Antepartum Hemorrhage

By

Antepartum hemorrhage

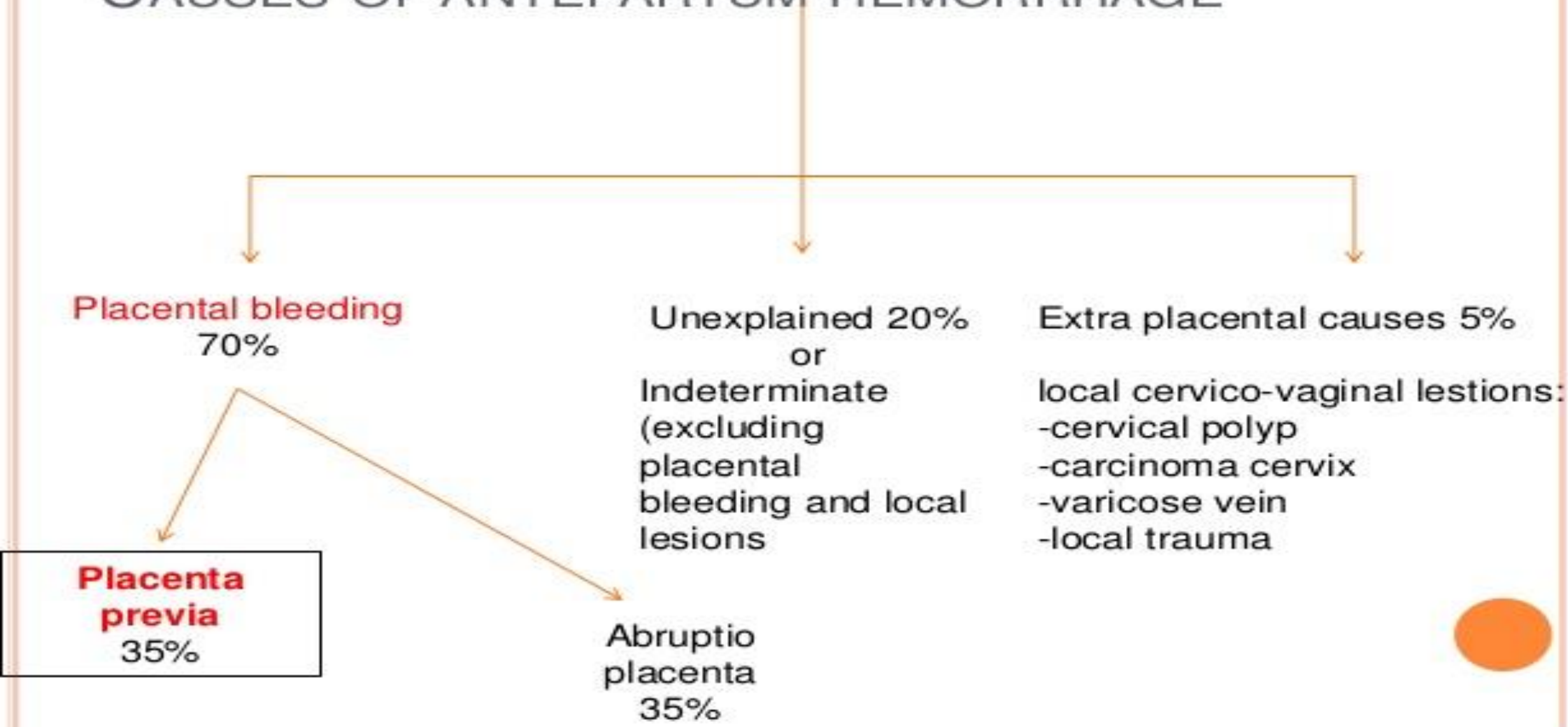
Is bleeding from genital tract which usually takes place **after 24 wks**.of gestation (it is 3rd trimester bleeding)

- It affects ***3-5%*** of all pregnancies
- Its 3 times more common in multiparous than primiparous women
- Its one of the leading cause of perinatal and maternal mortality worldwide

