SNS COLLEGE OF NURSING
Saravanam Patti (po), Coimbatore.

DEPARTMENT OF NURSING

COURSE NAME : B.Sc. (Nursing) III Year.

SUBJECT : MEDICAL SURGICAL NURSING II

UNIT : VII-DISASTER AND ITS MANAGEMENT

TOPIC : OBSTETRICAL EMERGENCIES

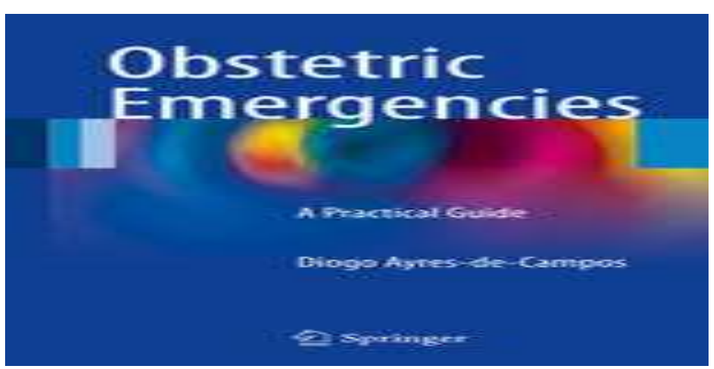
SUBJECT : MEDICAL SURGICAL NURSING II

UNIT VII : DISASTER AND EMERGENCY NURSING

TOPIC : OBSTETRICAL EMERGENCIES

Definition

- Obstetric emergencies are health problems that are life-threatening for pregnant women and their babies. An obstetric emergency may arise at any time during pregnancy, labour and after birth.

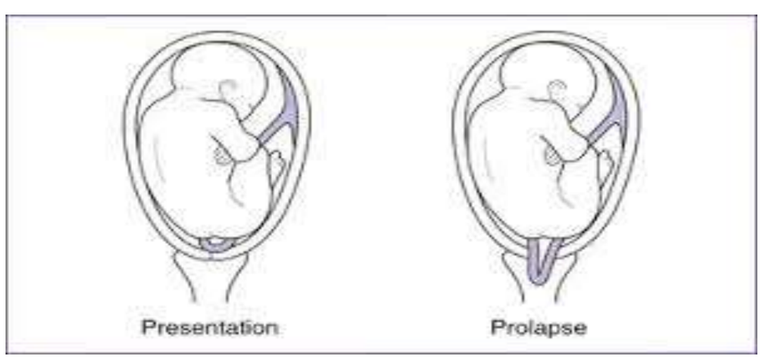


Common obstetrical emergencies

- Cord presentation and Prolapse
- Vasa previa
- Amniotic fluid embolism
- Rupture of uterus
- Shoulder dystocia
- Obstetrical Hemorrhage
- Shock

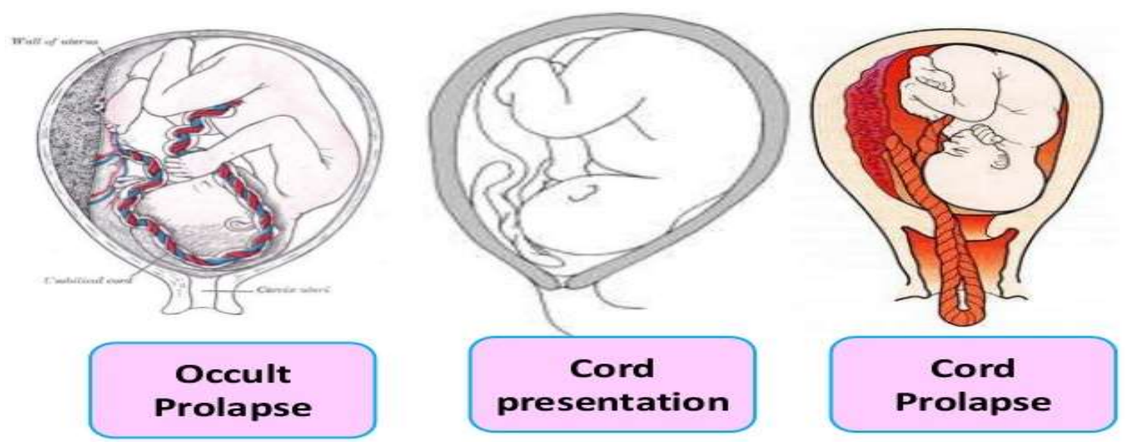
CORD PRESENTATION AND PROLAPSE

- Cord presentation —The cord is slipped down below the presenting part and is felt lying in the intact bag of membranes.
- Cord prolapse —The cord is lying inside the vagina or outside the vulva following rupture of the membranes



Occult prolapse

The cord is placed by the side of the presenting part and is not felt by the fingers on internal examination. It could be seen on ultrasonography or during cesarean section.



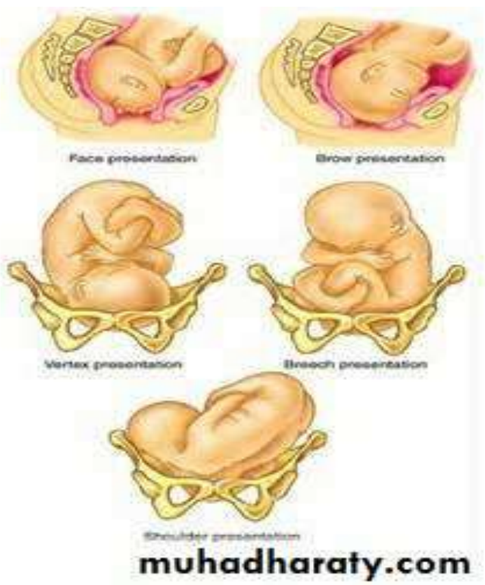
Etiology

(1) Malpresentations—the most common being transverse (5-10%) and breech (3%) especially with flexed legs or footling and compound (10%) presentation,

