DEFINITION

- **Obstetrical emergencies are life threatening medical conditions that occur in pregnancy or during labor or after delivery.**

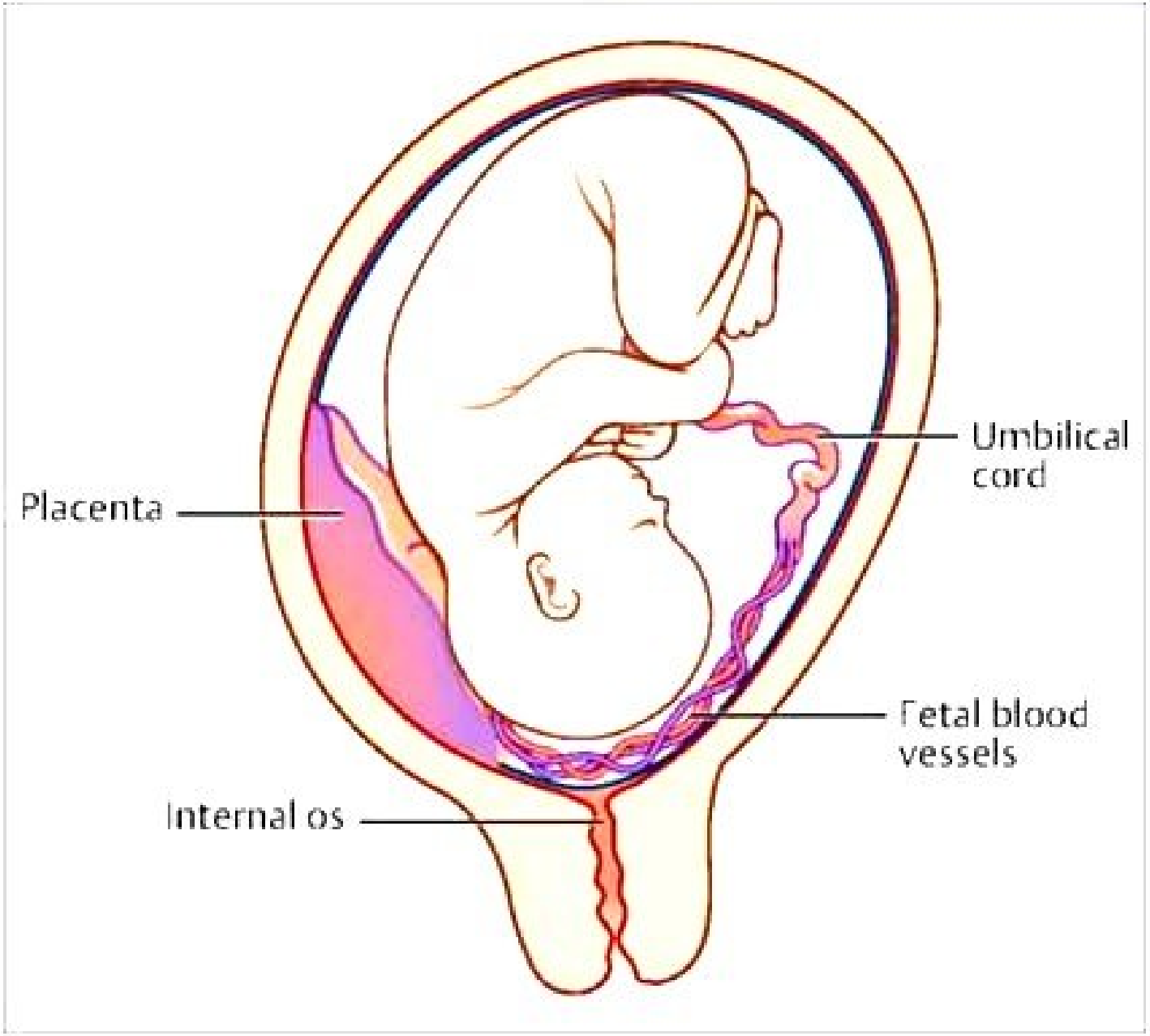
VASA PREVIA

INCIDENCE

The actual incidence is extremely difficult to estimate, it appears that vasa previa complicates approximately 1 in 2,500 births.

DEFINITION

- It is an abnormality of the cord that occurs when one or more blood vessels from the umbilical cord or placenta cross the cervix but it is not covered by Wharton's jelly.
- This condition can cause hypoxia to the baby due to pressure on the blood vessels.
- It is a life threatening condition.


