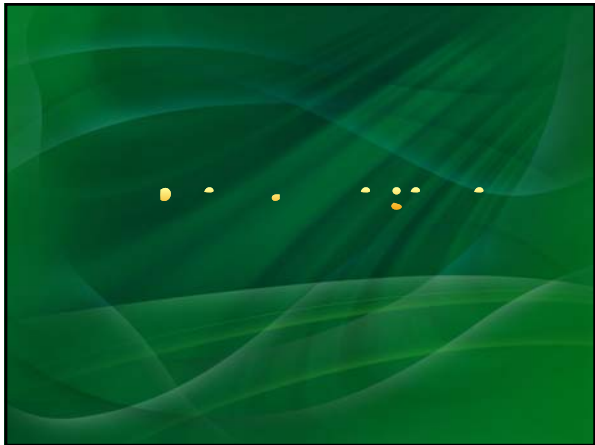


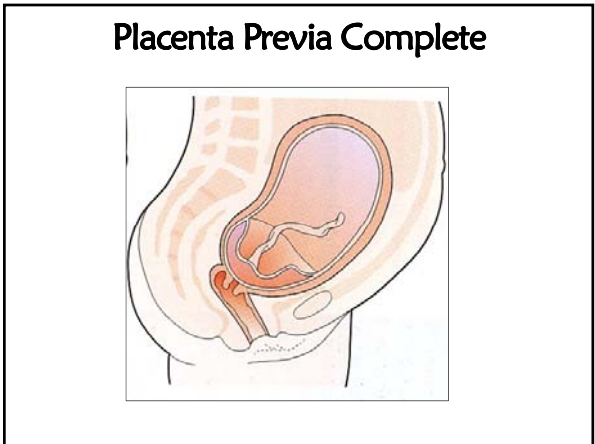
Obstetrical Emergencies

- ## Objectives
- Discuss the identification and treatment of complications of delivery.
 - Review common obstetrical emergencies and their treatment.
 - Describe postpartum complications and their treatment.

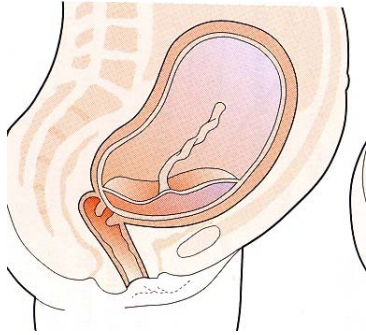


- ## Placenta Previa
- Placental implantation in lower uterine segment, encroaching on or covering cervical os
 - can be marginal, partial or complete
 - Approx 1 in 200 deliveries
 - Painless, bright red bleeding
 - increases if labor begins
 - usually occurs suddenly during the third trimester
 - initial bleeding not usually profuse enough to cause death; it spontaneously ceases then recurs later
 - first bleed occurs (on average) at 27-32 weeks' gestation.
 - contractions may or may not occur simultaneously with bleeding

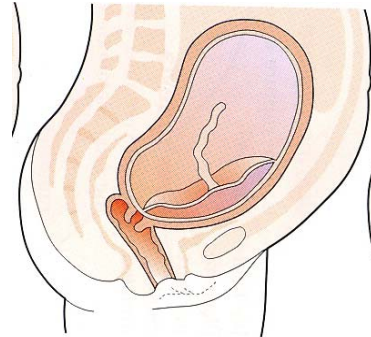
- ## Placenta Previa
- Risk factors
 - ↑ maternal age
 - multiparity (5% in grand multiparous)
 - previous cesarean section
 - especially first pregnancy following a C/S
 - previous placenta previa
 - multiple gestations
 - prior induced abortion
 - smoking
 - Treatment
 - continuous monitoring of vital signs
 - high-flow O2
 - 1-2 large-bore IV
 - monitoring vaginal bleeding
 - pressors may be needed



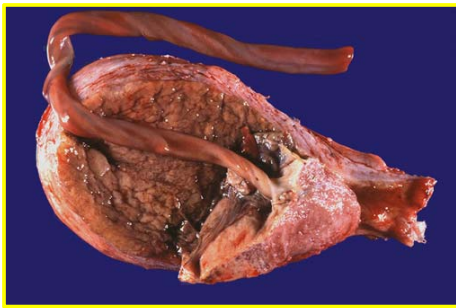
Placenta Previa Partial



Placenta Previa Marginal



PLACENTA PRAEVIA



Abruptio Placentae

- Partial or complete detachment of normally implanted placenta at more than 20 weeks' gestation
- Risk factors
 - * Trauma
 - MVC, assault, falls (1.5-9.4% of all cases)
 - * Maternal hypertension
 - most common cause (44% of all cases)
 - * Preeclampsia
 - * Multiparity
 - * Previous abruption
 - * Cocaine abuse
 - * Cigarette smoking
 - * Short umbilical cord
 - * Sudden decompression of the uterus (eg, premature ROM, delivery of first twin)
 - * Retroplacental bleeding from needle puncture (ie, postamniocentesis)
 - * Advanced maternal age



