BLEEDING IN EARLY PREGNANCY/ABORTIONS

429 OB/GYN TEAM NOTES

RESOURCES:
- OB/GYN team 428
- Dr. Johara Al-Mutawa's slides

PREPARED BY: Dina Al-Kuhaimi
ABORTION/MISCARRIAGE

DEFINITION:

- Any fetal loss from conception until the time of fetal viability at 24 weeks gestation.

OR:

- Expulsion of a fetus or an embryo weighing 500 gm or less.

INCIDENCE:

- 15 - 20% of pregnancies total reproductive losses are much higher if one considers losses that occur prior to clinical recognition.

In other words, about 15% of clinically recognized pregnancies end in abortion.

CLASSIFICATION:

1. Spontaneous: Occurs without medical or mechanical means.
2. Induced abortion.

PATHOLOGY:

Haemorrhage into the decidua basalis → Necrotic changes in the tissue adjacent to the bleeding → Detachment of the conceptus =

This will stimulate uterine contractions resulting in expulsion.

CAUSES:

1. Maternal factors.
   a. General.
   b. Local.
2. Fetal factors.

MATERNAL FACTORS
GENERAL

1. **Immunological:**
   a. Alloimmune response: Failure of a normal immune response in the mother to accept the fetus for a duration of a normal pregnancy.
   
   b. Autoimmune disease: Antiphospholipid antibodies especially lupus anticoagulant (LA) and anticardiolipin antibodies (ACL).

2. **Endocrine:**
   a. Poorly controlled diabetes (type 1/type 2).
   
   b. Hypothyroidism and hyperthyroidism.
   
   c. Luteal Phase Defect (LPD): A situation in which the endometrium is poorly or improperly hormonally prepared for implantation and is therefore inhospitable for implantation.

3. **Infections (maternal/fetal):**
   a. TORCH infections.
   b. Ureaplasma urealyticum.
   c. Listeria.

TORCH infections: A medical acronym for a set of perinatal infections (i.e. infections that are passed from a pregnant woman to her fetus).

T – Toxoplasmosis / Toxoplasma gondii
O – Other infections (Coxsackievirus, Syphilis, Varicella-Zoster Virus, HIV, Parvovirus B19, and Hepatitis B)
R – Rubella
C – Cytomegalovirus
H – Herpes simplex virus-2

4. **Environmental toxins:**
   a. Alcohol.
   b. Smoking.
   c. Drug abuse.
   d. Ionizing radiation.

There is very little evidence that a sudden physical or emotional shock can cause pregnancy loss, but psychodynamic factors may contribute to recurrent abortions in a few cases.
**LOCAL**

**Uterine abnormality:**

2. Fibroids (Submucus):
   a. Disruption of implantation and development of the fetal blood supply.
   b. Rapid growth and degeneration with release of cytokines.
   c. Occupation of space for the fetus to grow.

Also polyps > 2 cm diameter can cause abortion.


**Cervical incompetence:**

- Best diagnosed by Hx.
- Can occur in patient with history of cone biopsy.
- Typically causes painless abortions.
- May lead to premature rupture of the membrane.
- Treated by cervical cerclage, which is best performed early in the 2nd trimester.

**FETAL CAUSES**

**Chromosome abnormality:**

- Most common etiology of 1st trimester abortion.
- 50% of spontaneous losses are associated with fetal chromosome abnormalities.
  a. Autosomal trisomy (nondisjunction/balanced translocation):
     - It is the single largest category of abnormality and recurrence.
  
  b. Monosomy (45, X; Turner Syndrome):
     - Occurs in 7% of spontaneous abortions.
     - It is caused by loss of the paternal sex chromosome.

  c. Triploids:
     - Found in 8 to 9% of spontaneous abortions.
     - It is the consequence of either dispermy or failure of extrusion of the second polar body.
## TYPES OF ABORTIONS