Placenta
Umbilical cord
Fetal blood vessels
Internal os

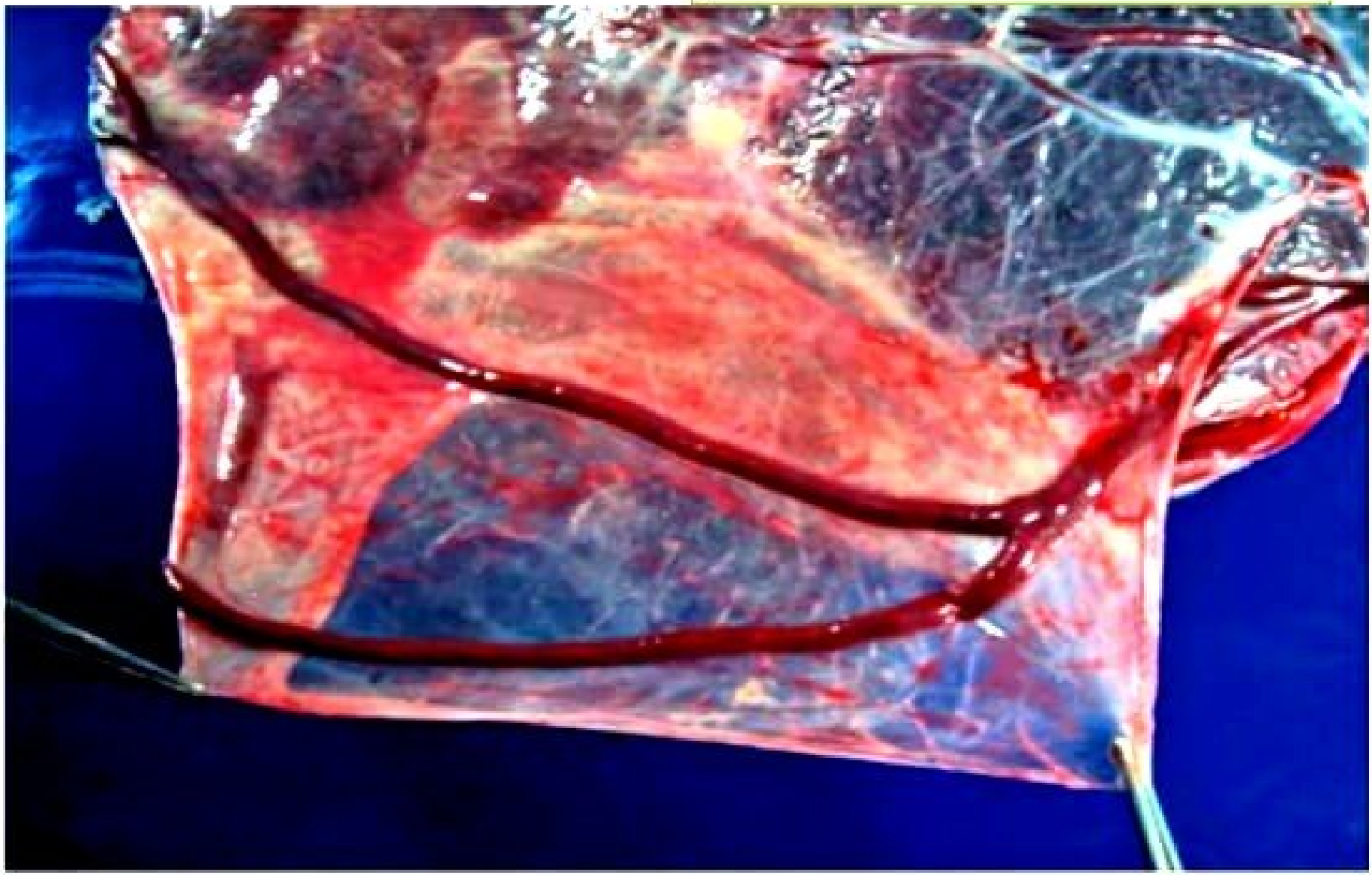
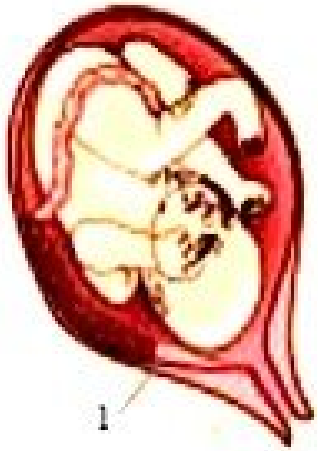


FIGURE 2 Placenta after delivery showing vasa previa. Vessels are seen running through the membranes.

ETIOLOGY

These vessels may be from either

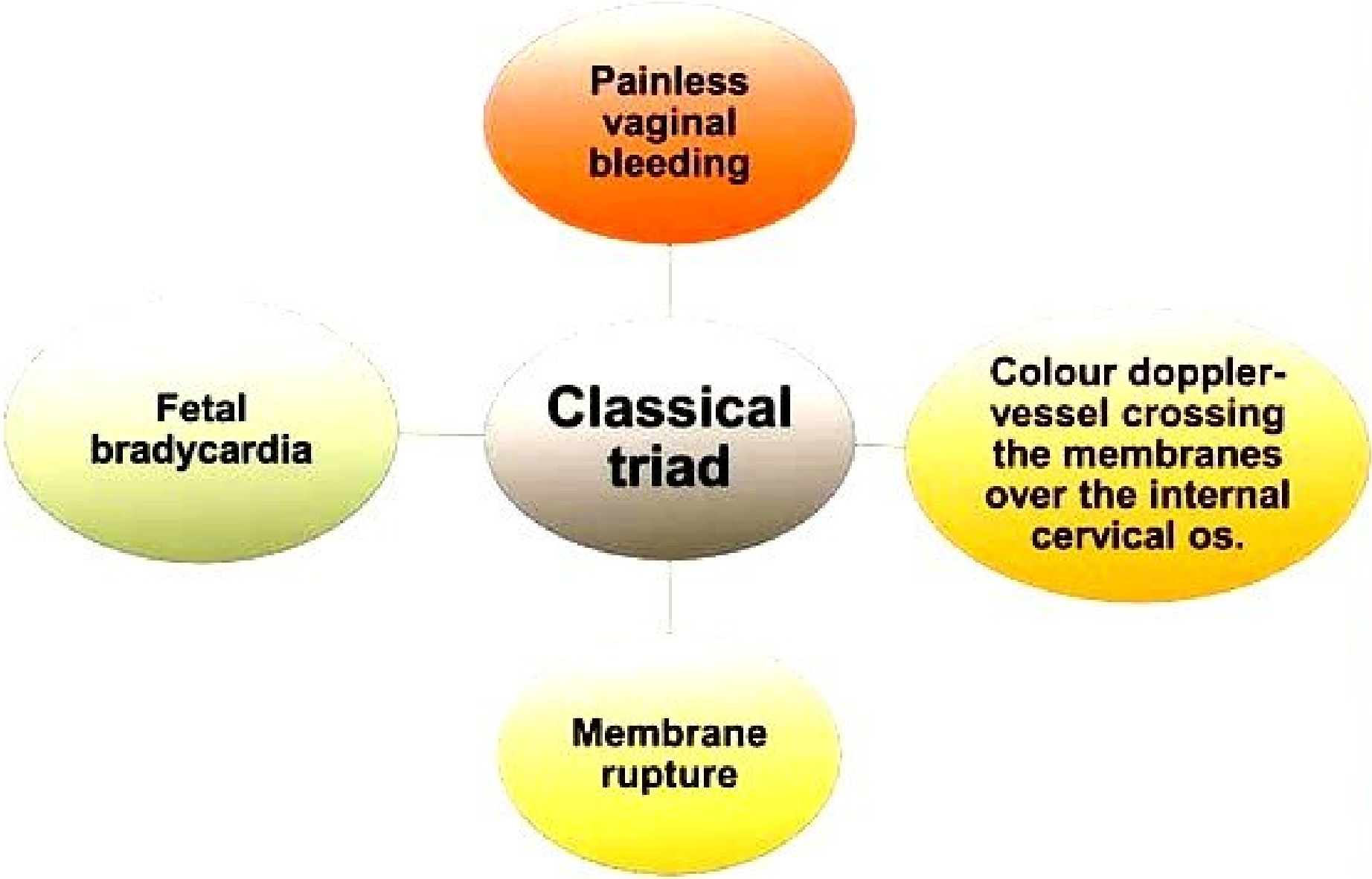
- Velamentous insertion of umbilical cord
- placental lobe joined to the main disk of the placenta.
- Low-lying placenta
- Previous delivery by C-section.