Abruptio Placentae

- Symptoms:
 - * Vaginal bleeding - 80%
 - * Abdominal or back pain and uterine tenderness - 70%
 - * Fetal distress - 60%
 - * Abnormal uterine contractions (eg, hypertonic, high frequency) - 35%
 - * Idiopathic premature labor - 25%
- Central partial separation
 - * Sudden, sharp, 'tearing' pain
 - * Rigid abd
 - * No vaginal bleeding, hemorrhage is trapped b/w uterine and placenta
- Marginal partial separation
 - * Vaginal bleeding
 - * No increase in pain

Abruptio Placentae

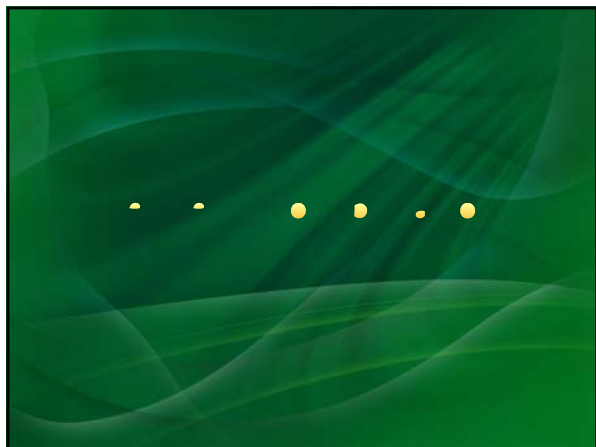
- Complete abruption
 - massive vaginal bleeding
 - profound maternal hypotension
- If fetal heart tones absent, fetal death is likely
- Treatment
 - continuous monitoring of vital signs
 - high-flow O₂
 - 1-2 large-bore IV
 - monitoring amount of vaginal bleeding
 - monitoring of fetal heart
 - pressors may be needed

Uterine Rupture

- Spontaneous or traumatic rupture of uterine wall
- Causes
 - Previous scar opens
 - Trauma
 - Prolonged, obstructed or neglected labor
 - Grand multiparity
 - Malpresentation
- Rare but accounts for 5%-15% maternal deaths
 - 50% of fetal deaths

Uterine Rupture

- Symptoms
 - Vaginal bleeding
 - Fetal distress
 - Expulsion or protrusion of the fetus and/or placenta into the abdominal cavity
- Treatment
 - 2 large bore IV
 - High flow O₂
 - Rapid transport
- Surgical emergency



Prolapsed Cord

- Presentation of cord at vaginal opening
 - Risk factors
 - Long umbilical cord
 - Breech, abnormal presentation
 - Multiparity
 - Twins
 - Small fetus
- Complications if cord is compressed

Prolapsed Cord

- Management
 - Elevate mother's hips
 - Relieve pressure on cord
 - Have mother pant with contractions
 - Apply moist, sterile dressing to cord
 - Oxygen
 - Rapid transport for definitive care
 - Gently push infant back into vagina
 - Elevate presenting part
 - Maintain during transport

Precipitous Delivery

- Rapid spontaneous delivery
- Less than 3 hrs from onset of labor to birth
- Overactive uterine contractions and little maternal soft tissue or bony resistance
- Most frequently in grandmultipara
- Associated w/ high incidence of fetal trauma, umbilical cord tearing, maternal lacerations
- Apply gentle counter-pressure to head to control infant's head

Premature Birth

- Birth at <37 weeks of gestation
- Care of premature infant
 - Keep warm
 - Suction mouth and nares often
 - Monitor cord for oozing
 - Administer oxygen
 - Monitor for need to assist ventilations
 - Gently transport

Multiple Gestation

- More than one fetus
- Associated complications
 - Premature labor and delivery
 - Premature rupture of membranes
 - Abruptio placentae
 - Postpartum hemorrhage
 - Abnormal presentation