Causes of APH

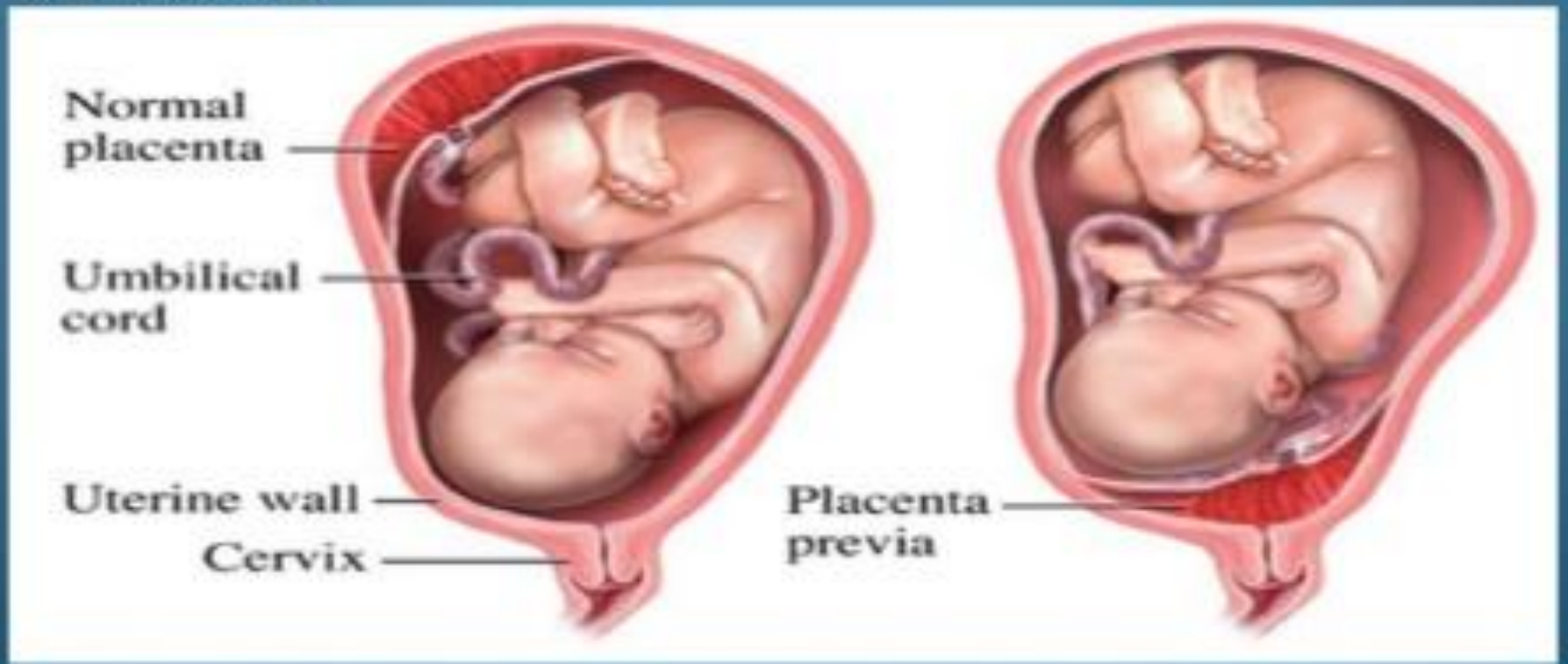
- Placenta previa
- Abruptio placenta
- Vasa previa
- incidental causes
- bleeding from cervix,vagina and vulva
- Rupture of uterus
- Trauma
- Excessive show

CAUSES OF ANTEPARTUM HEMORRHAGE

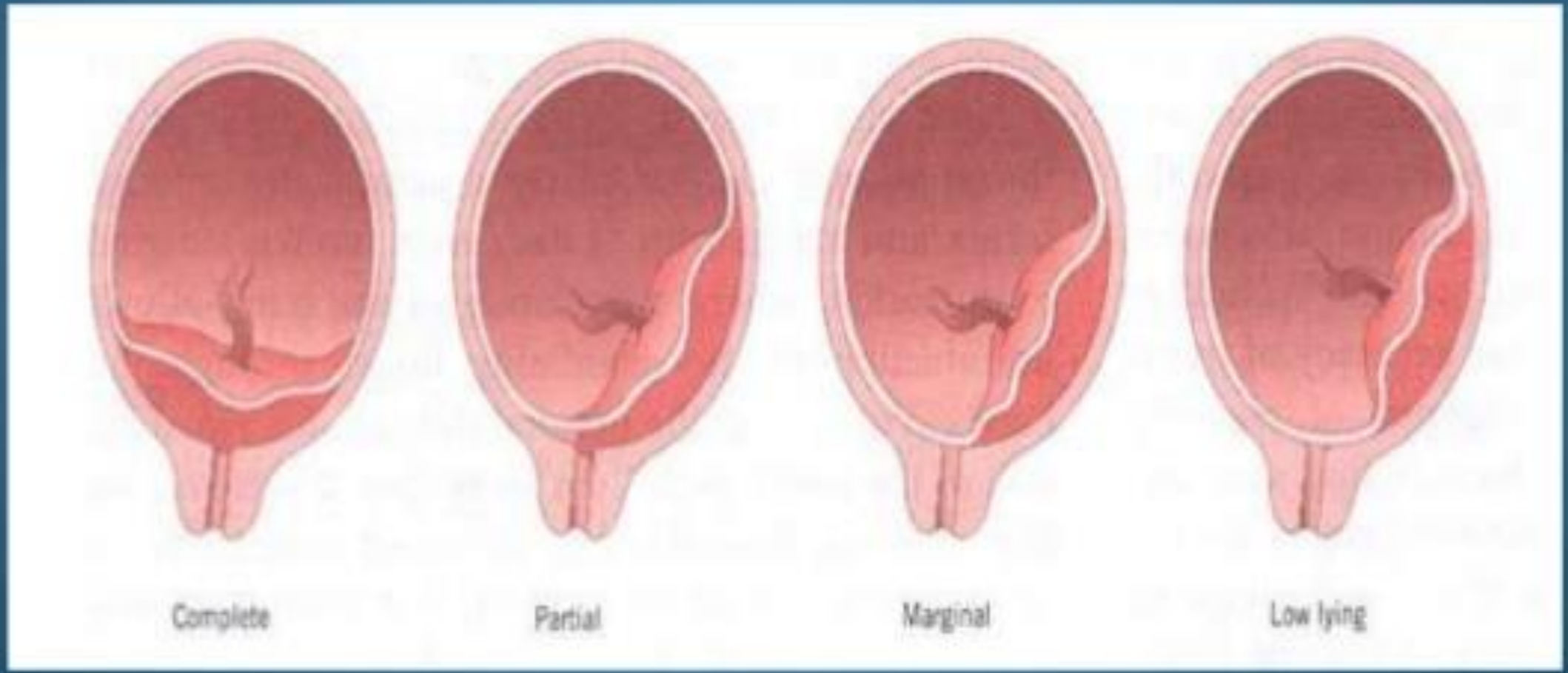


Placenta previa

- Abnormally situated placenta in lower uterine segment or covering the os , is an obstetric complication that classically presents as painless vaginal bleeding in the third trimester.