SYMPTOMS

- The baby's blood is a darker red color due to lower oxygen levels of a fetus
- Sudden onset of painless vaginal bleeding, especially in their second and third trimesters
- If very dark burgundy blood is seen when the water breaks, this may be an indication of vasa previa

DIAGNOSIS


Painless vaginal bleeding
Fetal bradycardia
Classical triad
Colour doppler- vessel crossing the membranes over the internal cervical os.
Membrane rupture

MANAGEMENT

- **Antepartum**

- **The patient should be monitored closely for preterm labor, bleeding or rupture of membranes.**
- Steroids should be administered at about 32 weeks.
- **Hospitalization at 32 weeks is reasonable .**
- Take patient for emergency cesarean section if membranes are ruptured.
- **Fetal growth ultrasounds should be performed at least every 4 weeks.**
- Cervical length evaluations may help in assessing the patient's risk for preterm delivery or rupture of the membranes

Postpartum

- Routine postpartum management as for cesarean delivery.
- If the fetus is born after blood loss, transfusion of blood without delay may be life-saving.
- It is important to have O negative blood or type-specific blood available immediately for neonatal transfusion

NURSING MANAGEMENT

- Assess bleeding, color, amount
- **Administer iv fluids.**
- **Administer oxygen.**
- **Strict vitals and FHS monitoring.**
- **Prepare patient for caesarean section.**
- **Reserve blood if (Hct >30%)**