(2) Contracted pelvis,

(3) Prematurity,

(4) Twins



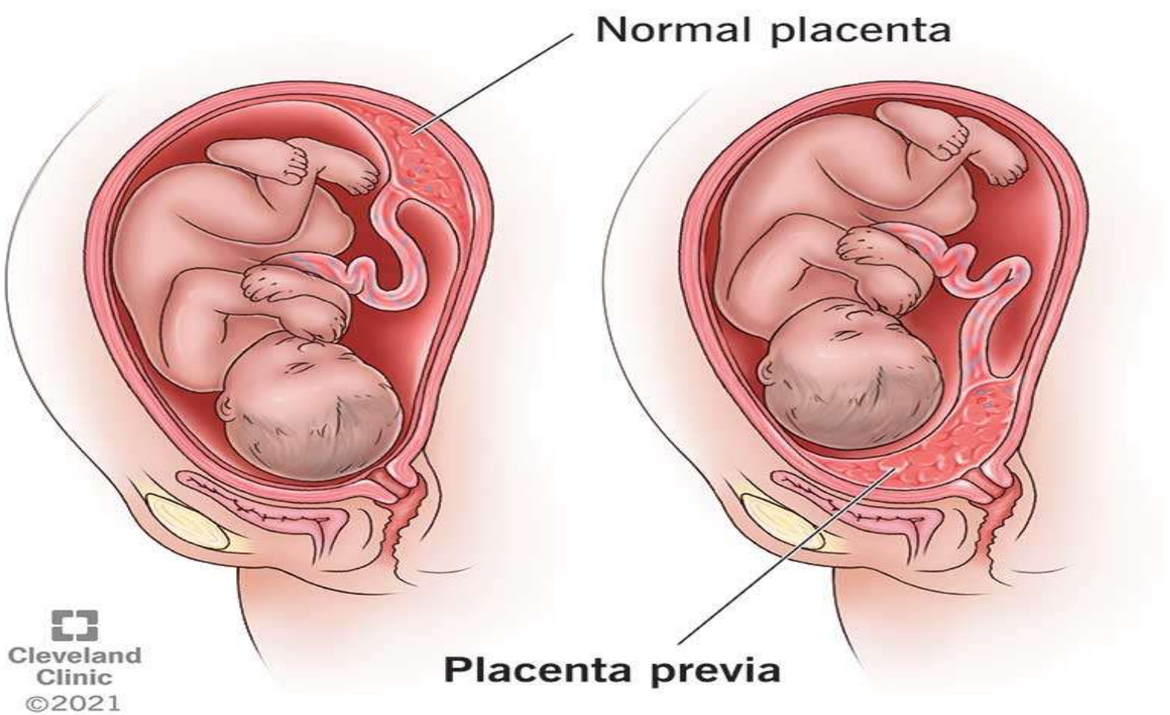
Etiology contd

(5) Hydramnios,

(6) Placental factor- minor degree placenta previa with marginal insertion of the cord or long cord,

(7) Iatrogenic—low rupture of the membranes, manual rotation of the head, ECV,(External cephalic version)

Etiology contd

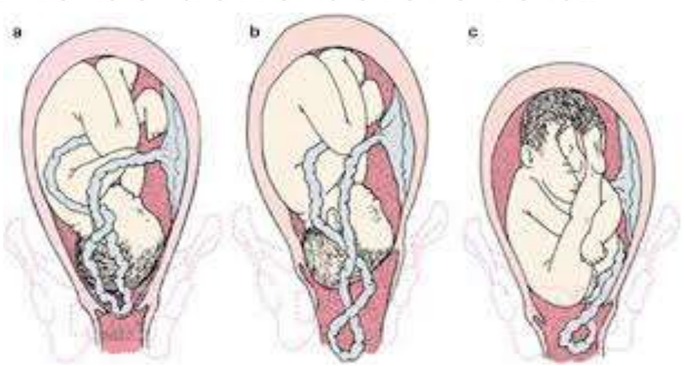


Diagnosis

- Occult prolapse— is difficult to diagnose. The possibility should be suspected if there is persistence of variable deceleration of fetal heart rate pattern detected on continuous electronic fetal monitoring.
- Cord presentation— The diagnosis is made by feeling the pulsation of the cord through the intact membranes.

Diagnosis contd

- Cord prolapse— The cord is palpated directly by the fingers and its pulsation can be felt if the fetus is alive. Cord pulsation may cease during uterine contraction which, however, returns after the contraction passes off.
- Hence, prompt USG for cardiac movements or auscultation for FHS to be done before fetal death is declared.