Multiple Gestation

- Delivery procedure
 - Deliver first twin as normal birth
 - Cut and clamp cord
 - Second twin delivery within 30-45 min
 - Medical direction may recommend transport
 - Keep warm
 - Monitor for severe postpartum hemorrhage

Cephalopelvic Disproportion (CPD)

- infant's head is too large or maternal birth canal is too small to allow normal labor and delivery
 - Small pelvis
 - Oversized fetus
 - Fetal abnormalities
 - Hydrocephalus, fetal tumors, conjoined twins
- usually a primigravida experiencing strong, frequent contractions for long period

Cephalopelvic Disproportion

- Complications
 - uterine rupture
 - fetal demise
- Prehospital Treatment
 - O2
 - IV
 - rapid treatment
- Definitive Treatment
 - C-section delivery

Nuchal Cord

- Nuchal Cord
 - Etiology
 - Cord wrapped around neck (may be multiple times)
 - Will cause hypoxic injury if not removed
 - Management
 - Unwrap cord
 - If unable, clamp and cut cord



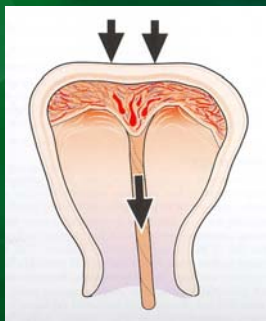
Uterine Prolapse

- Uterine Prolapse
 - Etiology
 - Herniation of the uterus through the pelvic floor into/through the vagina
 - Most common in postmenopausal, multiparous pt.
 - Ascites, obesity, and asthma/COPD can accelerate prolapse.
 - Presentation
 - Low back, pelvic, inguinal pain
 - Abnormal bleeding
 - Mass may be visible at the introitus with complete prolapse
 - Management
 - Supportive

Uterine Inversion

- Rare serious complication of childbirth
- Uterus turns inside out
 - After contraction, sneezing, coughing
 - Iatrogenic
- Signs and symptoms
 - Profuse postpartum hemorrhage
 - Severe lower abdominal pain

Uterine Inversion



- If the fundal placenta is pulled out incautiously and forcefully.

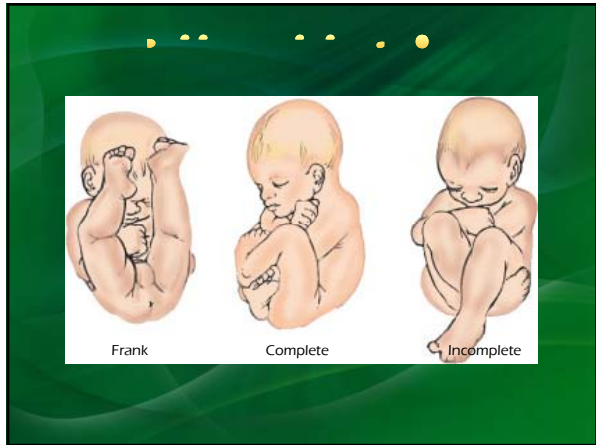


Uterine Inversion

- Management
 - Position patient supine
 - Cover with moist sterile dressings
 - Rapid transport
 - Medical direction may advise use of analgesics

Breech Presentation

- Largest part of infant (head) is delivered last
 - Etiology
 - Occur in 3-4% of term pregnancies
 - Result in 3-4 times greater morbidity
 - Risk factors
 - Preterm delivery
 - Uterine malformations or fibroids
 - Polyhydramnios
 - Placenta previa
 - Fetal abnormalities (eg, CNS malformations, neck masses, chromosomal abnormalities)
 - Fetal abnormalities are observed in 17% of preterm breech deliveries and in 9% of term breech deliveries
 - Multiple gestation



Breech Presentation

- Complications
 - fetal injury w/ difficult vaginal birth
 - prolapsed umbilical cord
- Clinical presentation
 - frank (65%)
 - complete (10%)
 - incomplete/footling (25%)
 - not safe for vag. delivery
- Management
 - Supportive

Management of the Vaginal Breech Delivery


Shoulder Distocia

- Shoulder Distocia
 - occurs when the fetal anterior shoulder impacts against the maternal symphysis pubis blocking delivery of shoulders
 - less commonly from impaction of the posterior shoulder on the sacral promontory
 - head delivers normally but then pulls back against the maternal perineum ("turtle sign")
- Incidence
 - <2% of all births
 - increases to 5-9% if the fetus weighs 4000gm