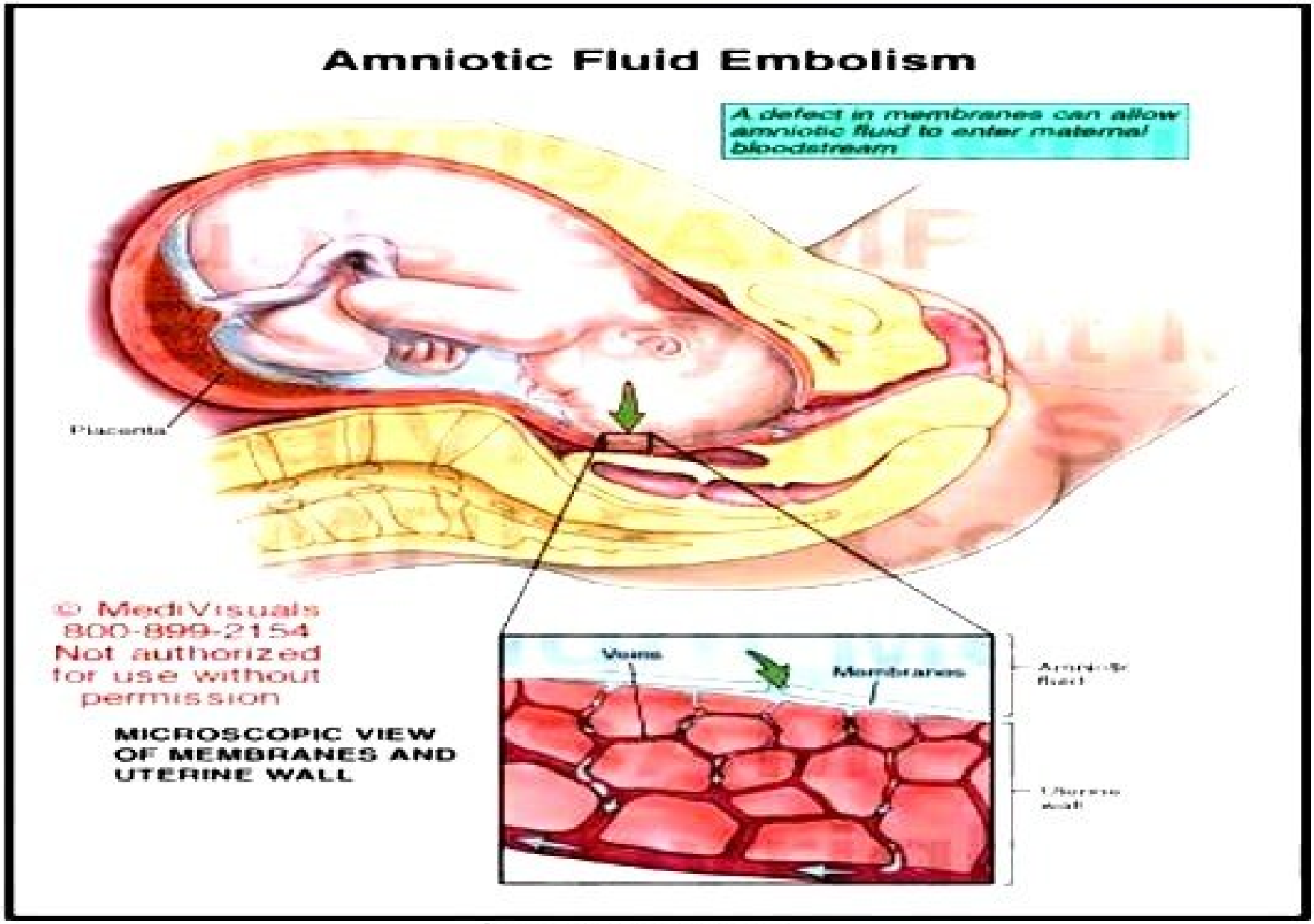
AMNIOTIC FLUID EMBOLISM

INCIDENCE

- Amniotic fluid embolism syndrome is rare. Most studies indicate that the incidence rate is between 1 and 12 cases per 100,000 deliveries

DEFINATION

- An amniotic fluid embolism is rare but serious condition that occur when amniotic fluid, fetal material, such as hair, enters the maternal bloodstream.
- **The body respond in 2 phases**
- The initial phase **is one of pulmonary vasospasm causing hypoxia, hypotension, pulmonary edema and cardiovascular collapse.**
- The second phase **sees the development of left ventricular failure, with hemorrhage and coagulation disorders and further uncontrollable hemorrhage**


Amniotic Fluid Embolism
A defect in membranes can allow amniotic fluid to enter maternal bloodstream
Placenta
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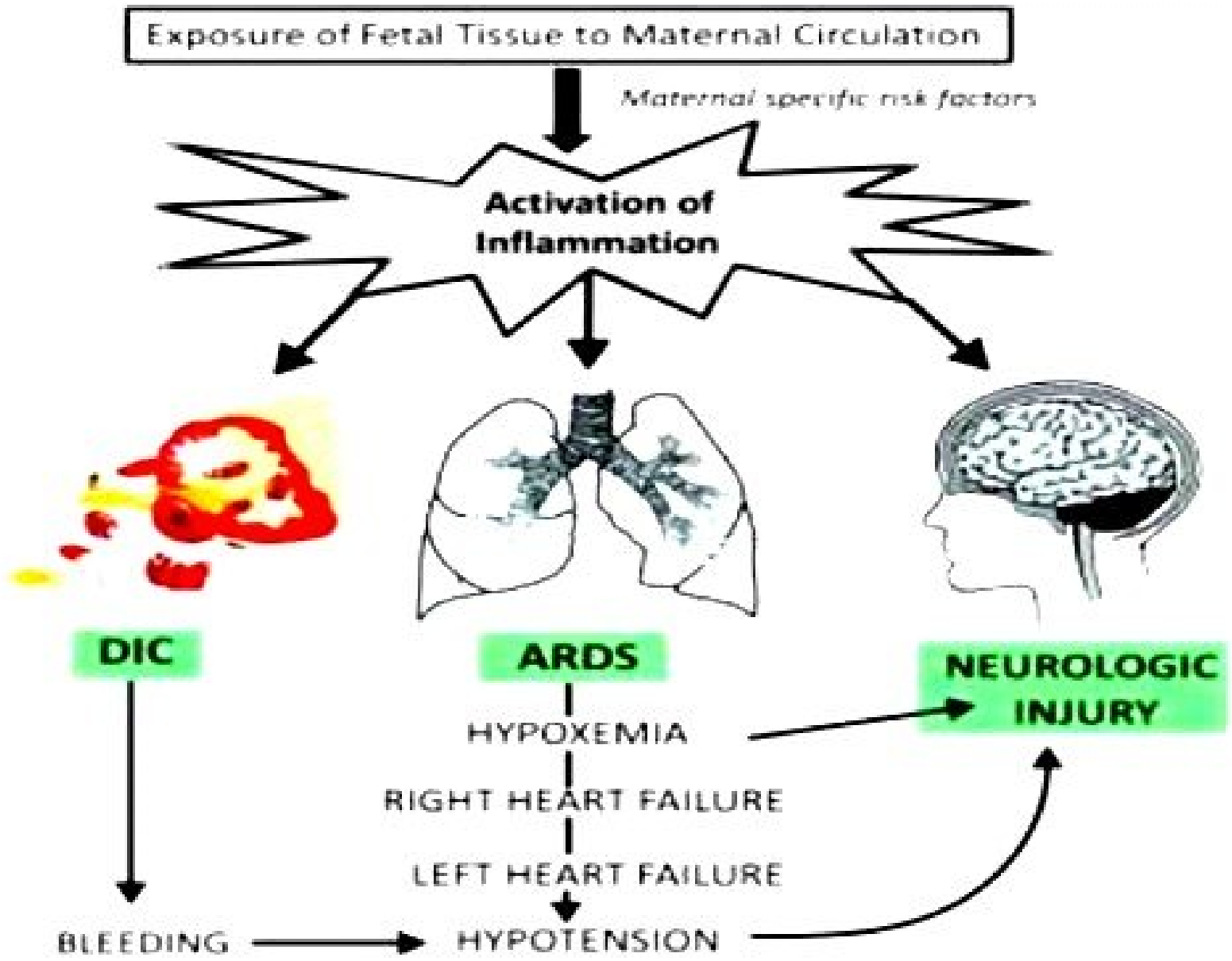
MICROSCOPIC VIEW
OF MEMBRANES AND
UTERINE WALL
Membranes
Exhibit# 598034-01X