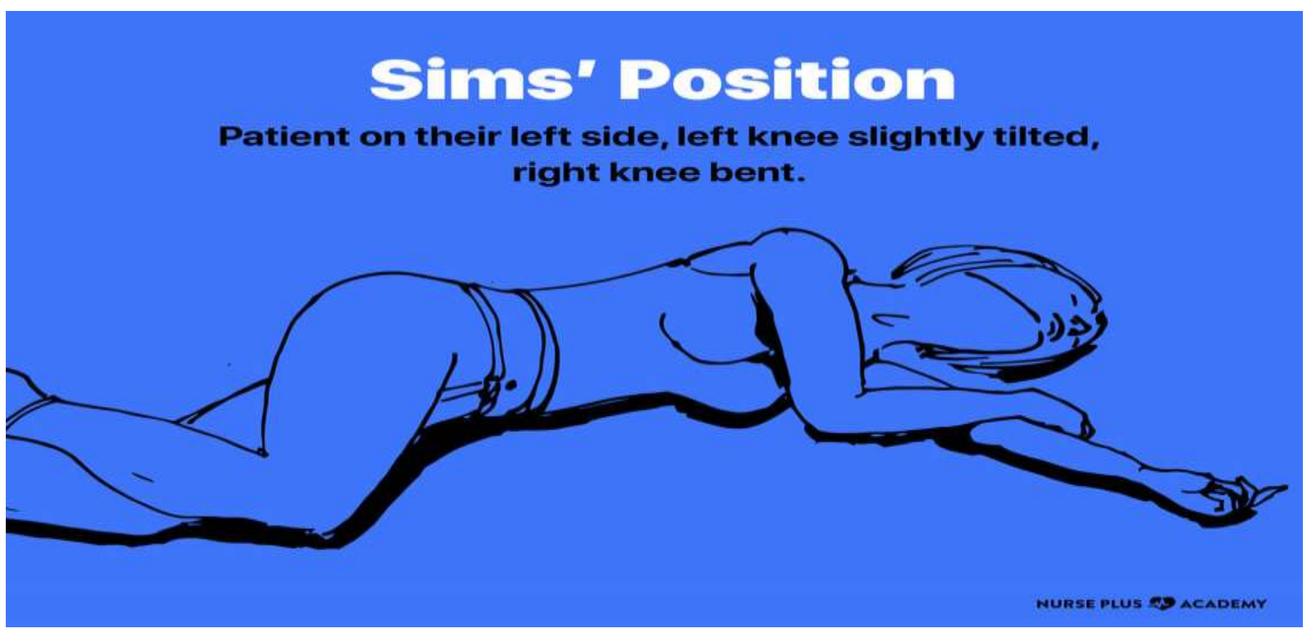
MANAGEMENT

Cord presentation: The aim is to preserve the membranes and to expedite the delivery.

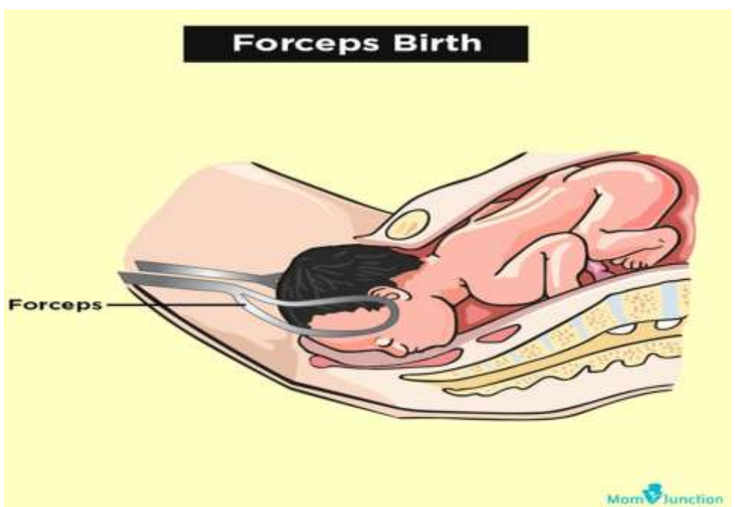
- Once the diagnosis is made, no attempt should be made to replace the cord, as it is not only ineffective but the membranes inevitably rupture leading to prolapse of the cord.
- If immediate vaginal delivery is not possible or contraindicated, cesarean section is the best method of delivery,

MANAGEMENT contd

- she is kept in exaggerated Sims' position to minimize cord compression.



- A rare occasion is a multipara with longitudinal lie having good uterine contractions with the cervix three-fourths (7-8 cm) dilated, without any evidence of fetal distress. delivery can be completed by forceps.



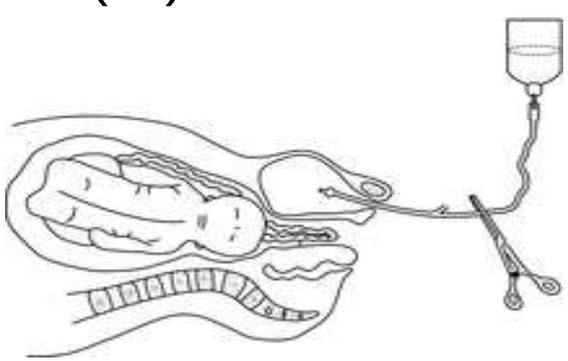
CORD PROLAPSE: MANAGEMENT PROTOCOL

Management is based on (1) Baby living or dead, (2) Maturity of the baby and (3) Degree of dilatation of the cervix.

- Baby living: I. Definitive treatment: • Cesarean section is the best treatment when the baby is sufficiently mature and is alive.
- If the head is engaged, delivery is to be completed by forceps. Ventouse may not be ideal in such circumstances as it takes a longer time.
-

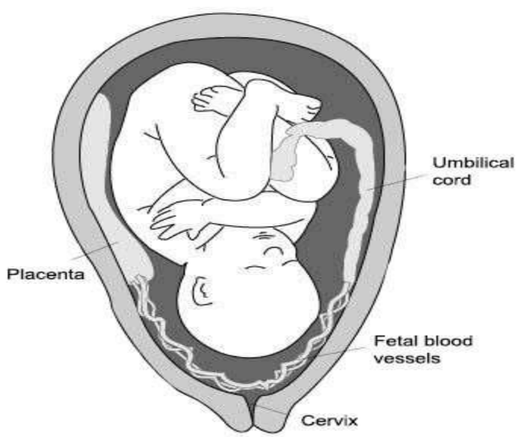
CORD PROLAPSE: MANAGEMENT PROTOCOL

- If breech, the delivery is to be completed by breech extraction and in transverse lie, it should be completed by internal version followed by breech extraction.
- Bladder filling has been done to raise the presenting part off the compressed cord till such time that patient has delivered (cs)



VASA PREVIA

If the leash of blood vessels happens to traverse through the membranes overlying the internal os, in front of the presenting part, the condition is called vasa previa.



