Obstetrics & Gynecology
TEAM

Ante Partum Haemorrhage

Leader: Sara Alhaddab

Done By: Alanood Asiri

◆very important ◆mentioned by doctor ◆team notes ◆not important

Ante Partum Haemorrhage (APH):

- Affects 3-5 % of pregnancies.
- Bleeding from or into the genital tract.
- Occurring from 20 weeks of pregnancy and prior to the birth of the baby.

Bleeding in early pregnancy (first 20 weeks of gestation) causes:
- Miscarriage
- Ectopic pregnancy
- Molar pregnancy
- Local causes: tumor, trauma etc.

Landmark of fetal viability is 20 weeks.

Causes:

- Placenta previa.
- Placenta abruption.
- Local causes (cervical or vaginal lesions, lacerations). Trauma, tumor and infections.
- Unexplained (SGA, IUGR). SGA: small for gestational age.
- Vasa previa.
- Uterine rupture.

- APH is the leading cause of prenatal and maternal morbidity and prenatal mortality (mainly prematurity).
- Obstetrics hemorrhage remains one of the major causes of maternal death in the developing countries.

BOX 10-1
Causes of Antepartum Bleeding.

Common

Placenta previa
Abruptio placentaePreterm labor

Uncommon

Uterine rupture
Fetal (chorionic) vessel rupture
Cervical or vaginal lacerations
Cervical or vaginal lesions, including cancer
Congenital bleeding disorder
Unknown (by exclusion of the above)

Source: Essentials of Obstetrics and Gynecology.

Management:

In the hospital maternity unit with facilities for resuscitation such as:

- Anesthetic support.
- Blood transfusion resources.
- Performing emergency operative delivery.
- Multidisciplinary team including (midwifery, obstetric staff, neonatal and anesthetic).

Investigations:

- Tests if suspecting vasa previa are often not applicable
- Tocolysis: shouldn't be used in:
  - Unstable patient.
  - Fetal compromise.
  - Major APH.

  It's a decision of a senior obstetrician.
  Senior (consultant) anesthetic care needed in high-risk hemorrhage.
- Risk of PPH: patient should receive active management of 3rd stage of labor using syntometrine (in absence of high BP). Syntometrine → active uterine contraction after delivery to prevent PPH.
- AntiD Ig should be given to all non sensitized RH –ve if the have APH, at least 500 IU AntiD Ig followed by a test of FMH if it is more than 40 ml of RBC additional AntiD required. AntiD Ig should be given at minimum of 6 weeks intervals.
- Vaginal speculum examination should be done to rule out local causes. (e.g: polyps)

Vasa previa:

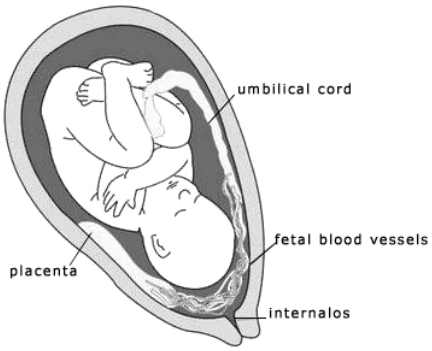
- 1:2000.
- Rare but very serious cause of vaginal bleeding.
- Bleeding is fetal in origin associated with velamentous cord insertion where fetal blood vessels in the membranes cross the cervix.
- Rupture of membranes can lead to tearing of fetal B.V with exsanguination of the fetus.

Diagnosis by color flow Doppler ultrasound.

* The term velamentous insertion is used to describe the condition in which the umbilical cord inserts on the chorioamniotic membranes rather than on the placental mass.
*B.V: blood vessels.
* Exsanguination is the process of blood loss, to a degree sufficient to cause death.

Risk factors: all are important.

- Velamentous insertion.
- Bi-lobed or succenturiate lobed placenta.
- Multiple pregnancies.
- Low-lying placenta.
- IVF pregnancy.



Vasa Previa

Placenta Abruption (abruptio placentae):

- **Definition:** bleeding at the decidual-placental interface that causes partial or total placental detachment (by forming a decidual hematoma) prior to delivery of the fetus over 20 weeks of gestation. (It is called a miscarriage if it is before 20 weeks.)
- **Types:** Concealed and revealed hemorrhage. Blood may either dissect upward toward the fundus, resulting in a concealed hemorrhage, or extend downward toward the cervix, resulting in an external or revealed hemorrhage. (Source: Essentials of Obstetrics and Gynecology)

Incidence:

- 0.4%-1% of pregnancies.
- 40-70% occurs before 37 weeks.
- It is a significant cause of maternal morbidity and perinatal morbidity and mortality (PN mortality: 12% and 77% occurs in utero) (PNM: perinatal mortality).
- PNM Rate: the number of stillbirths and deaths in the first week of life per 1000 live birth.