Exposure of Fetal Tissue to Maternal Circulation
Maternal specific risk factors
Activation of Inflammation
DIC
ARDS
NEUROLOGIC INJURY
HYPOXEMIA
RIGHT HEART FAILURE
LEFT HEART FAILURE
BLEEDING
HYPOTENSION

ETIOLOGY

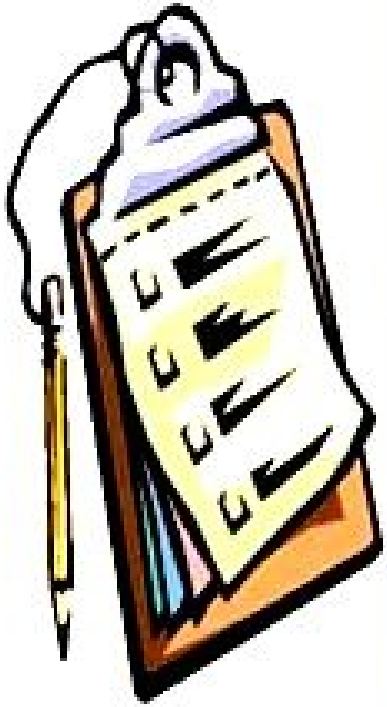
- A maternal age of 35 years
- older Caesarean or instrumental vaginal delivery
- Polyhydramnios Cervical laceration or uterine rupture
- Placenta previa or abruption
- Amniocentesis
- Eclampsia
- Abdominal trauma
- Ruptured uterine or cervical veins
- Ruptured membranes

DIAGNOSIS

- Chest X-ray: May show an enlarged right atrium and ventricle and prominent proximal pulmonary artery and pulmonary edema.
- Lung scan: May demonstrate some areas of reduced radioactivity in the lung field.
- Central venous pressure (CVP) with an initial rise due to pulmonary hypertension and eventually a profound drop due to severe hemorrhage.
- Coagulation profile: decreased platelet count, decreased fibrinogen and a fibrinogenemia, prolonged PT and PTT, and presence of fibrin degradation products.
- Cardiac enzymes levels may be elevated;
- Echocardiography may demonstrate acute left heart failure, acute right heart failure or severe pulmonary hypertension

MANAGEMENT

- Maintain systolic blood pressure > 90 mm Hg.
- Urine output > 25 ml/hr
- Re-establishing uterine tone
- Correct coagulation abnormalities
- Administer oxygen to maintain normal saturation.
- Intubate if necessary.
- Initiate cardiopulmonary resuscitation (CPR) if the patient arrests. If she does not respond to resuscitation, perform a cesarean delivery.



- Treat hypotension with crystalloid and blood products.
- Consider pulmonary artery catheterization in patients who are haemodynamically unstable. Continuously monitor the fetus.
- trauma to the uterus must be avoided during maneuvers such as insertion of a pressure catheter or rupture of membranes.
- Incision of the placenta during caesarean delivery should also be avoided

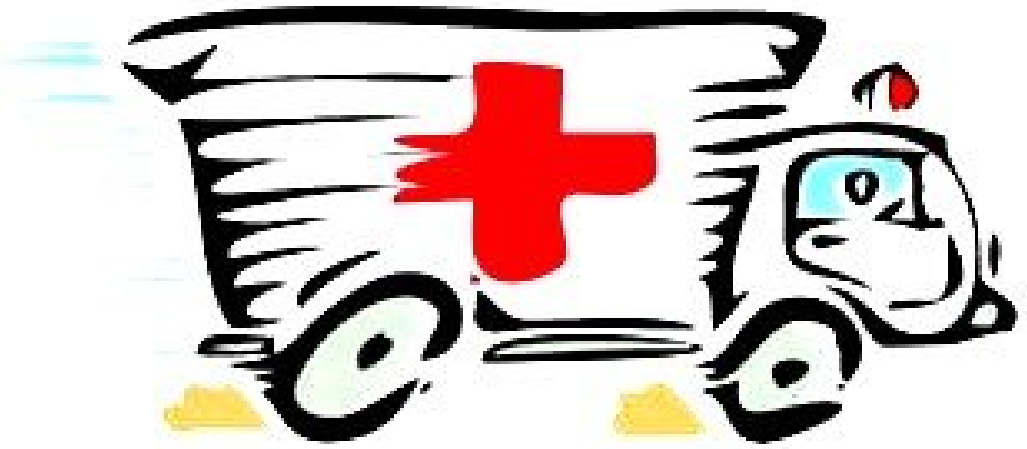
NURSING MANAGEMENT

- Give immediate and vigorous treatment.
- Give oxygen by face mask.
- Maintain normal blood volume through administration of plasma and intravenous fluids.
- Prevent development of disseminated intravascular coagulation (DIC). Serious complications can occur.
- Administer whole blood and fibrinogen.
- Monitor the patient's vital signs.
- Deliver the fetus as soon as possible

