Complications of Delivery

Guy Peifer
• Childbirth is usually a happy event.

• Usually occurs without worry.

• But…..occasionally something goes wrong.
Posterior (Sunny Side Up)
Frank Breech
Complete Breech
Footling Breech
Transverse
Twins
The female reproductive system includes two ovaries, two fallopian tubes, the uterus, and the vagina.
• The umbilical cord connects the fetus and placenta.
  • The umbilical vein carries blood to the fetus.
  • The umbilical arteries carry blood to the placenta.
Fetal Development

- The amniotic sac encloses the fetus in amniotic fluid.
- The fourth through eighth week of embryonic development are critical.
  - Major organs and other body systems are most susceptible to damage as they form.
Fetal Development

- Gestational period: time it takes the fetus to develop in utero
  - Normally 38 weeks
  - Calculated from the first day of the pregnant woman’s last menstrual period
Supine Hypotensive Syndrome

- Sensitivity to body position increases as gestation increases.
  - Lying supine can cause compression of the inferior vena cava.
  - If pressure is not relieved, cardiac output is decreased.
Special Terminology

- Gravidity—number of times pregnant
- Parity—delivery of an infant who is alive
- Primigravida—woman pregnant for first time
- Primipara—woman with only one delivery
- Multigravida—two or more pregnancies
Special Terminology

• Multipara—two or more deliveries
• Grand multipara—more than five deliveries
• Nullipara—never delivered
Primary Assessment

• Transport decision
  • Provide rapid transport for patients:
    • With significant bleeding and pain
    • Who are hypertensive
    • Who are having a seizure
    • Who have an altered mental status
History Taking

- Determine chief complaint using OPQRSTI.
- Obtain the SAMPLE history.
- Determine estimated due date.
- Determine previous complications or gynecologic problems.
History Taking

• Was an ultrasound done recently, and what were the findings?
• Determine the general impression of the patient’s health.
• Determine if there is any vaginal bleeding.
History Taking

• Determine if the woman’s water has broken.
  • Does she need to move her bowels or push?
    • Delivery is imminent.
• Inspect the woman for crowning.
Secondary Assessment

- Base the exam on the chief complaint.
  - Exam should include fetal heart tones and rate.
- Inspect for crowning or vaginal bleeding.
- If the amniotic sac has ruptured, ask about the color of the fluid.
Secondary Assessment

• If there is time to reach the hospital:
  • Place in the lateral recumbent position.
  • Remove clothing that might obstruct delivery.
  • Begin transport.

• If there is not time:
  • Try to find a private and clean area.
  • Keep nervous bystanders busy.
  • Be calm and professional.
Reassessment

• Perform ongoing examination, including:
  • Serial vital signs
  • Time contractions, and perform exam.
  • Check interventions, and transport.
Substance Abuse

- Illicit drugs pass through the placenta barrier and enter fetal circulation.
- The fetus may have withdrawal signs.
- Treatment should concentrate on cardiorespiratory support.
Cardiac Conditions

• Determine the nature and treatment of any heart condition.
  • Cardiac medications?
  • Diagnosed with dysrhythmias or heart murmurs?
  • History of rheumatic fever?
  • Born with congenital heart defect?
  • Episodes of dizziness, light-headedness?
Hypertensive Disorders

- Preeclampsia
  - Risk factors include:
    - First pregnancy before age 20 years
    - Women with advanced maternal age
    - History of multiple pregnancies
    - Diabetes

Can cause pulmonary edema. May progress to life-threatening grand mal seizures.
Seizures

- Treatment is difficult because drugs may cause fetal distress.
  - Magnesium sulfate is recommended.
- Potential complications may include:
  - Abruptio placenta
  - Hemorrhage
  - Disseminated intravascular coagulation
Diabetes

- Diabetes may be affected by pregnancy.
  - May manifest as hyperglycemic or hypoglycemic episodes
  - Insulin-dependent diabetics may need to adjust their dosages during pregnancy.
- Patients with a history of diabetes should have a blood glucose level test.
Respiratory Disorders

- Maternal asthma complications:
  - Premature labor
  - Preeclampsia
  - Respiratory failure
  - Vaginal hemorrhage
  - Eclampsia

- Fetal asthma complications:
  - Premature birth
  - Low birth rate
  - Growth retardation
  - Fetal death
Respiratory Disorders