Grading of placenta previa



Causes of placenta previa (high risk group)

- The exact etiology of placenta previa is unknown. The condition may be multifactorial and is postulated to be related to the following risk factors:
- Advancing maternal age (>35 y)
- Previous Hx of excessive curetting (curettage)
- Previous Hx of caesarean section .
- Anemia
- Grand multiparous lady

- Previous Hx of placenta preavia (4-8%)
- Disturbance of contour of uterus like presence of a fundally situated fibroid .
- Multiple gestation
- Short interpregnancy interval
- Smoking
- Cocaine use

Presentation of Placenta previa

- Bleeding after 24 wks of gestation usually the 1st episode (attack) of vaginal bleeding is small in amount , does not affect the life of pt. , **painless** , causeless .
- usually occurs when the pt wake up in morning from her bed with a bleeding seen on thighs & the bed.
- recurrence usually after 2nd attack which is more aggressive in nature & may affect the life of the pt.
- Placenta previa often leads to preterm delivery, with 44% of pregnancies with placenta previa delivered before 37 weeks

Examination

- General condition of pt is corresponded to the amount of vaginal bleeding i.e vital signs in 1st attack are not affected & with increase amount of bleeding they will be deteriorated

- Uterus is soft & not tender .
- Fetal part can be detected easily
- Fetal heart can be detected easily & most of the time fetal condition is not affected.
- Uterus size is slightly larger than date & the head is not engaged or the size of uterus is correspond to date of amenorrhea.

Lab studies

- Complete blood cell (CBC) count
- Rh compatibility test
- Blood type and crossmatch
- PT/aPTT
- levels of fibrin split products (FSP) and fibrinogen
- Amniocentesis and fetal lung maturity testing, if necessary
- Other tests that may be obtained include Kleihauer-Betke test, if there is concern about fetal-maternal transfusion.

Diagnosis

- **US examination** is very helpful in detecting placental site with an accuracy of 96 % but sometime there is a difficulty when the placenta is situated posteriorly
- Pelvic examination is **contraindicated** in lady with placenta preavia
- Pelvic exam. Is only indicated if we are sure that bleeding is not due to placenta preavia.
- It have been performed that digital examination can lead to sever uncontrollable bleeding in 1:16 pt.

MANAGEMENT:

- **Depend upon the**
  - –General condition of pt.
  - –Amount of vaginal bleeding
  - –Age of gestation

1. If the amount of bleeding is minimal and the general condition of pt is stable & gestational age is not near to term (immature baby) **Conservative Mx is indicated**. this is also called expectant Mx in which we can perform Investigations & follow up the pt : total blood count,US assessment for grading,Correction of anemia if it is present ,Hospitalization & Preparation of blood.

2. If the bleeding is moderate & mildly affecting general condition of pt with immature baby, **blood transfusion is indicated** , with close observation of bleeding , the aim here is to prolong pregnancy until reaching fetal maturity & the termination of pregnancy accordingly

3. If the pt has sever vaginal bleeding affecting life of pt ; irrespective of maturity of baby , **termination of pregnancy is indicated** (to save life of mother) . In this condition preparation of 4 pines of blood & termination of pregnancy by cesarean section & transfer the baby to baby care unit

Measures of Expectant Management:

- It have been seen that inhibition of uterine contraction is important in order not to allow placenta preavia to be turned & this can be done by giving **tocolytic drugs** for inhibition of uterine contraction .
- Beta agonists are not so much recommended because they exacerbate tachycardia & may affect the bleeding .
- Administration of **Betamethasone** or **Dexamethasone** is sometime helpful in enhancing fetal maturity .
- Supplementation of **iron therapy** improves anemia.
- Stool softness by high residual diet.

Indications of cesarean section according to type of placenta previa:

- In grade I , grade II placenta anterior , sometime we allow a vaginal delivery to take place
- In placenta previa grade II posterior , grade III & grade IV, the should be terminated by caesarean section.

All APH are to be admitted

- general and Abd ex along with vulval inspection
- clinical assessment of blood loss
- blood samples (Hb%,Hct, ABO, Rh group)
- Resuscitation (IV NS/transfusion using wide bore canula)
- localization of placenta (US)

EXPECTANT TREATMENT

- no active vaginal bleeding
- preg <37 weeks
- good maternal status (Hb≥10gm%, Hct>30%)
- good FHS
- fetal well being is assured (CTG reactive)

- periodic inspection of the vulval pads and fetal surviellance at interval of 2-3 weeks.
- supplementary hematinics and/transfusions
- **Tocolysis** $MgSO_4$ if bleeding associated with contractions
- **dexamethasone**
- Rh Ig to all Rh negative women.

ACTIVE INTERFERENCE

- if bleeding continous
- preg >37 weeks
- patient is in labour
- FHS is absent
- gross fetal malformation

37 weeks

US evidence

Placental edge is clearly 2-3cm away from the IO

Internal examination in OT

ARM ± oxytocin

Satisfactory progress of labour

Vaginal delivery

-Bleeding continues
-no labour initiation

C-section

Placental edge within 2cm of IO
Or placenta previa > type I

No internal examintaion

Caesarean section

- *Delivery via caesarean birth is the rule unless it occurs earlier in pregnancy (i.e., at 20* weeks).
- In a patient whose condition is stable, at 36 to 37 weeks of gestation, following amniocentesis to confirm fetal lung maturity.
- If lung maturity is not demonstrated, the patient should be delivered at 37 to 38 weeks of gestation.
- Earlier caesarean delivery may be required if bleeding occurs or if the patient goes into labor.