OBSTETRIC SHOCK

- **Shock is a critical condition and a life threatening medical emergency.**

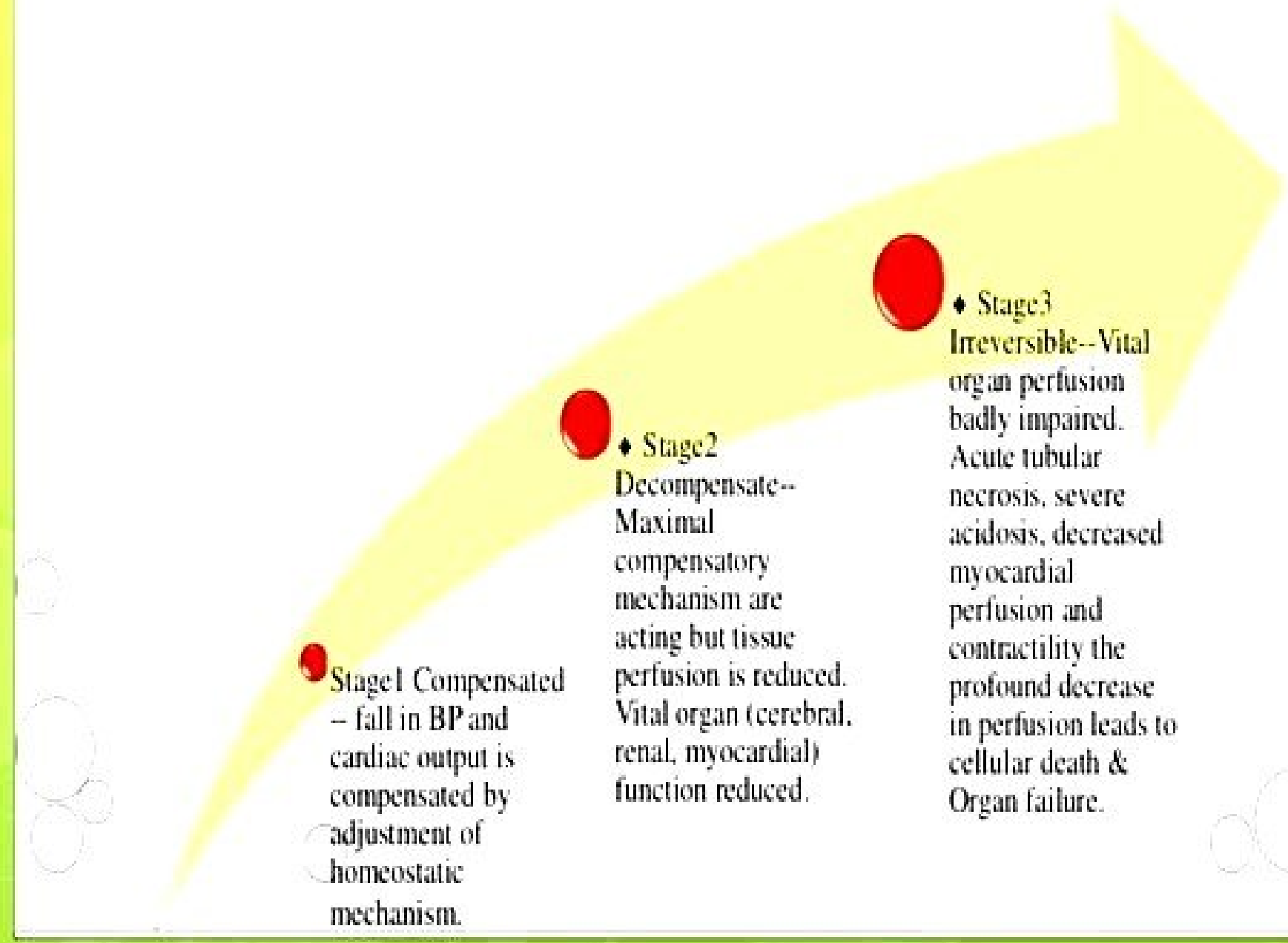
- **Shock results from acute, generalized, inadequate perfusion of tissues, below that needed to deliver the oxygen and nutrients for normal function**



ETIOLOGY

- Hypovolemia (Hemorrhage (occult /overt), hyperemesis, diarrhea, diabetic acidosis, peritonitis, burns.)
- sepsis
- Cardiogenic (cardiomyopathies, obstructive structural, obstructive non -structural, dysrhythmias).
- Anaphylaxis
- Distributive (Neurogenic- spinal injury, regional anesthesia

STAGES OF SHOCK

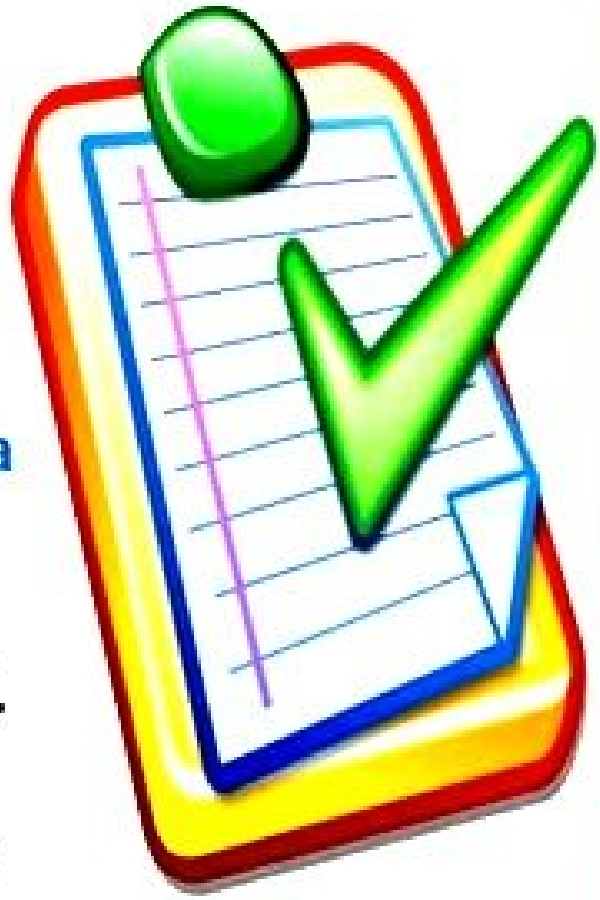


DIAGNOSIS

- There are no laboratory test for shock
- A high index of suspicion and physical signs of inadequate tissue perfusion and oxygenation are the basis for initiating prompt management.
- Initial management does not rely on knowledge of the underlying cause.