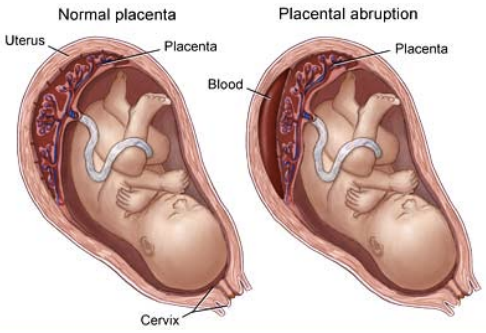
Risk factors: all are important.

- Abdominal trauma and accidents.
- Cocaine or other drug abuse.
- Poly hydramnios.
- Hypertensive disease during pregnancy.
- Premature rupture of membranes.
- Chorioamnionitis, IUGR.
- Previous abruptio.
- With increasing age, parity and smoking.
- Uterine anomalies, leiomyoma, uterine synchiae.
- First trimester bleeding.

The diagnosis of Placenta Abruption is made **clinically.**
Suspect this diagnosis if a patient presents with **painful vaginal bleeding** in association with **uterine tenderness, hyperactivity, and increased tone**. Rigid.
- US can only detect 2% of Placenta Abruption but we still use US to **exclude co-existing Placenta Previa.**
- The use of **tocolytics or uterine relaxants is not advised**. Uterine tone must be maintained to control bleeding following delivery, or at least to control the bleeding sufficiently to allow a safe hysterectomy to be performed, if necessary.
Source: Essentials of Obstetrics and Gynecology.

Clinical presentation:

- Vaginal bleeding (mild, moderate or severe). Most common finding (80%).
- Abdominal pain or back pain (if posterior placenta).
- DIC occurs in 10-20% of severe abruption and death of fetus (severe if placenta separate >50%).
  - BP, FH abnormalities or death.
  - Tender or rigid or firm abdomen (woody feel).
  - Hypertonic uterine contractions.
  - DIC. Placenta Abruption is the most common cause of DIC in pregnancy.
  - Hypovolemic shock, renal failure, ARDS multi-organ failure.
  - Blood transfusion, rarely death.



Fetal & neonatal outcome:

- Increased mortality and morbidity due to asphyxia, IUGR and preterm delivery.

Recurrence:

Several-fold higher risk of abruption in subsequent pregnancy: 5-15%.
Risk of third rises: 20-25%.

Suspecting abruptio, severe pain, dead fetus in utero with no bleeding → think of DIC

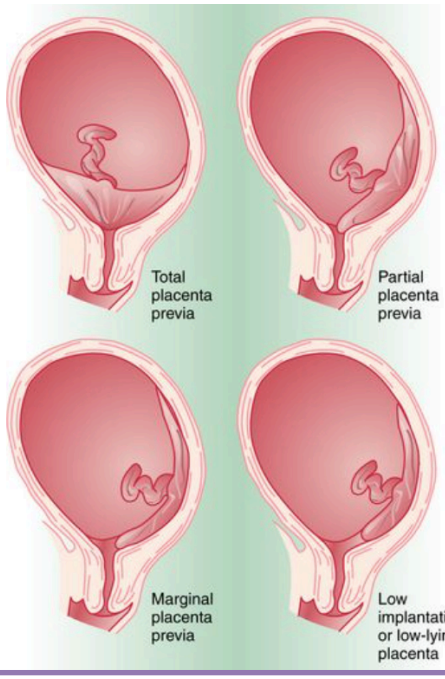
Chronic abruption:

Light, chronic, intermittent bleeding, oligohydroamnious, IUGR, pre-eclampsia and preterm rupture of membrane.
Coagulation studies usually normal.

Placenta previa:

Definition: the presence of placental tissue that extends over or lies proximate to the internal cervical os (I.O). (Beyond 20 weeks of gestation).
Degrees:

i. Total or complete placenta previa: the placenta completely covers the I.O.
ii. Partial previa: the placenta partially covers the I.O.
iii. Marginal previa: the edge of the placenta extends to the margin of the I.O.
iv. Low-lying placenta: placental margin is within 2cm of I.O.



Presentation:

Painless, recurrent vaginal bleeding in 70-80%.
Uterine contractions in 10-20%.
Prevalence: 3.5-4.6/1000 births.
Recurrence: 4-8%.

Risk factors:

- Previous c/s, placenta previa.
- Multiple gestation, multiparity, advanced maternal age.
- Infertility treatment, previous abortion.
- Previous intrauterine surgical procedures. Site for abnormal zygote implantation.
- Maternal smoking, cocaine use.
- Non-white race, male fetus.

Associated Conditions:

Placenta accreta: complicated 1-5% patients with placenta previa. Doctor said you need to memorize these numbers.

- If previous c/s: 11-25%.
- Two c/s: 35-47%.
- Three c/s: 40%.
- Four c/s: 50-67%.

Preterm labor, rupture of membrane, mal presentation, IUGR, vasa previa, congenital anomalies, amniotic fluid embolism.

- Predisposing factors to Placenta Previa:
  1. Multiparity.
  2. Increasing maternal age.
  3. **Prior Placenta Previa**.
  4. Multiple gestations.