Maternal complications of placenta previa:

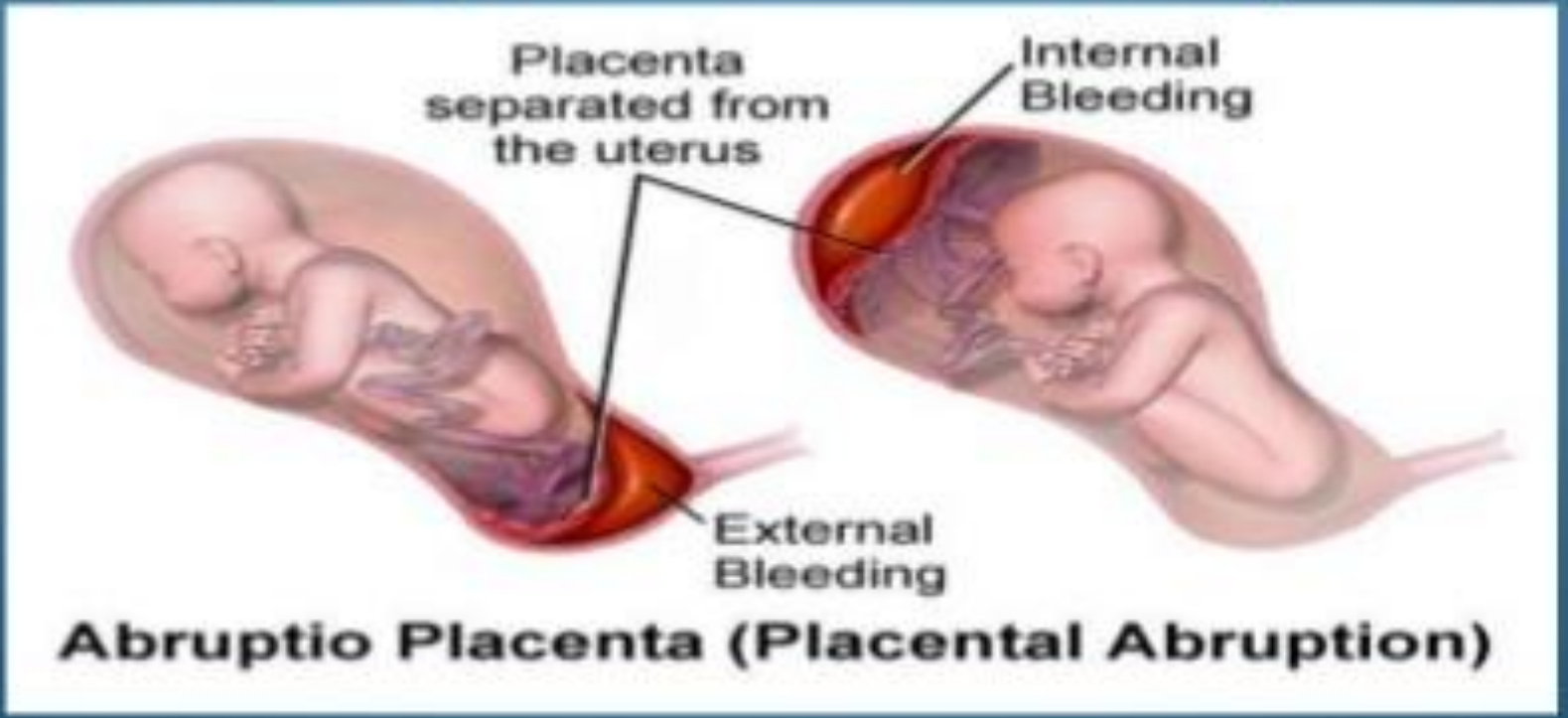
- Hemorrhage, including rebleeding & PPH
- Higher rates of blood transfusion
- Preterm delivery
- Increased incidence of postpartum endometritis
- Mortality rate (2-3%)

Complications of placenta previa in the neonate/infants

- Congenital malformations
- Fetal intrauterine growth retardation (IUGR)
- Fetal anemia and Rh isoimmunization
- Abnormal fetal presentation
- Low birth weight (< 2500 g)
- Neonatal respiratory distress syndrome **RDS**
- Admission to the neonatal intensive care unit (NICU)
- Increased risk for neurodevelopmental delay and **SIDS**

Abruptio Placenta

- Is the early separation (premature separation) of a normally situated placenta. This condition usually occurs before delivery in which the bed of placenta will be turned or damaged leading to formation of retro-placental clot.



Causes of abruptio placenta(high risk group)

- **Hypertensive disorders**
- Folic acid deficiency
- Trauma
- Previous Hx of abruptio placenta
- Grand multiparity
- maternal age (>35 years or <20 years)
- Short umbilical cord
- Sudden decompression of the uterus
- Prolonged rupture of membranes (24 h or longer)
- Chorioamnionitis
- idiopathic

Classification of placental abruption

- Class 0 - Asymptomatic
- Class 1 - Mild (approximately **48%** of all cases)
- Class 2 - Moderate (approximately **27%** of all cases)
- Class 3 - Severe (approximately **24%** of all cases)

- **Class 1 characteristics include the following:**

  - No vaginal bleeding to mild vaginal bleeding
  - Slightly tender uterus
  - Normal maternal BP and heart rate
  - No coagulopathy
  - No fetal distress

- **Class 2 characteristics include the following:**

  - No VB to moderate VB
  - Moderate to severe uterine tenderness with possible contractions
  - Maternal tachycardia with orthostatic changes in BP and heart rate
  - Fetal distress
  - Hypofibrinogenemia (<250 mg/dL)

- **Class 3 characteristics include the following:**

- No vaginal bleeding to heavy vaginal bleeding
- Very painful tetanic uterus
- Maternal shock
- Hypofibrinogenemia (ie, < 150 mg/dL)
- Coagulopathy
- Fetal death

Presentation of abruptio palcenta:

1. **Revealed** type , bleeding can be seen through vagina

2. **Concealed** type blood is trapped in uterus & then it will invade myometrium in leading to condition called **(conulaire uterus).** In this condition uterus will be purple in color , if the full myometrium is involved with blood & it will be larger for date.