INITIAL MANAGEMENT

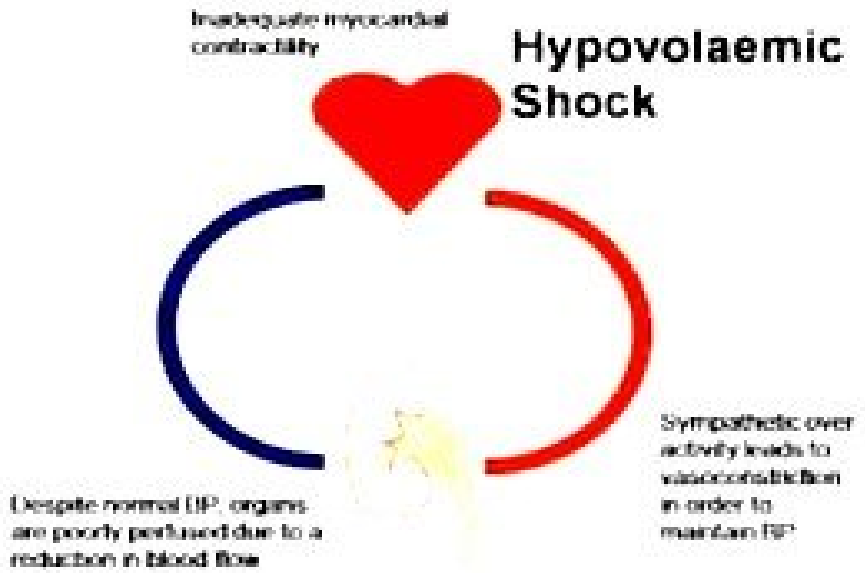
- Maintain ABC
- **Airway should assured** - oxygen 15lt/min.
- **Breathing –** ventilation should be checked and support if inadequate
- **Circulation-** (with control of hemorrhage) – Two wide bore canulla – Restore circulatory volume



- **Reverse hypotention with crystalloid. – Crossmatch,**
- **Arrange and give blood if necessary.**
- **See for response such as , vital sign**

HYPOVOLEMIC SHOCK

- **The normal pregnant woman can withstand blood loss of 500 ml and even up to 1000 ml during delivery without obvious danger due to physiological cardiovascular and haematological adaptations during pregnancy.**



ETIOLOGY

- **Antenatal** – Ruptured ectopic pregancy , Incomplete abortion ,Placenta previa – Placental abruption , Uterine rupture

- **Post partum** – Uterine atony ,Laceration to genital tract ,Chorioamnionitis – Coagulopathy , Retained placental tissue.

SIGN AND SYMPTOMS

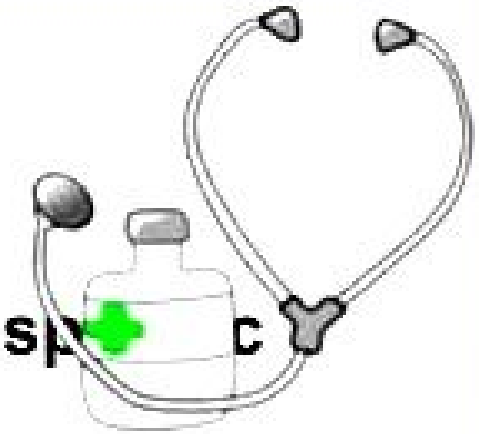
Mild symptoms can include:

- headache
- fatigue
- nausea
- profuse sweating
- dizziness

Severe symptoms, include:-

- cold or clammy skin
- pale skin
- rapid, shallow breathing
- rapid heart rate
- little or no urine output
- confusion
- weakness
- weak pulse
- blue lips and fingernails
- Lightheadedness
- loss of consciousness

MANAGEMENT



- Basic shock management then treat specific cause.
- Laparotomy for ectopic pregnancy
- Suction evacuation for incomplete abortion
- management of uterine atony
- Repair of laceration
- Management of uterine rupture – Stop oxytocin infusion if running
- Continuous maternal and fetal monitoring

- Emergency laparotomy with rapid operative delivery
- Cesarean hysterectomy may need to perform if hemorrhage is not controlled.
- Management of uterine inversion. – Replacement of the uterus needs to be undertaken quickly as delay makes replacement more difficult.
- Administer tocolytics to allow uterine relaxation. – Replacement under taken (with placenta if still attached)-manually by slowly and steadily pushing upwards, with hydrostatic pressure or surgically

CARDIOGENIC SHOCK

- **Cardiogenic shock in pregnancy is a life-threatening medical condition resulting from an inadequate circulation of blood.**
- **Pregnancy puts progressive strain on the heart as progresses.**
- **Preexisting cardiac disease places the parturient at particular risk.**
- **Cardiac related death in pregnancy is the second most common cause of death in pregnancy**

MANAGEMENT

- **Re-establishment of circulation to the myocardium,**
- **Minimising heart muscle damage and improving the heart's effectiveness as a pump.**
- **Administer Oxygen (O2) therapy to reduces the workload of the heart by reducing tissue demands for blood flow.**
- **Administration of cardiac drugs such as Dopamine, dobutamine, epinephrine, norepinephrine.**

SIGN AND SYMPTOMS

- Abdominal pain – Vomiting – diarrhea
- Signs of sepsis – Tachycardia ,Pallor
- Clamminess – Peripheral shutdown –
- Systemic inflammation – Fever or hypothermia
- Tachypnea
- Cold peripheries
- Hypotension
- Confusion
- Oliguria
- Altered mental state

ETIOLOGY

- Post cesarean delivery
- Prolonged rupture of membranes
- Retained products of conception
- rupture membrane
- Intra-amniotic infusion
- Water birth
- Retained product of conception
- Urinary tract infection
- Toxic shock syndrome
- Necrotizing Fasciitis

SEPTIC SHOCK

This is sepsis with hypotension despite adequate fluid resuscitation.

