

Obstetrical Emergencies

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Outline

- Fetal Distress
- Shoulder Dystocia
- Eclampsia
- Magnesium Toxicity
- Cord Prolapse
- Maternal Trauma
- Post-Partum Hemorrhage
- Uterine Inversion



Fetal Distress

- Inadequate oxygenation producing a persistent FHR of < 100 BPM
- Problem - anaerobic metabolism leads to acidosis and organ damage
- Prevention
 - close supervision of labor
 - avoid precipitants



Fetal Distress - Precipitants

- Cord - compression, prolapse, hematoma
- Placenta - abruption, infarction, infection, dysfunction
- Baby - sepsis, anemia, hydrops, anomalies, preexisting neurologic injury
- Mother - cardiac dz, pulmonary dz, DM, HTN, trauma, drugs, preeclampsia, iatrogenic (CLE, positioning)



Fetal Distress - Resuscitation

- Stop Pitocin (decrease contractions, increase blood flow)
- Change Maternal Position - side to side, knee chest (increase cardiac return produces increased cardiac output)
- O2 10 lpm by facemask (increased maternal oxygenation increases fetal oxygenation)



Fetal Distress - Resus (cont.)

- Check BP, IV Bolus (assures adequate perfusing volume, esp. after CLE placed; consider ephedrine 10 mg IV for support)
- Cervix Check (R/O cord prolapse; check position, rapidity of descent; scalp stim)
- Terb 0.25mg SQ or IV (tocolytic relaxes uterus, increasing placental perfusion)



Fetal Distress - Notes

- Place FSE early for accurate tracing
- Call Ob by 2' into bradycardia
- Consider OR by 7' into bradycardia if no improvement, continuing resuscitative efforts



Shoulder Dystocia

- Failure of fetal shoulders to deliver despite routine obstetrical maneuvers
- Compression of cord and fetal carotids decreases cerebral perfusion
- Prevention - ANTICIPATION
 - Pt well positioned at end of bend in McRobert's
 - Extra help available, game plan, Ob on call



Shoulder Dystocia - Risks

- Vaginal delivery
- Large infant
- Maternal obesity or DM
- Prolonged gestation
- Prior infant > 4K
- Prolonged 2nd stage
- Turtle sign



Shoulder Dystocia - Management

- Fetal head positioned posterior and inferior; no maternal pushing or fundal pressure; get help (Ob, Anesthesia, Peds)
- Suprapubic pressure
- McRobert's position
- Episiotomy as needed



Shoulder Dystocia - Mgmt (cont)

- Wood's/Rubin's screw maneuver
- Posterior arm sweep/extraction
- Clavicle fracture
- Zavanelli maneuver (restitute fetus within uterus)
- Post-delivery, check clavicle, humerus fracture, brachial plexus injuries



Eclampsia

- Seizure from preeclampsia
- Loss of endothelial integrity produces an osmotic imbalance (neurons misfire); maternal apnea leads to fetal hypoxia
- Prevention - Identify preeclamptic patients, treat with MgSO₄, quiet room, delivery. Other anti-convulsants not adequate.



Eclampsia - Treatment

- ABC's, expedite delivery
- Airway protection - O₂, suction, RLD position, pulse oximetry
- Protect patient
- MgSO 6gm bolus over 10', then 4gm/hr; therapeutic at 4-8 mg/dl
- Monitor infant - watch for distress



Eclampsia - Tx Precautions

- Watch for MgSO₄ toxicity (LOC, reflexes)
- Follow UOP closely (needs a foley)
- Remember other causes seizures - drugs, epilepsy, brain tumor, metabolic imbalance
- CXR post-delivery to R/O aspiration



Magnesium Toxicity

- Excessive Mg levels producing deleterious consequences
- Mg levels
 - 4-8 therapeutic
 - 10 decreased patellar reflex
 - 15 decreased respiratory effort
 - 30 cardiac dysfunction



Magnesium Toxicity

- Prevention - infusion on pump; strict I&O's; regular "mag checks"
- Treatment
 - Stop MgSO₄
 - Monitor and treat current problem
 - Calcium gluconate 10cc of a 10% soln
 - Find cause of toxicity (too much in, too little out)



Cord Prolapse

- Umbilical cord preceding presenting part after rupture of membranes
- Problem - compression blocks flow of placental blood to baby
- Prevention - attention to malpresentations and advanced cervical dilation without vertex in pelvis



Cord Prolapse - Management

- Digital cervix check to elevate fetal presenting part and alleviate compression; check pulse (in cord, not your own)
- Knee chest position
- “Emergent” delivery
- Keep cord warm and moist, minimize manipulation



Maternal Trauma

- Most commonly from MVA; also from abuse, falls, accidents
- Problem - maternal blood loss or uterine injury produces maternal or fetal compromise
- Prevention - seat belts; social support; activity modification



Maternal Trauma - Management

- ABCDE! (Best for mom is best for baby)
- Regular trauma support (O2, IVF, X-ray, Labs, etc)
- Fetal monitoring
- Elevate spine board to left
- Get Ultrasound
- Call Ob, Anesthesia



Maternal Trauma - Cautions

- 50% increased blood volume by term - need huge losses before clinically apparent (VS changes)
- Pregnant uterus acts as a shock absorber - protects mother at expense fetus
- Modified anatomy alters expected pattern of injuries



Post-Partum Hemorrhage

- Classically - EBL 500cc at SVD
- Revised - EBL > 1000cc; Hct drop 10%; need for transfusion, due to blood loss
- Problem - loss of blood compromises homeostasis (O₂ delivery, clotting)



PPH - Risks

- Prior PPH
- Overdistended uterus (hydrops, multiple gestation, macrosomia)
- Prolonged induction/augmentation with pitocin
- Grand multiparity



PPH - Etiologies

- Atony - overdistension, infxn, clot retention
- Placenta - retained, abnormal placentation
- Trauma - cervix or vagina, intrauterine
- Coagulopathy - hereditary, consumptive (preeclampsia, sepsis), iatrogenic (meds)



PPH - Treatment

- Basic - FUNDAL MASSAGE, UTERINE EVACUATION, uterus on stretch, pit, bladder drainage, visual inspection, O2
- Call Ob, Anesthesia
- Meds
 - Hemabate 0.25 mg IM (kept in reefer, NOT in asthmatics, expect N/V, diarrhea, fever)
 - Methergine 0.2 mg IM (NOT with HTN)



PPH - Treatment (cont.)

- Advanced - curettage; aortic compression; uterine packing; vessel ligation; vessel embolization; hysterectomy
- Start clot test (red top taped to wall)
- Call lab for T&C



PPH - Follow-up

- Watch for delayed PPH
- Careful post bleed monitoring for volume status
 - Symptoms
 - IVF, I&O, UOP (place foley)
 - Serial hct's



Uterine Inversion

- Uterine corpus descending through cervix. Varies from fundus descending to the cervix, to fundus past introitus
- Causes huge hemorrhage and hypotension (vagal response to internal organ leaving body)
- Risks - primips, large babies (not mismanaged 3rd stage of labor)



Uterine Inversion - Management

- Uterine Replacement
 - inverting sock technique, hydrostatic pressure
 - tocolysis to relax uterus (MgSO₄)
- IVF for volume replacement
- Anesthesia for pain relief (avoid halogens)
- Call Ob, Lab



Uterine Inversion - Cautions

- Watch for reinversion
- Aggressive ecbolics