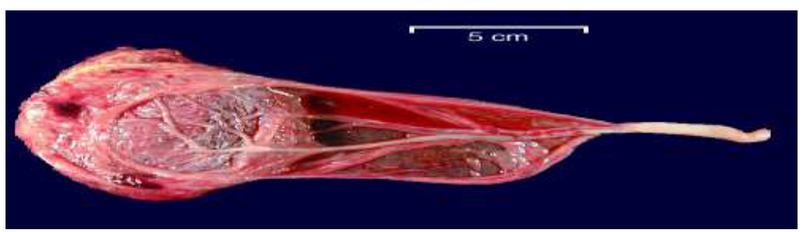
Vasa Previa

VASA PREVIA

- Rupture of the membranes involving the overlying vessels leads to vaginal bleeding.
- As it is entirely fetal blood, this may result in fetal exsanguination and even death.

TYPES OF VASA PREVIA

- Type I: Velamentous cord insertion and fetal vessels that run freely within the amniotic membranes overlying the cervix or in close proximity of it.



- Type II: Succenturiate lobe or multilobe placenta (bilobed) and fetal vessels connecting both lobes course over or in close proximity of cervix.

RISK FACTORS OF VASA PREVIA

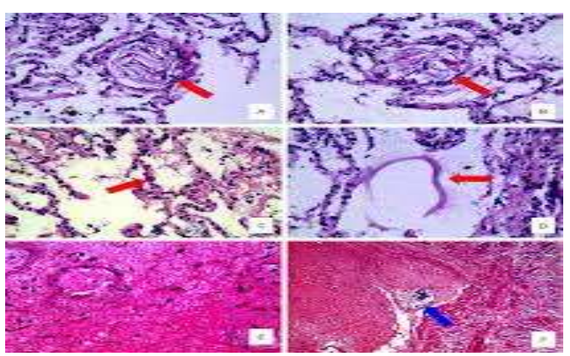
- Velamentous cord insertion
- Succenturiate placental lobe/bilobed placenta
- 60% have history of low lying placenta or second trimester placenta previa
- In vitro fertilization (increases Type I Vasa previa to 1/250)
- Complications: include fetal hemorrhage, exsanguination, or death

MANAGEMENT

- In the presence of fetal bleeding, urgent delivery is essential either vaginally or by cesarean section.
- The infant's hemoglobin should be estimated and if necessary, blood transfusion be carried out.
- If the baby is dead, vaginal delivery is awaited.

AMNIOTIC FLUID EMBOLISM

Amniotic fluid enters the blood stream of the mother to trigger a serious reaction. This reaction then results in cardio-respiratory collapse and massive bleeding (coagulopathy).



RISK FACTORS

- Advanced maternal age. If you're 35 or older at the time of your child's birth, you might be at increased risk of amniotic fluid embolism.
- Placenta problems. Abnormalities in the placenta. Abnormalities might include the placenta partially or totally covering the cervix (placenta previa)
- Preeclampsia. Having high blood pressure and excess protein in your urine after 20 weeks of pregnancy (preeclampsia) can increase your risk.

RISK FACTORS contd

- Medically induced labor**.** Limited research suggests that certain labor induction methods are associated with an increased risk of amniotic fluid embolism..
- Operative delivery**.** Having a C-section, a forceps delivery or a vacuum extraction might increase your risk of amniotic fluid embolism.
- Poly hydramnios**.** Having too much amniotic fluid around your baby may put you at risk of amniotic fluid embolism.

CLINICAL FEATURES

- Sudden shortness of breath
- Excess fluid in the lungs (pulmonary edema)
- Sudden low blood pressure
- cardiovascular collapse

CLINICAL FEATURES contd

- disseminated intravascular coagulopathy
- Bleeding from the uterus, cesarean incision or intravenous (IV) sites
- Altered mental status
- Chills
- Rapid heart rate or disturbances in the rhythm of the heart rate
- Fetal distress
- Seizures
- Loss of consciousness

MANAGEMENT

Mother

- Treatment involves managing symptoms and preventing AFE from leading to coma or death.
- Oxygen therapy or a ventilator can help in breathing
- Antihypertensives
- In many cases, several blood, platelet, and plasma transfusions are needed to replace the blood lost during the hemorrhagic phase.

MANAGEMENT contd

Baby

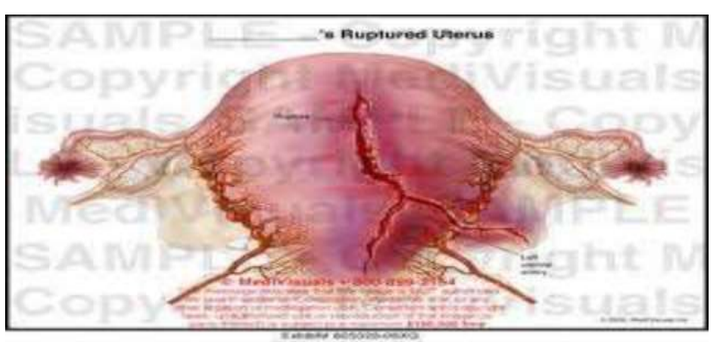
Monitor the baby and watch for signs of distress..

In most cases, babies are transferred to the intensive care unit for close observation.

4.RUPTURE OF THE UTERUS

Definition

Disruption in the continuity of the all uterine layers (endometrium, myometrium and serosa) any time beyond 28 weeks of pregnancy is called rupture of the uterus.



RUPTUE OF UTERUS contd

causes :

- Spontaneous
- Scar Rupture
- Iatrogenic

Spontaneous During pregnancy:

(1) dilatation and curettage operation or manual removal of placenta.

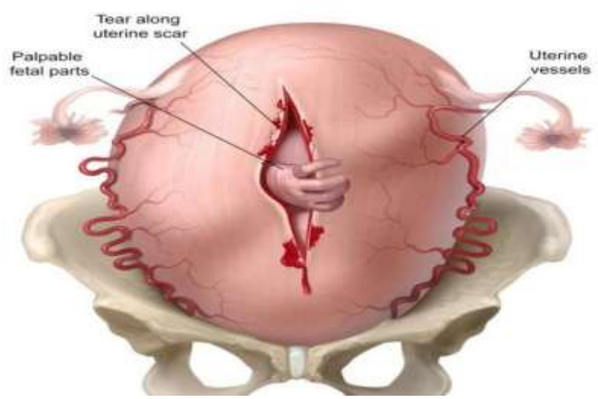
(2) Rarely in grand multiparae due to thin uterine walls.