To diagnose septic shock following two criteria must be met

- **Evidence of infection through a positive blood culture.**
- **Refractory hypotension- hypotension despite of adequate fluid resuscitation.**

MANAGEMENT

- Transfer to a higher level facility.
- Invasive monitoring will inevitably but necessary
- Obtain blood culture , wound swab culture and vaginal swab culture.
- Start broad spectrum antibiotics.
- Removal of infected tissues.

ANAPHYLYTIC SHOCK

- A serious rapid onset of allergic reaction that is rapid onset and may cause death.
- It is a relatively uncommon event in pregnancy but has serious implications for both mother and fetus.

ETIOLOGY

- Pharmacological agent- pen group of drugs.

- Insect stings

- Foods

- Latex

{\LaTeX}

LATEX

UTERINE INVERSION

- It occurs when the placenta fails to detach from the uterus as it exits, pulls on the inside surface, and turns the organ inside out.
- Uterine inversion is a potentially fatal childbirth complication with a maternal survival rate of about 85%
- The incidence is about 1 in 20,000 deliveries.

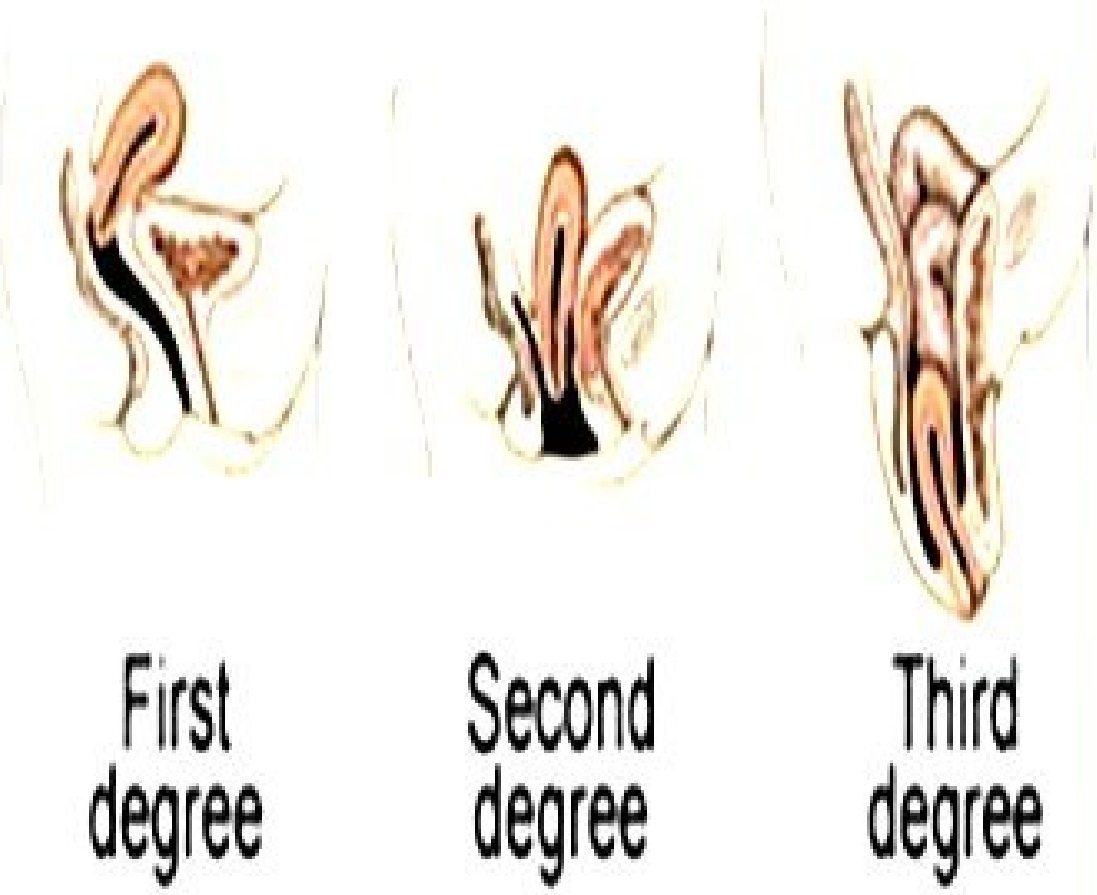
ETIOLOGY

- **The exact cause of uterus inversion is unclear.**

- **The most likely cause is strong traction on the umbilical cord, particularly when the placenta is in a fundal location, during the third stage of labor**

Degrees of uterine inversion

- 1st - Dimpling of fundus, remains above internal os
- 2nd - fundus passes through the cervix, but lies inside vagina
- 3rd - (complete) Endometrium with or without placenta is outside the vulva



DIAGNOSIS

Prompt diagnosis is crucial and possibly lifesaving. Some of the signs of uterine inversion could include:

- The uterus protrudes from the vagina.
- The fundus doesn't seem to be in its proper position when the doctor palpates (feels) the mother's abdomen.
- The mother experiences greater than normal blood loss.
- The mother's blood pressure drops (hypotension).
- The mother shows signs of shock (blood loss).
- Scans (such as ultrasound or MRI) may be used in some cases to confirm the diagnosis

MANAGEMENT

- Before shock

- Urgent manual replacement
- After replacement, the hand should remain inside the uterus until the uterus become contracted by parentral oxytocics.
- The placenta should be removed manually only after the uterus becomes contracted.
- Usual treatment of shock including blood transfusion should be arranged.

After shock

- Morphine 15mg IM , dextrose saline drip and arrangement of blood transfusion.
- Push the uterus inside the vagina if possible and pack the vagina with roller gauze
- Raised foot end of bed.
- Replacement of uterus under general anaesthesia to be done.
- Emergency hysterectomy (surgical removal of the uterus) in extreme cases where the risk of maternal death is high.

NURSING MANAGEMENT

- **Monitor for signs of hemorrhage and shock and treat shock**

- **Prepare patient to reposition the uterus to the correct position via the vagina or lapr0tomy if unsuccessful.**