  4.Uterine inversion

  5.coagulation disorders

Topics

Management of PPH

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

Topics

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

Topics

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

Topics

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

Topics

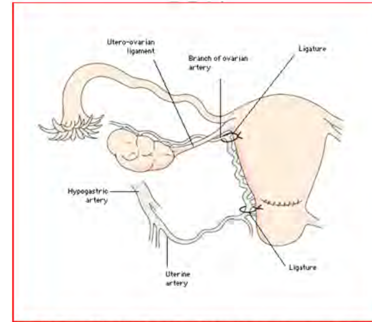
PPH

- 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

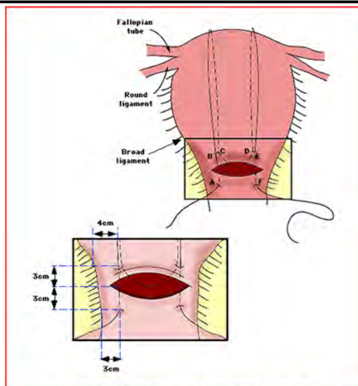
90-100mcg/kg—good results in 10 min in pp atony

Topics



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.

Topics



Anterior uterine wall with B-Lynch suture in place and an enlarged drawing (box) of lower uterine segment with B-Lynch suture in place Adapted from Obstetrics & Gynecology Case Reports & Reviews, Vol. 95, Num 6, June 2000.

Topics

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

Topics

Symptoms Related to Blood Loss with Postpartum Hemorrhage*

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

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

Topics

Case 4

- Your resident in the DR asks you to rupture membranes on a pt waiting to be induced for postdates.
- You can't feel the presenting part but the cx is dilated 4 cm and you easily rupture the membranes…
- You feel something slimy and pulsating fall into your hand as it leaves the vagina…what is it? And what now??

Topics

Cord prolapse

- 1/300 to 1/600 deliveries
- Predisposing Factors
  - Malpresentation
  - Prematurity
  - abN fetus
  - Multiple pregnancy
  - Polyhydramnios
  - PROM,ARM
  - Obstetrical procedures

Topics

Cord Prolapse

- Perinatal mortality 10-20%
- Is the baby viable?
- Relieve cord compression
  - Replace the cord in the vagina
  - Elevate the presenting part
  - Trendelenburg, knee-chest or Sims
  - C/S

Topics

Case 5

- 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?

Topics

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

Topics

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

Topics

Abruptio Placenta

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

Topics

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

Topics

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

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%

Topics

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?

Topics

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)

Topics

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

Topics

Breech Risk Factors

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

Topics

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

Topics

Breech Diagnosis

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

Topics

Breech Management

- Breech delivery
- ECV external cephalic version
- Cesarean section

Topics

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 circumference is larger than at term>head entrapment in a partially dilated cx

Topics

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

Topics

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

Topics

ECV Risks

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

Topics

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

Topics

Factors Associated with ECV Failure

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

Topics

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

Topics

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

Topics

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

Topics

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

Topics

Other Malpresentation

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

Topics

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.

Topics