- Pneumonia
  - Especially virulent during pregnancy
  - Common complications:
    - Low birth weight
    - Premature labor
    - Preterm delivery
Hyperemesis Gravidarum

- Persistent nausea and vomiting
  - Leads to dehydration and malnutrition
- Exact cause is unknown.
- Symptoms include:
  - Severe and persistent vomiting
  - Projectile vomiting
  - Severe nausea
Hyperemesis Gravidarum

- Prehospital treatment includes:
  - Administer 100% supplemental oxygen.
  - Start IV line of normal saline.
  - Diphenhydramine? Zofran?
  - Check blood glucose levels.
  - Check orthostatic vital signs; obtain an ECG.
  - Transport to a hospital.
Infections

• Urinary tract infections
  • If *Streptococcus agalactiae* is passed to the newborn, it can cause:
    • Respiratory problems
    • Pneumonia
    • Septic shock
    • Meningitis
Sexually Transmitted Infections

• Bacterial vaginosis
  • Normal vaginal bacteria are replaced by other bacteria.
  • Can lead to:
    • Premature birth
    • Low birth weight
    • Pelvic inflammatory disease
Sexually Transmitted Infections

• Syphilis
  • Women with syphilis may have:
    • Stillborn babies
    • Babies born blind
    • Developmentally delayed babies
    • Babies who die shortly after birth
Pathophysiology of Bleeding Related to Pregnancy

- Abortion
  - Expulsion of the fetus before the 20th week of gestation
  - Broadly classified as:
    - Spontaneous abortion (miscarriage)
    - Elective (intentional) abortion
Pathophysiology of Bleeding Related to Pregnancy

- Miscarriage (spontaneous abortion)
  - Treatment includes:
    - Establishing an IV line of normal saline
    - Administering 100% supplemental oxygen
    - Obtaining an ECG
    - Providing emotional support with rapid transport
    - Watching for signs of shock
Pathophysiology of Bleeding Related to Pregnancy

- Missed abortion: fetus dies during the first 20 weeks of gestation but remains in utero
  - Provide emotional support and transport.
  - On examination:
    - Uterus feels like a hard mass.
    - Fetal heartbeat cannot be heard.
Pathophysiology of Bleeding Related to Pregnancy

- Ectopic pregnancy
  - Ovum implants somewhere besides uterus.
  - Patient usually presents with:
    - Severe abdominal pain
    - May be in hypovolemic shock
Abruptio placenta

- Premature separation of the placenta from the uterine wall
Placenta previa

- Placenta is implanted low in the uterus and obscures the cervical canal.
Management of Bleeding Related to Pregnancy

- Keep the woman lying on her left side.
- Administer 100% supplemental oxygen.
- Provide rapid transport.
- Start an IV line of normal saline.
- Obtain an ECG and baseline vital signs.
- Loosely place trauma pads over the vagina.
Preparing for Delivery
Preparing for Delivery
Preparing for Delivery

- Open the OB kit.
- Wash hands.
- Put on gloves.
- Maintain standard precautions.
- Drape the woman in sterile towels.

Courtesy of AAOS
Assisting Delivery

• Control delivery.
• Support the head as it emerges.
• Check for nuchal cord.
• Clear the airway by suctioning with a bulb syringe.

Courtesy of AAOS
Assisting Delivery

- Gently guide the head downward so the upper shoulder can deliver.
- Gently guide the head upward to allow delivery of the lower shoulder.
Assisting Delivery

• Once delivered, maintain at the same level as the vagina.
• Wipe blood or mucus from the newborn’s nose and mouth with sterile gauze.
Assisting Delivery

- Dry the newborn with sterile towels, and wrap in a dry blanket.
- Record the time of birth for the PCR.
Assisting Delivery

• Apgar scoring
  • Evaluates newborn’s vital functions
    • Heart rate
    • Respiratory effort
    • Muscle tone
    • Reflex irritability
    • Color
Assisting Delivery

• Cutting the umbilical cord
  • Handle the cord with care.
  • Tie or clamp the cord with clamps 2 inches apart, then cut the cord between them.
  • Examine the ends to ensure there is no bleeding.
  • Once cut, wrap the newborn in a dry blanket.
Assisting Delivery