Presentation cont...

- Usually pt general condition does not correspond to the amount of bleeding .
- In moderate – sever cases of abruptio placenta, vital signs are usually deteriorated , there will be tachycardia , hypotensive attack , cold, thready pulse ,pt appear pale, dry mouth & tongue or decreased fetal movement may be the presenting complain, pt has sever abdominal pain.

On examination:

- Uterus is larger than date, tense , tender , fetal part can not be detected , & fetal heart is usually absent , we can not detect the fetal lie , there is muscle gardening & abdominal rigidity .
- Sometimes US is not so much helpful in detecting the retro-placental clot but can roll out placenta preavia, so pelvic examination can be performed here to assess the cervical condition & weather the pt is in labor or not .

Mangment of pt with abruption placenta

- Close observation of the patient
- Administer supplemental oxygen
- Continuous fetal monitoring
- Obtain intravenous access using 2 large-bore cannula
- Administer IV fluids,perform aggressive fluid resuscitation to maintain adequate perfusion, if needed
- Monitor vital signs and urine output
- Assessment of (blood profile) are mandatory to see any coagulation defect.

Mangment Cont…

- Blood type and crossmatch, Prepare at least 4-6 pines of blood for pt.
- Perform amniotomy to decrease intrauterine pressure, extravasation of blood into the myometrium, and entry of thromboplastic substances into the circulation
- Immediately deliver the fetus by cesarean delivery if the mother or fetus becomes unstable
- Administer Rh immune globulin if the patient is Rh-negative.
- Treatment of coagulopathy or DIC may be necessary

- Usually pt at time of presentation may have 50 % of prenatal mortality (dead fetus) (aim here to have vaginal delivery to escape in unstable , hematological condition of pt,rupture of membrane & oxytocin derivatives & bd. Transfusion & most of pt will have vaginal delivery

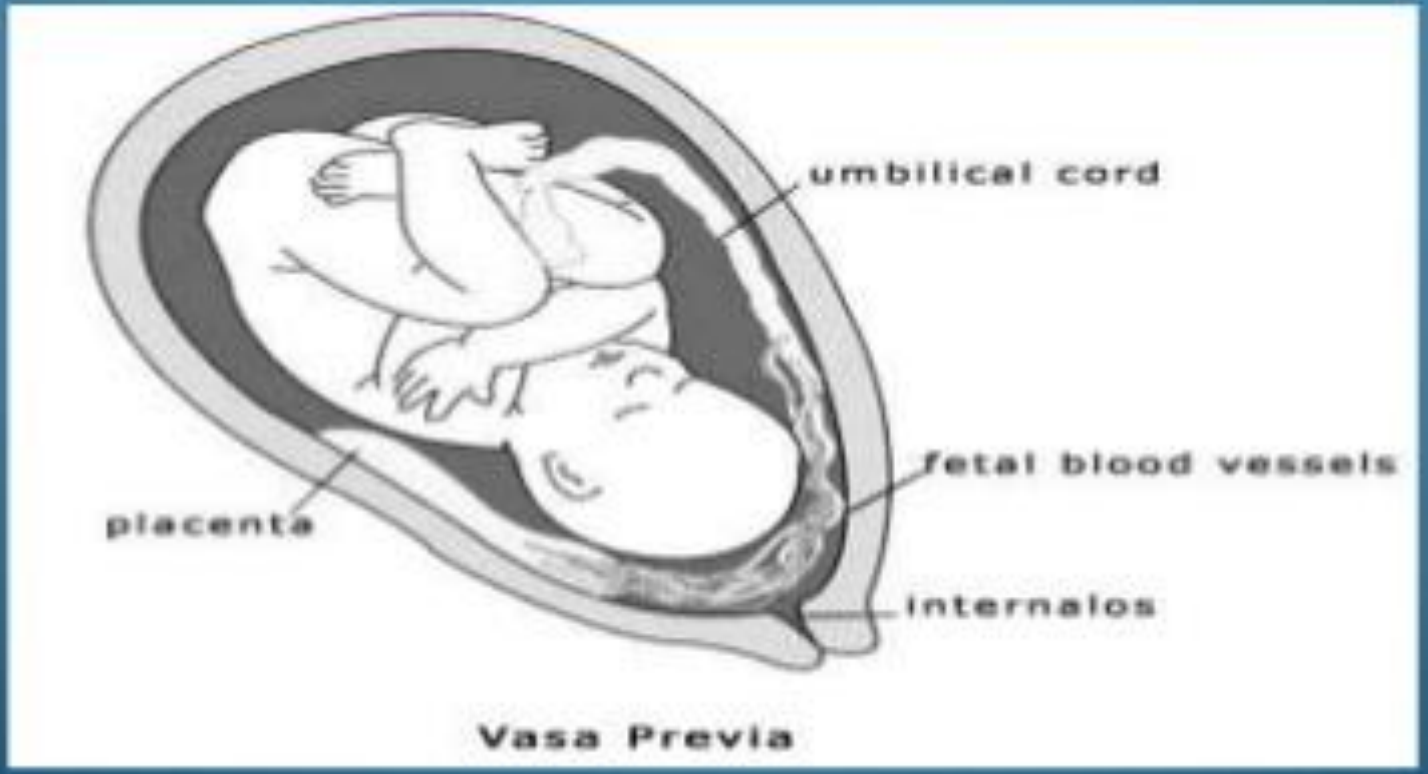
Caesarian section is indicated in:

1. If there is obstetrical problem like abnormal lie or cephalopelvicdisproportion .
2. Uncontrollable bleeding
3. If the fetus is alive & there is a chance of saving him \her.