(3) Congenital malformation of the uterus

RUPTUE OF UTERUS contd

Scar rupture:

- With the liberal use of primary cesarean section, scar rupture constitutes significantly to the overall incidence of uterine rupture.



RUPTUE OF UTERUS contd

Management :

- The at-risk mothers, likely to rupture, should have mandatory hospital delivery.
- Undue delay in the progress of labor in a multipara with previous uneventful delivery should be viewed with concern and the cause should be sought for.
- Judicious selection of cases with previous history of cesarean sections for vaginal delivery
- careful watch are mandatory during oxytocin infusion.

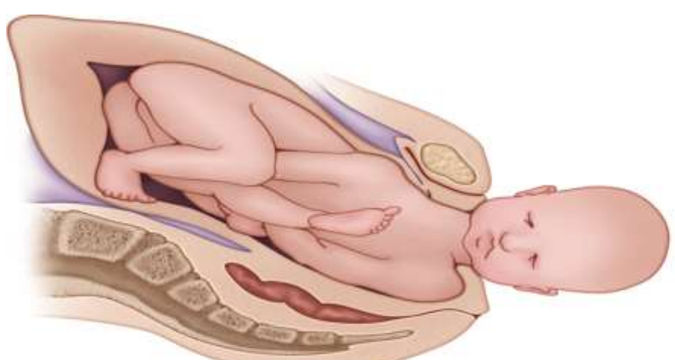
RUPTUE OF UTERUS contd

- Attempted forceps delivery or breech extraction through incompletely dilated cervix should be avoided.
- Destructive vaginal operations should be performed by skilled personnel and exploration of the uterus should be done as a routine following delivery.
- Manual removal in morbid adherent placenta

5.SHOULDER DYSTOCIA

Definition:

- The term shoulder dystocia is defined to describe a wide range of additional obstetric maneuvers to deliver the fetus after the head has been born and gentle traction has failed to deliver the shoulder.



Source: G. D. Posner, Jessica DY, A. Black, G. D. Jones: Human Labor & Birth, 6th Edition
www.obgyn.mhmedical.com

5.SHOULDER DYSTOCIA contd

Risk factors:

(1) Previous shoulder dystocia,

(2) Macrosomia (>4.5 kg),

(3) Diabetes,

(4) Obesity (BMI > 30 kg/m 2),

(5) Induced labor,

(6) Prolonged first stage or second stage of labor,

(7) Postmaturity,

5.SHOULDER DYSTOCIA contd

(9) Multiparity,

(10) Anencephaly,

(11) Fetal ascites.

SHOULDER DYSTOCIA MANAGEMENT

Management principles:

(a) To clear infant's mouth and nose

(b) Not to give traction over baby's head

(c) Never to apply fundal pressure as it causes further impaction of the shoulder

(d) To perform wide mediolateral episiotomy as it provides space posteriorly

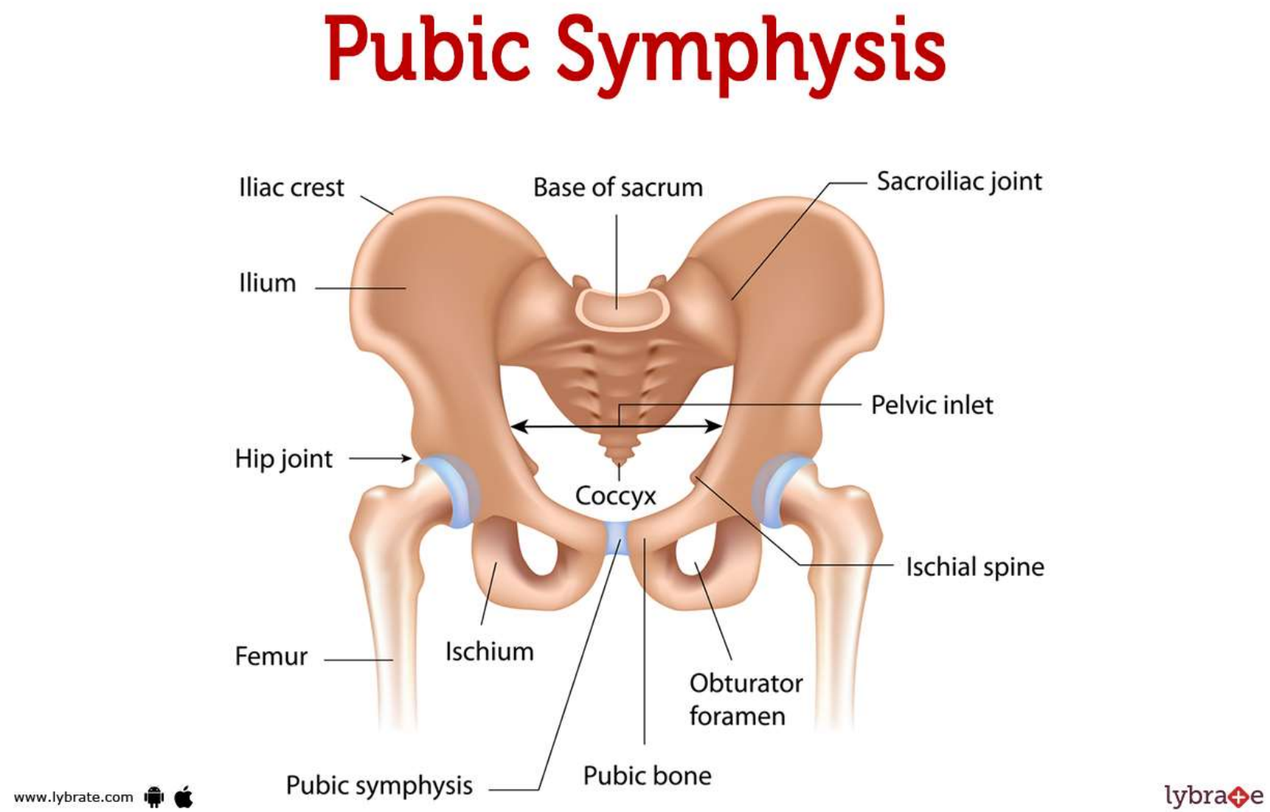
(e) To involve the anesthetist (as analgesia is ideal) and the pediatrician (for infant's resuscitation).