- **Transvaginal US** can accurately diagnose placenta previa in virtually all cases.
- Placenta Previa predisposes to preterm delivery, which poses the greatest risks to the fetus.

- Placenta Accerta: implies an abnormal attachment of the placenta through the uterine **myometrium** as a result of defective decidual formation (absent Nitabuch's layer).
- Superficial (accreta), or the placental villi may invade partially through the myometrium (increta) or extend to the uterine serosa (percreta).
- Those with a prior c-section have a 25% risk of having Placenta Accerta.

Source: essentials of Obstetrics and Gynecology.

Diagnosis:

Soft abdomen, normal fetal heart, mal presentation. Unlike abruptio.
Avoid vaginal, rectal examination or sexual intercourse. May cause severe bleeding.
Investigation:

- Abdominal u/s: false +ve 25% due to over distended bladder or uterine contractions, or can be missed if fetal head is low in pelvis.
- Transvaginal u/s: (if diagnosis by abdominal u/s not certain), or trans perineal u/s.
- MRI: High cost.

Any pregnant woman who comes with vaginal bleeding has to have an US to rule out Placenta Previa.

Consent for hysterectomy should be ready early.

Management:

Treatment depends on gestational age, amount of vaginal bleeding, maternal status and fetal condition.
Expectant management:

- If fetus is preterm less than 37 weeks:
  - Hospitalization.
  - Investigations (CBC, RFT, LFT, coagulation factors, blood grouping and RH).
    - Steroids (between 24-34 weeks gestation). Give dexamethasone for lung maturity.
    - AntiD Ig if the mother is RH negative.
  - Cross match blood and blood products. At least 4 units.
  - CTG.
- Elective c/s: if fetus more than 37 weeks.
- Emergency c/s: if severe bleeding or fetal distress.

Morbidity and Mortality:

- Hemorrhage.
- Hypovolemic shock (renal failure, Sheehan's Syndrome, death).
- Blood transfusion risk.
- Hysterectomy, uterine/iliac artery ligation or embolization of pelvic vessels.
- Increase mmR. Maternal Mortality Rate.
- Increase neonatal morbidity.

Summary:

Ante Partum Haemorrhage

- Occurring from 20 weeks of pregnancy and prior to the birth of the baby.
- APH is the leading cause of prenatal and maternal morbidity and prenatal mortality (mainly prematurity).

Causes:
- Placenta previa.
- Placenta abruption.
- Local causes (cervical or vaginal lesions, lacerations). Trauma, tumor and infections.
- Unexplained (SGA, IUGR). SGA: small for gestational age.
- Vasa previa.
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- APH has a risk of PPH: patient should receive active management of 3rd stage of labor using syntometrine (in absence of high BP). Syntometrine → active uterine contraction after delivery to prevent PPH.
- AntiD Ig should be given to all non sensitized RH –ve if the have APH, at least 500 IU AntiD Ig followed by a test of FMH if it is more than 40 ml of RBC additional AntiD required. AntiD Ig should be given at minimum of 6 weeks intervals.
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	Placenta accreta: complicated 1-5% patients with placenta previa. If previous c/s: 11-25%. Two c/s: 35-47%. Three c/s: 40%. Four c/s: 50-67%. Can cause: preterm labor, rupture of membrane, mal presentation, IUGR, vasa previa, congenital anomalies, amniotic fluid embolism.
Risk factors: - Abdominal trauma and accidents. - Cocaine or other drug abuse. - Poly hydramnios. - Hypertensive disease during pregnancy. - Premature rupture of membranes. - Chorioamnionitis, IUGR. - Previous abruptio. - With increasing age, parity and smoking. - Uterine anomalies, leiomyoma, uterine synchiae. - First trimester bleeding.	**Risk factors:** - Previous c/s, placenta previa. - Multiple gestation, multiparity, advanced maternal age. - Infertility treatment, previous abortion. - Previous intrauterine surgical procedures. Site for abnormal zygote implantation. - Maternal smoking, cocaine use. - Non-white race, male fetus.
Presentation: Suspect this diagnosis if a patient presents with painful vaginal bleeding in association with uterine tenderness, hyperactivity, and increased tone. Rigid. **Diagnosis:** is made clinically. - US can only detect 2% of Placenta Abruption but we still use US to exclude co-existing Placenta Previa.	**Presentation:** Painless, recurrent vaginal bleeding **Diagnosis:** Soft abdomen, normal fetal heart, mal presentation. Unlike abruptio. Avoid vaginal, rectal examination or sexual intercourse. May cause severe bleeding. **Investigation:** Transvaginal US is the gold standard. **Management:** ◆ If fetus is preterm less than 37 weeks: - Hospitalization. - Investigations (CBC, RFT, LFT, coagulation factors, blood grouping and RH). -Steroids (between 24-34 weeks gestation). Give dexamethasone for lung maturity. -AntiD Ig if the mother is RH negative. - Cross match blood and blood products. At least 4 units. - CTG. ◆ Elective c/s: if fetus more than 37 weeks. ◆ Emergency c/s: if severe bleeding or fetal distress.