	PLACENTA PREVIA	ABRUPTIO PLACENTAE
Clinical features • nature of bleeding • character of blood • general condition and anemia • features of pre-eclempsia •Bleeding (duration)	• painless -causeless and recurrent, always revealed •bright red • proportionate to visible blood loss ------- Often ceases within 1-2 hr	• painful, cont. revealed/concealed •dark coloured • out of proportion in concealed or mixed • present in one third cases Continuous
Abdominal examination • height of the uterus • feel of uterus • malpresentation • FHS •DIC •Associated history	• proportionate • soft and relaxed • common, head is high floating •Present •Normal •rare	• disproportionate(conceled) • tense, tender and rigid ---------- • absent in concealed. TC then BC, Loss of variability,Decelerations, IUFD Severe •Trauma, hypertension Multiple gestation Polyhydramnios
Placentography US	placenta in lower segment	Placenta in upper segment
Vaginal examination	Placenta felt on the lower segment	Placenta not felt

Vasa Previa

- is a condition in which blood vessels cross or run near the internal os of the birth canal,these vessels are at risk of rupture when the supporting membranes rupture, as they are unsupported by the umblical cord or placental tissue.



- Bleeding here is from **fetal site** in which there is a damage to the cord from fetal site rather than maternal site

- This condition usually occurs when cord is inserted eccentric toward the placenta

- Usually there is an antepartum bleeding affecting fetus & fetus have tachycardia & there will be loss of fetal varrbility& the bradycardia & there is birth asphyxia.

Risk Factors

- low-lying placenta (due to scarring of the uterus by a previous miscarriage or a D&C)
- an unusually formed placenta (a bilobed placenta or succenturiate-lobed placenta)
- an in-vitro fertilization pregnancy
- multiple pregnancies (twins, triplets, etc)

Clinical presentation

- When performing a third trimester ultrasound on a woman with a suspected placenta praevia, it is recommended that colour Doppler imaging is also performed specifically to detect the presence of fetal vessels.

- Vasa praevia will rarely present with an “antepartum” haemorrhage. Detection is more likely on vaginal examination with palpation of fetal vessel, vaginal bleeding at amniotomy or sudden severe abnormalities of the fetal heart rate in labour are more usual presentations,

Mangment

- Antenatal diagnosis and prompt neonatal resuscitation have shown to improve outcomes and the safest form of delivery is caesarean section, prior to the onset of labour.

- Due to the **high rate of fetal mortality**, it has been recommended that delivery be considered by **35-36** weeks.

Incidental causes

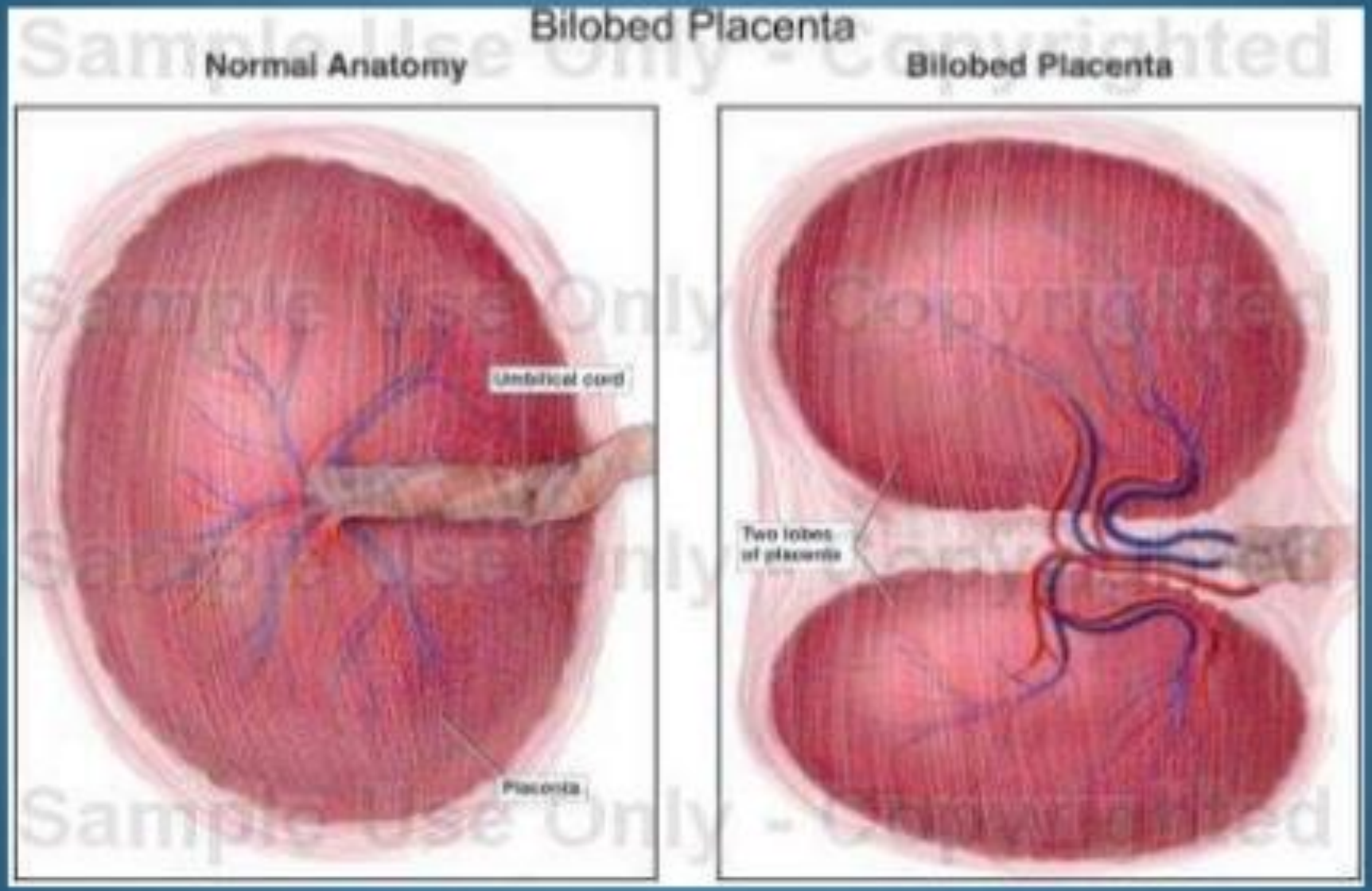
- is bleeding which appears from the genital tract but not from the site of the placenta or its implantation. Such haemorrhage may produce from injury, infection, ulcers on the neck of the womb, polyps or, most normally, the onset of labor