SHOULDER DYSTOCIA MANAGEMENT contd

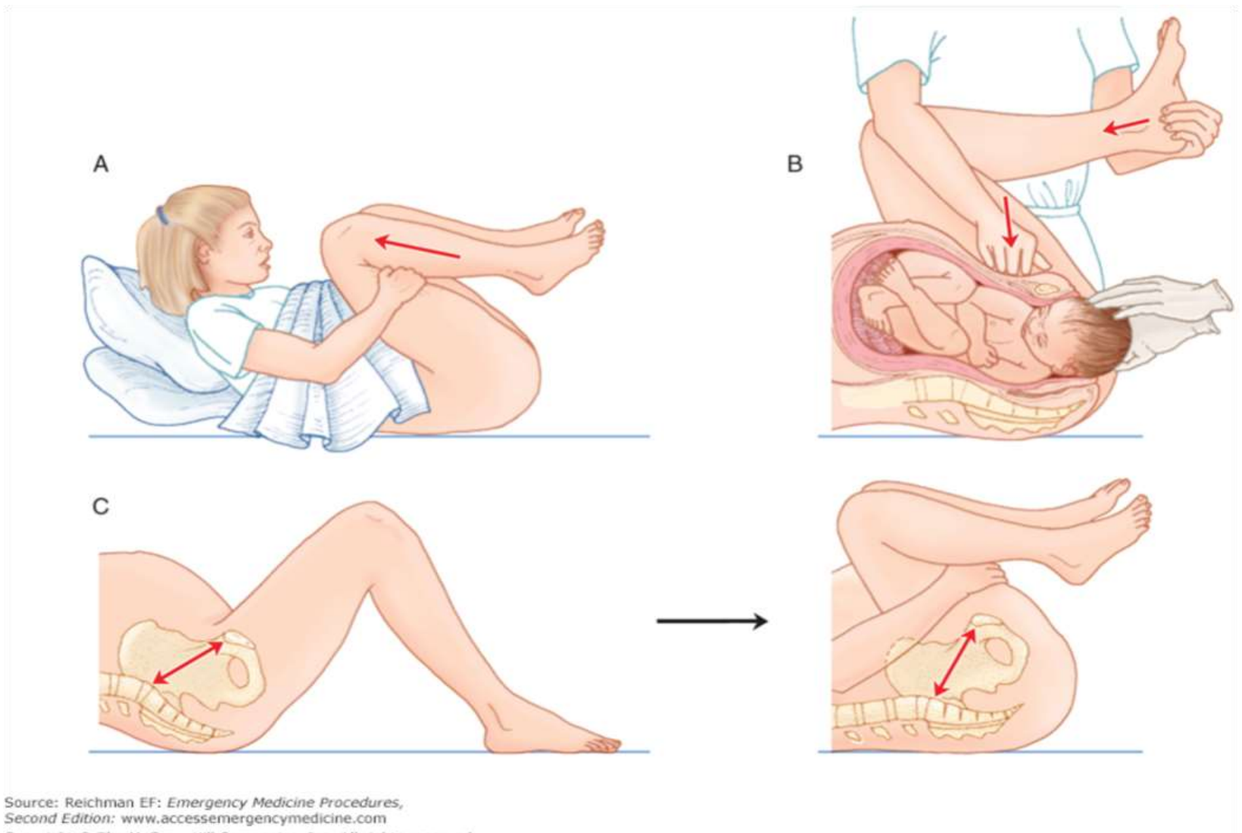
The following maneuvers are commonly employed.

- Head and neck should be grasped and taken posteriorly while suprapubic pressure is applied by an assistant slightly toward the side of fetal chest.
- McRoberts maneuver: Abduct the maternal thighs and sharply hyperflex them onto her abdomen. There is rotation of symphysis pubis upward and decrease in angle of pelvic inclination.

SHOULDER DYSTOCIA MANAGEMENT contd



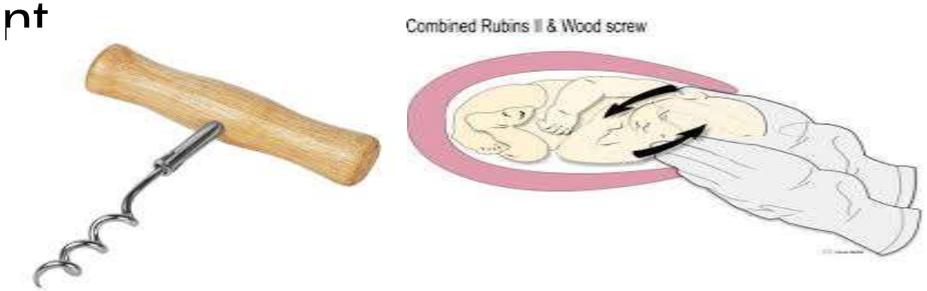
McRoberts maneuver



Source: Reichman EF: *Emergency Medicine Procedures, Second Edition:* www.accessemergencymedicine.com

SHOULDER DYSTOCIA MANAGEMENT contd

- Wood's maneuver: General anesthesia is administered. The posterior shoulder is rotated to anterior position (180°) by a corkscrew movement



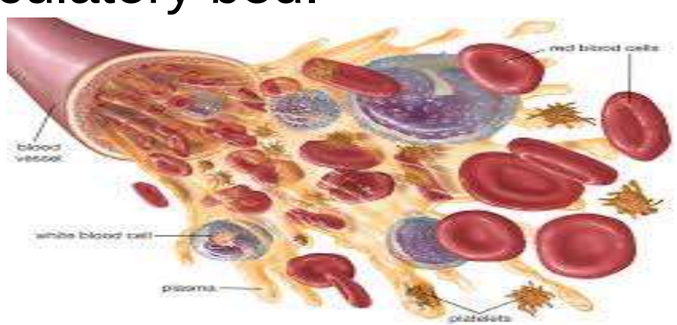
- Extraction of the posterior arm: The operator's hand is introduced into the vagina along the fetal posterior humerus in the sacral hollow. The arm is then swept across the chest and thereafter delivered by gentle traction.

