Abruptio placentae
( Accidental haemorrhage)
Definition:
Separation of the placenta from its normal implantation site (upper segment) after the gestational age of viability and before delivery of the fetus.

Incidence:
1% of all pregnancies with variability amongst different etiological factor.
Aetiology:

Toxaemic:

-25% of cases.

-caused by PET, eclampsia & chronic hypertension.

- the commonest cause of severe abruption, particularly in primigravida.
B- **Non Toxaemic**: usually with mild abruption.
1- **External trauma** e.g. external version
2- **Sudden decompression:**
   - polyhydramnios
   - Sudden escape of large amount of A.F.
3- Smoking, cocaine abuse or alcohol consumption.
4- Previous history of abruption: *once: 17%  
   *twice: 25%*
5- Controversial factors:
   - Short cord  
   - advancing age
   - Nutritional deficiency: folic acid, Vit. C, K, E
   - I.V.C. compression (by gravid uterus).
Pathology of toxaemic type:

A - **Hypertensive conditions** →

1- **decidual arteriolar spasm** & degeneration → rupture → **intradecidual hemorrhage.** → placental separation with retroplacental hematoma.

2- **myometrial arteriolar spasm** and rupture → inter myometrial bleeding. The blood may reach beneath the peritoneum producing areas of echymosis and cyanosis & may fissure it (uteroplacental apoplexy, couvelaire's uterus) this results in poor contractility of the uterus.
B-DIC: is initiated by:
1-Consumption of coagulation factors.
2-Locally produced thromboplastin like substances
3-Liver affection by hypertensive states → ↓fibrinogen formation.
C-Renal pathology:
-tubular necrosis (reversible) or cortical necrosis (irreversible) due to:
* renal vessels spasm due to:
  - shock
  - Uterine distension.
*renal pathology 2ry to hypertensive states.

D- _Anterior pituitary necrosis_: → Sheehan syndrome.
# Grades of accidental hemorrhage

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Hemorrhage</td>
<td>No</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Hematoma volume</td>
<td>±150 ml</td>
<td>150-500ml</td>
<td>&gt;500 ml</td>
</tr>
<tr>
<td>Fetus</td>
<td>Living</td>
<td>Distressed</td>
<td>Dead</td>
</tr>
<tr>
<td>Placental separation</td>
<td>&lt;25%</td>
<td>25-50%</td>
<td>&gt;50%</td>
</tr>
<tr>
<td>DIC</td>
<td>No</td>
<td>No</td>
<td>May occur</td>
</tr>
</tbody>
</table>
Complications:
- acute renal failure
- DIC
- Post partum haemorrhage
- Air embolism
- Massive fetomaternal transfusion with Rh-ve
- Failure of lactation
Clinical Types:
Clinical Types:

Concealed: retained hemorrhage due to:
- Uterine atony
- Abnormal peripheral placental adhesion
- Abnormal adhesions of the membranes at the internal os.
- Passage of blood into the amniotic sac.

Revealed: external haemorrhage.

Mixed: revealed ± concealed.
Diagnosis:
A- Symptoms:
1- Vaginal bleeding – usually dark blood
   - usually not severe
   - in 78% of cases.
   - with revealed or mixed type
2- Severe abdominal pain, with back pain
   and associating fainting:
   - in 66% of cases
   - in concealed or mixed type.
3- History of an etiological factor e.g. P.E.T.
B-Signs:

*General:

1- *Shock*: Proportionate to the amount of blood loss (whether concealed or revealed),

However:

- **B.P.** may be normal if this occurred on top of hypertensive states or may be subnormal if not caused by ↑ B.P.

- **Pulse**: may be weak, rapid on hypotension

- **Temperature**: subnormal.

2- *Edema* of the lower limbs: if caused by PE.T.
<table>
<thead>
<tr>
<th>Abdominal Signs</th>
<th>Concealed</th>
<th>Revealed</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Fundal level</td>
<td>Increasing</td>
<td>Stable</td>
</tr>
<tr>
<td>-Consistency</td>
<td>Hard &amp; tender</td>
<td>Normal</td>
</tr>
<tr>
<td>-Fetal parts</td>
<td>Can not be felt</td>
<td>Easily felt</td>
</tr>
<tr>
<td>-F.H.S.</td>
<td>Not audible</td>
<td>Audible</td>
</tr>
</tbody>
</table>
Vaginal:
*bleeding:
- Concealed: no bleeding
- Revealed & mixed: dark clotted blood.
*PV (after-exclusion of placenta praevia by u/s): the patient should be examined vaginally for the condition of the cervix.
*Investigations:*

A-U/S:
- Confirm the placental site (upper segment)
- Detect retro placental hematoma & its size.
- Fetal condition (living or dead)
- Fetal presentation and position
B-Tests of hemostasis:
   1- Coagulation tests
   2- tests of fibrinolytic activity
   3- tests of platelets functions
C-Intensive maternal evaluation:
blood samples for
   1- Hb% & cell count (platelets)
   2- Renal function tests
   3- Electrolytes
   4- Blood sugar
   5- Group & cross matching
   6- Liver function tests
• D.D.
Concealed:
1- rupture uterus
2- Tetanic uterine contractions

Revealed:
1- placenta praevia
2- Local causes
Treatment: Depends up on the severity:

A- Sever abruption with fetal death:
   1- Maternal intensive monitoring
   2- Replacement therapy:
      - Fluids
      - Blood
   3- Treatment of oliguria
   4- Treatment of coagulopathy
   5- Termination: better vaginally
B-Living fetus:
- Rigid uterus:
  * No DIC $\rightarrow$ C.S.
  * DIC (very rare situation): Correction
- Soft uterus:
  * oxytocin induction under monitoring:
    - Fetal distress
    - No fetal distress $\rightarrow$ vaginal delivery
Outcome:
Maternal:
- mortality: can be prevented with modern and rapid management
- morbidities: still present as:
  - Renal failure
  - Sheehan's syndrome
  - Anemia
  - Sepsis
- Recurrence: – 17% after once
  - 25% after twice
- Spontaneous abortion in the subsequent pregnancies
Fetal:
- High mortality in 25-35% of cases.
- High morbidities
  1- prematurity.
  2- Asphyxia.
  3- Neonatal DIC.
  4- Neonatal shock.