Placental variation as a cause of APH

- Bilobed placenta
- Succenturiate lobe
- Placenta membranacea
- Circumvallate placenta

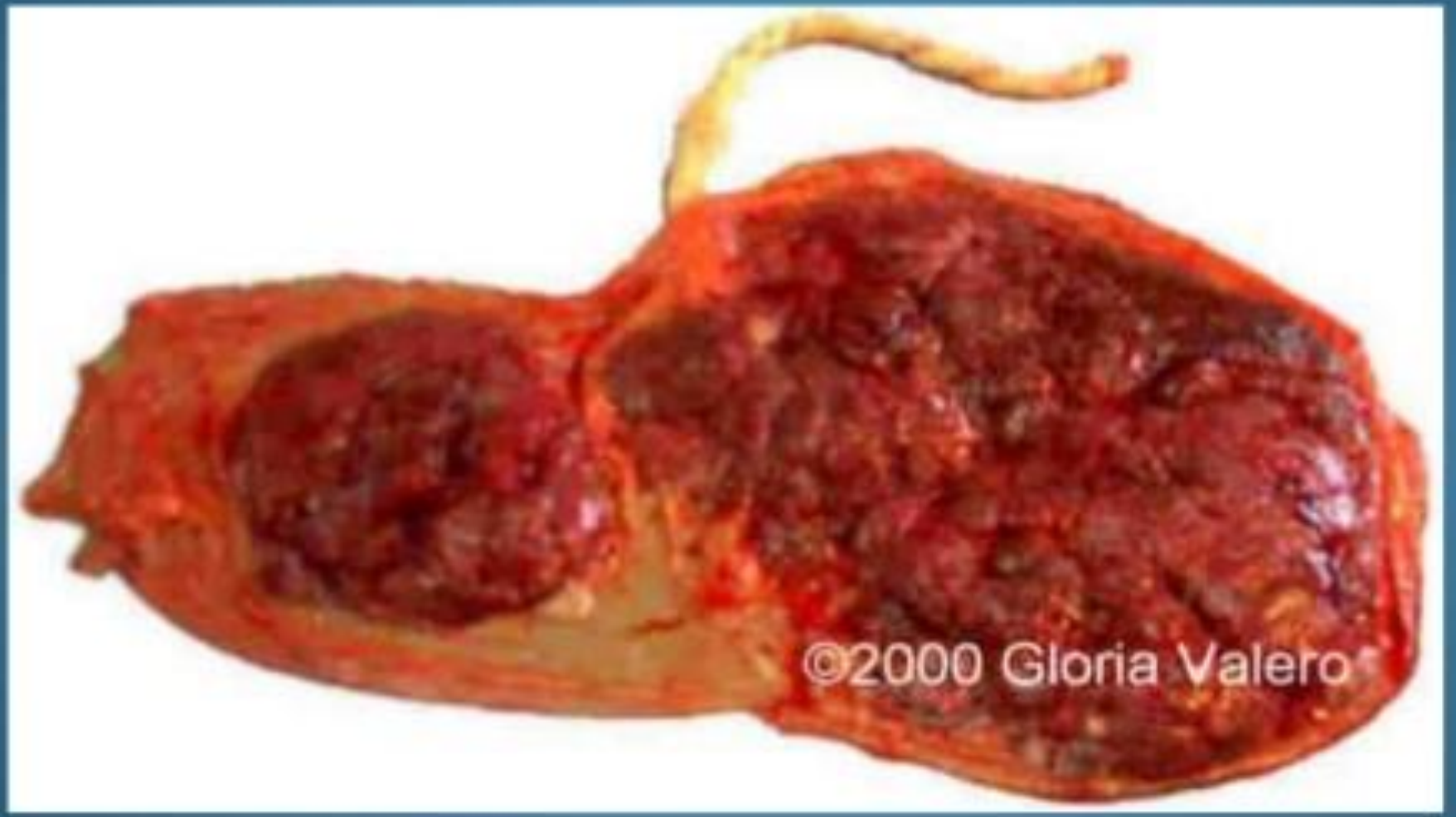
Bilobed placenta

- is a variation in placental morphology and refers a placenta separated into two **near equal** lobes. If more than two lobes are present, it is termed a trilobed, four-lobed and so on.
- The estimated incidence is at up to **~4%** of pregnancies.
- it carries an increased incidence of **vasa previa**
- it may increase the incidence of postpartum haemorrhage due to retained placental tissue