6.SHOCK

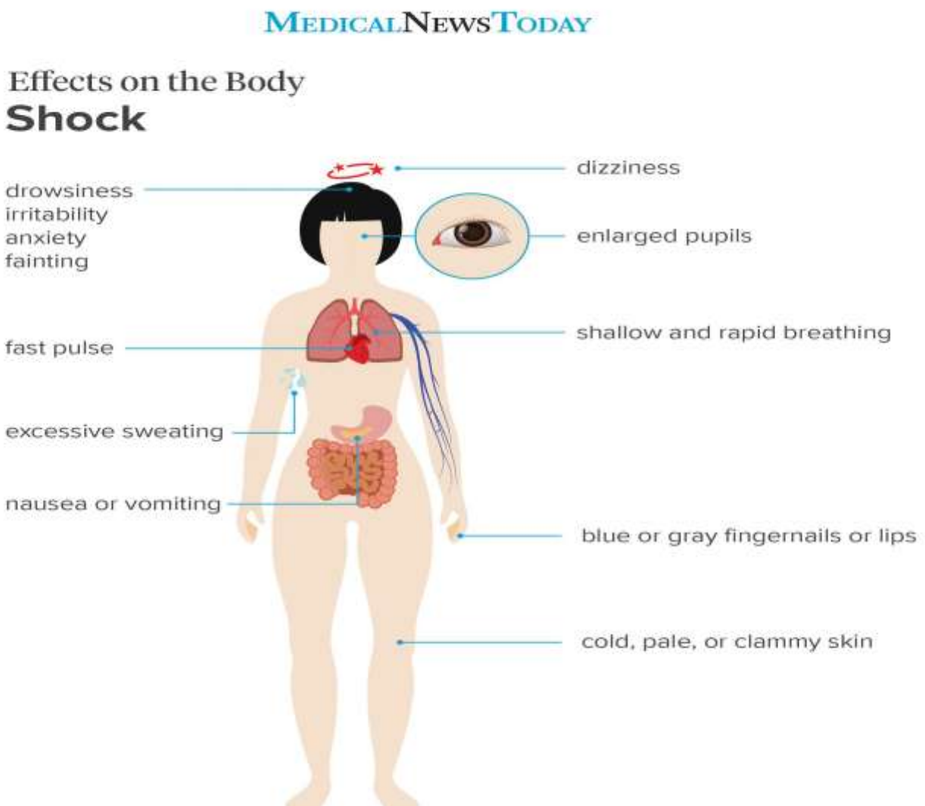
Definition:

Shock is defined as a state of circulatory inadequacy with poor tissue perfusion resulting in generalized cellular hypoxia.

Circulatory inadequacy is due to a disparity between the circulating blood volume and the capacity of the circulatory bed.



SHOCK


MEDICALNEWSTODAY
Effects on the Body
Shock
drowsiness
irritability
anxiety
fainting
dizziness
enlarged pupils
fast pulse
shallow and rapid breathing
excessive sweating
nausea or vomiting
blue or gray fingernails or lips
cold, pale, or clammy skin

Types of hypovolemic shock

(i) Hemorrhagic

(ii) Nonhemorrhagic.

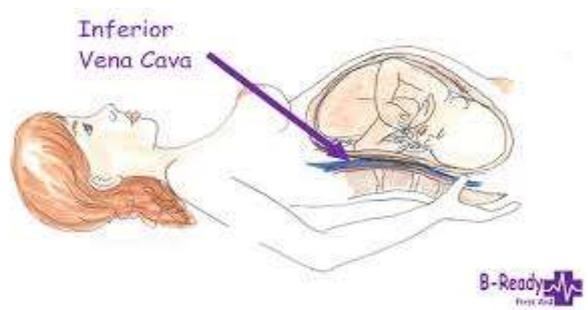
Hemorrhagic shock: Associated with postpartum or postabortal hemorrhage, ectopic pregnancy, placenta previa, abruptio placenta, rupture of the uterus and obstetric surgery:

- Shock associated with disseminated intravascular coagulation, Intrauterine dead fetus syndrome and amniotic fluid embolism :

TYPES OF HYPOVOLEMIC SHOCK

Nonhaemorrhagic shock

- Fluid loss shock — Associated with excessive vomiting, diarrhea, diuresis or too rapid removal of amniotic fluid.
- Supine hypotensive syndrome—Due to compression of inferior vena cava by the pregnant uterus.



CAUSES OF HEMORRAGIC SHOCK

1.Antepartum hemorrhage

-Placenta previa

-Abruptio placenta

2.Postpartum Hemorrhage

-Uterine inertia(failure to contract)

-Ruptured uterus

-retained placenta

-Bleeding disorders

Haemorrhagic shock

Early phase (Compensatory phase): In the early phase there is mild vasoconstriction and with the compensatory mechanism operating, the patient has relatively normal blood pressure but tachycardia.