• Delivery of the placenta
  • Usually within 20 minutes after delivery
  • Do not pull on the umbilical cord to speed up placental delivery.
  • Instruct the patient to bear down.
Assisting Delivery

• Delivery of the placenta (cont’d)
  • Fetal side should be gray, shiny, and smooth.
  • Maternal side should be dark maroon with a rough texture.
Assisting Delivery

- Delivery of the placenta (cont’d)
  - Place in a plastic bag, and transport.
  - Examine the perineum for lacerations.
  - Prepare for transport.
  - If the placenta has not delivered after 15 minutes, begin transport.
Premature Rupture of Membranes

• The amniotic sac ruptures, or opens, more than an hour before labor.
  • The sac may self-seal and heal itself.
  • Often, labor will begin within 48 hours.
• If not near term, a risk of infection exists.
Uterine Rupture

• Occurs during labor
• Signs and symptoms include:
  • Weakness, dizziness, and thirst
  • Initial strong contractions that have lessened
  • Signs of shock
• Treat for shock, and provide rapid transport.
Postterm Pregnancy

- The fetus has not been born after 42 weeks.
- Cause is unknown.
- High-risk because:
  - Fetus may become malnourished.
  - Increased chance of meconium aspiration
Multiple Gestation

• Prepare for more than one resuscitation.
• Consider the possibility of multiples if:
  • First newborn is small
  • Abdomen is still fairly large after the birth.
• The second newborn is usually born within 45 minutes.
Amniotic Fluid Embolism

- Amniotic fluid enters the woman’s pulmonary and circulatory system through the placenta.
- Results in an allergic reaction response.
- Signs and symptoms include:
  - Respiratory distress and hypotension
  - Cyanosis
  - Possible seizures
Nuchal Cord

• The umbilical cord becomes wrapped around the newborn’s neck during delivery.
  • May cause fetal heart rate to slow

Slip a finder under the cord and gently attempt to slip it over the shoulder and head. If unsuccessful, cut the cord.
Prolapsed Umbilical Cord

• The cord emerges before the fetus.
  • Shuts off the oxygenated blood supply from the placenta.
  • Leads to fetal asphyxia
Uterine Inversion

- Placenta fails to detach properly from the uterine wall when it is expelled.
  - Uterus turns inside out as a result.
- Severity graded by how much the uterus has reversed itself.
- Very painful and may rapidly cause shock.
Postpartum Hemorrhage

• Causes of postpartum hemorrhage include:
  • Prolonged labor or multiple baby deliver
  • Retained products of conception
  • Placenta previa
  • Full bladder
Trauma and Pregnancy

• Trauma is a complicating factor in pregnancy.

• Leading cause of maternal death in United States
Assessment Considerations

• Pregnant patients will have different signs or responses to trauma.
  • May be more difficult to interpret tachycardia
  • Signs of hypovolemia may be hidden.
  • Higher chance of bleeding to death in case of pelvic fractures
  • Respiratory rate less than 20 breaths/min is not adequate.
Summary

• Pregnancy is considered at term by week 37 of gestation.
• Physiologic changes during pregnancy can alter a woman’s response to trauma and create or exacerbate medical conditions.
• In an obstetric emergency, find out the length of gestation, estimated due date, complications with this or other pregnancies, and if there is any vaginal bleeding.
Summary

• When assessing, determine if there is time to get to the hospital.
• If delivery is imminent, prepare a private, clean area.
• Never pull on the umbilical cord to deliver the placenta.
• Pharmacology may include magnesium sulfate, calcium chloride, terbutaline, diphenhydramine, and oxytocin.
Summary

- High-risk pregnancy complications include precipitous labor and birth, postterm pregnancy, meconium staining, fetal macrosomia, multiple gestation, intrauterine fetal death, amniotic fluid embolism, hydramnios, and cephalopelvic disproportion.
Summary

- Meconium may be a yellow or greenish black tint in the amniotic fluid. If the newborn is depressed and meconium staining is present, suction the infant.
- Labor complications include premature rupture of membranes, preterm labor, uterine rupture, and fetal distress.
- Delivery complications include cephalic presentation, breech presentation, shoulder dystocia, nuchal cord, and prolapsed cord.
Summary

• Treat trauma in a pregnant woman the same as in a nonpregnant women, except transport a pregnant patient on her left side unless a spinal injury is suspected.
Credits

• © Jones & Bartlett Learning.