Bilobed Placenta
Normal Anatomy
Bilobed Placenta
umbilical cord
Placenta
Two lobes of placenta

Succenturiate lobe

- is a variation in placental morphology and refers to a smaller accessory placental lobe that is separate to the main disc of the placenta. There can be more than one succenturiate lobe.
- The estimated incidence is ~2 per 1000 pregnancies.
- increased incidence of **vasa previa**
- increased incidence of postpartum haemorrhage due to retained placental tissue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Placenta membranacea

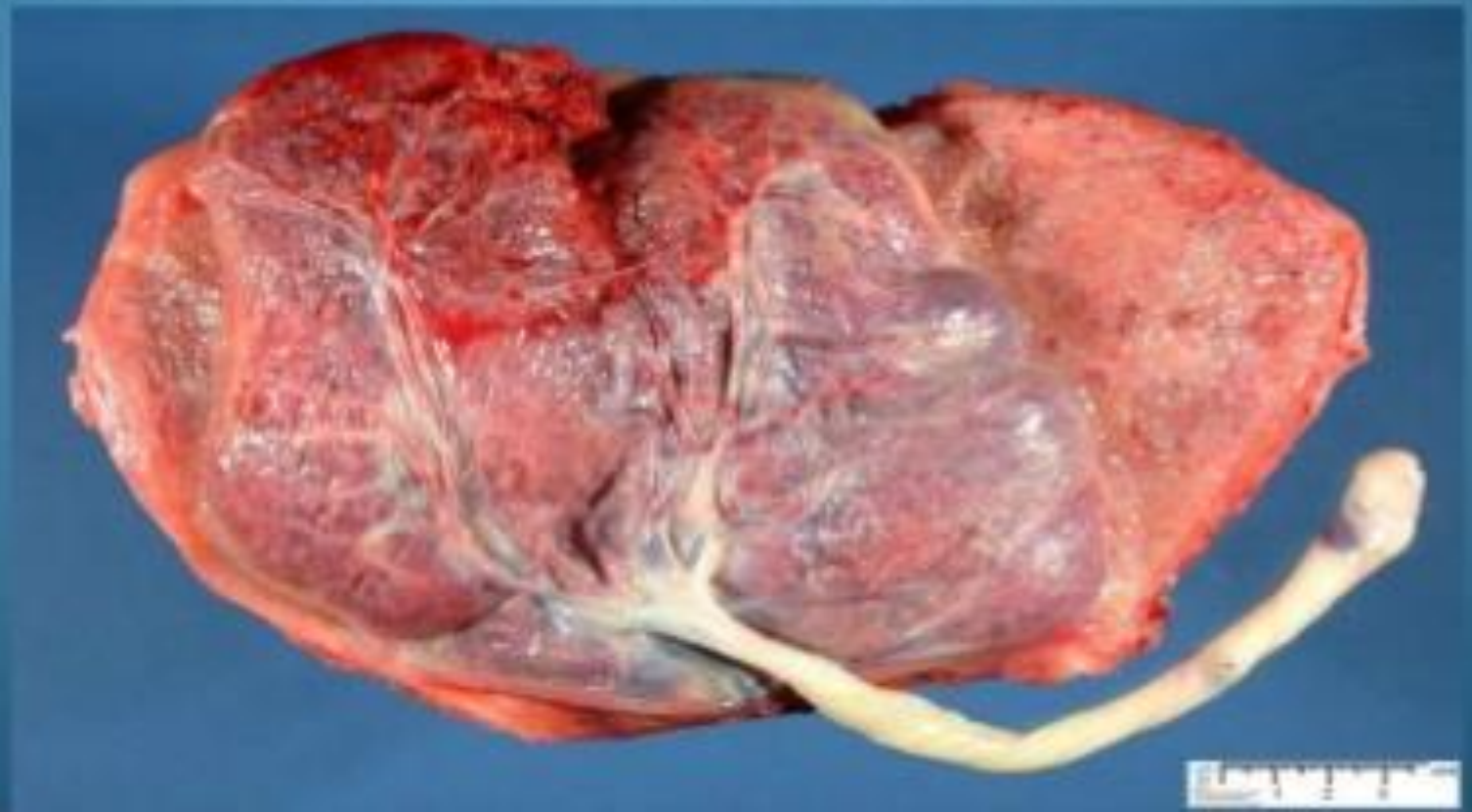
- also known as a **placenta diffusa**, is an extremely uncommon variation in placental morphology in which placenta develops as a thin membranous structure occupying the entire periphery of the chorion.
- The estimated incidence is ~ 1:20000-40000 pregnancies

Complications

- accompanying **placenta previa**
- recurrent APH
- IUGR
- second trimester miscarriages
- Fetal death
- postpartum complications
  - PPH
  - retained placental tissue post delivery

Circumvallate placenta

- refers to a variation in placental morphology in which,as a result of a small chorionic plate, the amnion and chorion fetal membranes ‘double back’ around the edge of the placenta
- The prevalance is estimated to be at around 1-7%



Complication

- higher incidence of **placental abruption**
- increased risk of IUGR

UTERINE RUPTURE

- spontaneous complete transection of the uterus from the endometrium to the serosa
- *Most cases of uterine rupture occur at the site of a prior cesarean delivery.*
- **partial rupture/uterine dehiscence**
  → If the peritoneum remains intact
- With complete rupture and fetal expulsion into the abdomen, fetal mortality ranges from 50% to 75%.
- Fetal survival depends in large part on whether a substantial portion of the placenta remains attached to the uterine wall until delivery is accomplished.
- Cesarean delivery is imperative to ensure neonatal survival and decrease maternal morbidity