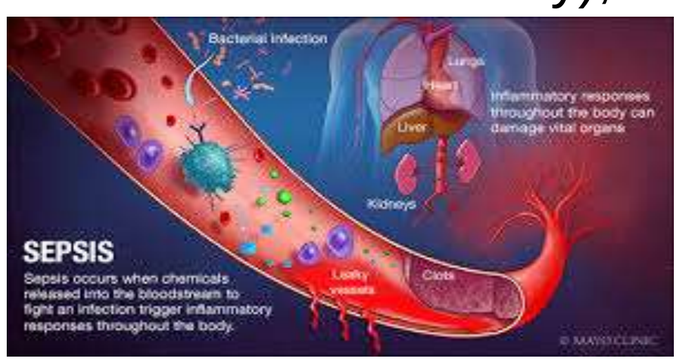
- This phase can be easily managed by volume replacement.

Intermediate phase (Reversible phase): If the early phase remains untreated, the patient passes into the state of hypotension.

- Patient progressively becomes pale; tachycardia persists and due to intense vasoconstriction, the periphery becomes cold and there may be sweating.
- Due to diversion of blood to vital organs, the patient remains conscious and the urine output is within normal limits. Still with adequate management, the shock state can be reversed.

2. Septic shock (endotoxic shock):

Hypotension (systolic BP < 90 mm Hg) is due to sepsis resulting in cellular and organ system dysfunction. Hypotension persists in spite of adequate fluid resuscitation. Associated typically with septic abortion, chorioamnionitis, pyelonephritis(inflammation in the kidney), and rarely postpartum



Causes

- Endotoxic shock usually follows infection with Gram-negative organisms (75-80%).
- The most common organism involved is Escherichia coli (50%).

Other organisms :

- Pseudomonas aeruginosa, Klebsiella,
- Proteus,
- Bacteroides and Aerobacter aerogenes.

- Gram-positive organisms
  (Staphylococcus, Streptococcus),
- anaerobes
  (Bacteroides fragilis),
- Clostridium group are less common

Symptoms:

- the patient remains alert,
- flushing of the face and the skin feels warm.
- temperature changes, > 38°C or < 36°C, bounding pulse, heart rate >100 beats per min, respiratory rate > 20/min, WBC > 12000/mL 3 .

3. Cardiogenic shock:

- Myocardial infarction
- Cardiac arrest (asystole or ventricular fibrillation)
- Cardiac tamponade Characterized by J, systolic pressure (< 80 mm Hg), l cardiac index (< 1.8 L/min/m 2) and f left ventricular filling pressure (> 18 mm Hg)

4. Extracardiac shock: Massive pulmonary embolism, amniotic fluid embolism, anaphylaxis, drug overdose, neurogenic.

Management of shock hemorrhagic shock:

- Restore circulating volume (Infusion and transfusion): Blood should be transfused especially in hemorrhagic shock as soon as it is available.
- Crystalloids : Normal saline has to be infused initially for immediate volume replacement. But they are rapidly lost from circulation.

- Colloids: Polygelatin solutions (Hemaccel, Gelofusion) are iso-osmotic with plasma. Large volumes can be administered. They promote osmotic diuresis.

- Human albumin solutions (4.5%)— not generally used for volume replacement.

- Maintenance of cardiac efficiency: When a large volume of fluid or blood is to be administered, the cardiac competence or efficiency should be ascertained- otherwise there is a risk of overloading the circulation and cardiac failure. 6 liters of crystalloids may be needed for loss of 1 liter of plasma volume.
- One or two large bore (14 or 16 gauge) cannula are inserted for volume replacement.

- Packed red blood cells (specific blood component), combined with normal saline, are used for hemorrhagic shock.

- Hemodynamic monitoring is aimed to maintain systolic BP > 90 and MAP > 60 mm Hg, CVP 12-15 cm H 2 0 and
- Pulmonary capillary wedge pressure 14-18 mm Hg.

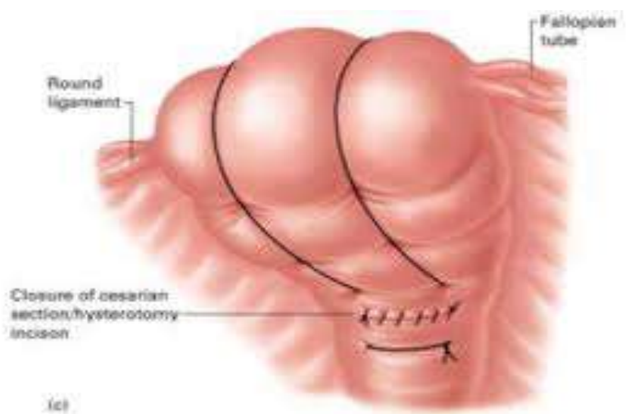
- Administration of oxygen to avoid metabolic acidosis: In the initial phase, administration of oxygen by nasal cannula at a rate of 6-8 liters per minute is enough but in the later phases, ventilation by endotracheal intubation maybe necessary.
- Oxygen delivery should be continued to maintain 0 2 saturation > 92%, Pa0 2 80-100 mm Hg, PaC0 2 30-35 mm Hg and pH > 7.35.
- Endotracheal intubation and mechanical ventilation maybe needed for patients with septic shock.

Pharmacological agents:

- Use of vasopressor drugs should be kept to a minimum, since peripheral vasoconstriction is already present.

- The role of vasoactive drugs, inotropes and corticosteroids in shock has been discussed in detail in connection with management of endotoxic shock.

- Control of hemorrhage: Specific surgical and medical treatment for control of hemorrhage should start along with the general management of shock.



ASSESSMENT

1.Define Obstetrical emergencies
2.List down the Obstetrical emergencies
3.Explain the cord presentation of cord presentation and cord prolapse in Obstetrical emergencies
4.Explain about the vaso previa in Obstetrical emergencies
5.Enumerate about the amniotic fluid embolism in Obstetrical emergencies
6.Explain about the shock in Obstetrical emergencies

- Anamma Jacob “Midwifery and gynaecological nursing” 4th edition, jaypee brothers and medical publishers.
- DC Dutta & Konar Hiralal (2018) “Text book of Obstetrics’’ Jaypee brothers ,

Online reference

- healthline.com
- mayoclinic .org

THANK YOU