Shoulder Distocia

- Risk Factors
 - Abnormal pelvic anatomy
 - Gestational diabetes
 - Post-dates pregnancy
 - Previous shoulder dystocia
 - Short stature
 - Fetal macrosomia
 - 4000-4500 g (8 lb 13 oz to 9 lb 15 oz)
- Complications
 - brachial plexus damage
 - fractured clavicle
 - fetal anoxia secondary to cord compression
 - postpartum hemorrhage

Shoulder Distocia Management




- Have mom drop buttocks off end of the bed
- Flex her thighs upward to facilitate delivery
- Apply firm pressure with an open hand immediately above the symphysis pubis
- If delivery does not occur-transport

Abnormal presentations

- Occiput posterior (face up presentation)
 - Most common
 - Delayed passage thru pelvis
 - Usually primigravida
- Face or Brow presentation
 - Complications
 - ↑ perinatal M & M
 - Definitive treatment
 - C-section
 - Pre-hospital management
 - IV, O2
 - recognition of complication
 - rapid transport
- Limb presentation
 - Treatment same as face/brow

Transverse Presentation

- Transverse Presentation (shoulder presentation)
 - infant lies perpendicular to maternal birth canal usually placing the infant shoulder over the pelvic inlet
 - hand or arm may be presenting part
 - Pre-hospital management
 - O2
 - IV
 - rapid transport
 - Definitive treatment
 - c-section delivery



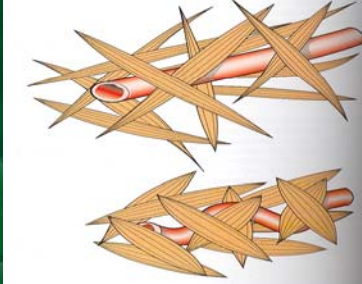
Postpartum Complications

Postpartum Hemorrhage

- >500 mL of blood loss after delivery
- Immediate or delayed 24 hrs
- Risk factors
 - Uterine atony from labor
 - Grand multiparity
 - Twins
 - Placenta previa
 - Full bladder

TONUS

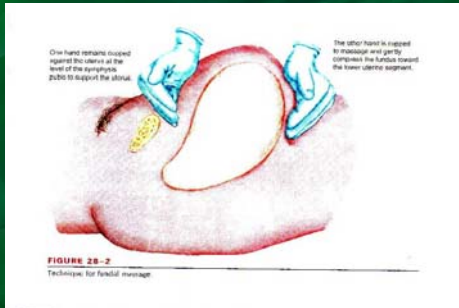
If the uterus not contracted, the blood vessels are not compressed



Postpartum Hemorrhage

- Control external hemorrhage
- Massage uterus
- Encourage infant to breast feed
- Administer oxytocin
- Don't attempt vaginal exam
- Rapid transport

Fundal Massage



Postpartum Hemorrhage - Oxytocin

- Classification
 - oxytocic
- Action
 - synthetic compound identical to natural hormone (posterior pituitary)
 - stimulates uterine smooth muscle → ↑ strength, duration, and frequency of uterine contractions
 - uterine sensitivity to oxytocin ↑'s gradually during gestation
 - has vasoactive and antidiuretic properties

Postpartum Hemorrhage - Oxytocin

- Administration
 - Control of postpartum bleeding (IV)
 - Dilute 10-40 units in 1000ml IV solution
 - Rate of infusion must control uterine atony
 - Begin at rate of 20-40mU/min ↓ or ↑ rate according to uterine response and rate of postpartum bleeding
 - IM injection
 - 10 U IM after delivery of placenta

- theorized that amniotic fluid and fetal cells enter the maternal circulation, possibly triggering an anaphylactic reaction to fetal antigens.
- fetal material is not always found in the maternal circulation in patients with AFE, and material of fetal origin is often found in women who do not develop AFE
- Statistics
 - Cause of 5-10% of maternal mortality in the United States
 - Maternal mortality approaches 80%
 - Most women who survive have permanent neurologic impairment
 - Neonatal survival is approx 79% in the US
 - 50% die within the first hour of onset of symptoms
 - Of survivors of the initial cardiorespiratory phase, 50% develop a coagulopathy

Amniotic Fluid Embolus (AFE)

- Risk factors
 - * Multiparity
 - * advanced maternal age
 - * male fetus
 - * Trauma
 - * induction of labor
 - * cesarean section or operative vaginal delivery
 - * Abruptio
 - * placenta previa
 - * cervical laceration or uterine rupture
- Clinical presentation
 - * Sudden onset
 - * Sudden coughing attack after c/s or vag delivery
 - * Cardiovascular collapse
 - * Seizures
 - * DIC
- Management
 - * supportive

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