<table>
<thead>
<tr>
<th></th>
<th>Threatened Abortion</th>
<th>Inevitable Abortion</th>
<th>Incomplete Abortion</th>
<th>Complete Abortion</th>
<th>Missed Abortion</th>
<th>Septic Abortion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>The term threatened abortion is used when pregnancy is complicated by vaginal bleeding before the 20th week.</td>
<td>Partial expulsion of products.</td>
<td>Expulsion of all products of conception.</td>
<td>The term missed abortion is used when the fetus has died but is retained in the uterus, usually for more than 6 weeks.</td>
<td>Any type of abortion, which is complicated by infection.</td>
<td></td>
</tr>
</tbody>
</table>
| **Clinical Finding**  | Hx:  
1. Short period of amenorrhea.  
2. Mild vaginal bleeding (Spotting).  
Ex: 1. The cervix is closed.  
2. The uterus is usually correct size for date (Corresponding to the duration). | Hx:  
1. Short period of amenorrhea.  
2. Heavy bleeding accompanied with clots (may lead to shock).  
3. Severe cramp-like lower abdominal pain.  
4. With NO passage of products of conception.  
Ex: The cervix is opened. | Hx:  
1. Bleeding and colicky pain continue.  
2. With passage of products of conception.  
Ex: 1. The cervix closes gradually.  
2. The uterus is smaller than the period of amenorrhea would suggest. | Hx:  
1. Gradual disappearance of pregnancy symptoms & signs.  
2. Brownish vaginal discharge.  
3. Milk secretion.  
**Complications**  
1. Infection (Septic abortion).  
2. DIC. | Hx:  
1. Severe vaginal bleeding.  
2. With passage of products of conception.  
3. Pelvic infection: Pyrexia, tachycardia, lower abdominal pain, pelvic tenderness, general malaise, purulent vaginal discharge. |
<p>| <strong>Pregnancy Test</strong>    | (hCG): +ve. | (hCG): +ve. |                     |                     | -ve but it may be +ve for 3-4 weeks after the death of the fetus. |                     |</p>
<table>
<thead>
<tr>
<th>U/S</th>
<th>Which is essential for the diagnosis. Showed the presence of fetal heart activity (viable intra uterine fetus).</th>
<th>Non-viable fetus and blood inside the uterus.</th>
<th>Retained products of conception.</th>
<th>Transvaginal: Showed empty uterine cavity.</th>
<th>Absent fetal heart pulsations.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1- Repeated U/S.</td>
<td>1- CBC, blood grouping, blood cross match.</td>
<td>Same as inevitable abortion.</td>
<td>1- CBC, blood grouping, blood cross match.</td>
<td>1- CBC, blood grouping, blood cross match.</td>
</tr>
<tr>
<td></td>
<td>2- Bed rest.</td>
<td>2- Resuscitation large IV line, fluids &amp; blood transfusion.</td>
<td></td>
<td>2- Coagulation profile: to exclude DIC.</td>
<td>2- Cervical swabs (not vaginal) for culture and antibiotic sensitivity.</td>
</tr>
<tr>
<td></td>
<td>3- Reassurance if fetal heart activity is present (&gt; 90% of cases will be progressed satisfactorily).</td>
<td>3- Ergometrine + Sentocinon (Oxytocin infusion).</td>
<td></td>
<td>3- Wait 4 weeks for spontaneous expulsion.</td>
<td>3- Coagulation profile, serum electrolytes &amp; blood culture if pyrexia &gt; 38.5.</td>
</tr>
<tr>
<td></td>
<td>4- Non-sensitized rhesus-negative women should receive anti-D immunoglobulin if threatened miscarriage occurs after at least 12 weeks of pregnancy.</td>
<td>4- Evacuation &amp; curettage.</td>
<td></td>
<td>4- Surgical evacuation; by D&amp;C, if spontaneous expulsion does not occur after 4 weeks.</td>
<td>4- Antibiotics: Metronidazole.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5- Post-abortion management (discussed later).</td>
<td></td>
<td>5- Manage according to size of uterus: - Uterus &lt;12 weeks: Dilatation &amp; evacuation. - Uterus &gt;12 weeks: Cytotic drugs.</td>
<td>5- Surgical evacuation: Usually 12 hours after antibiotic therapy.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6- Post-abortion management.</td>
<td>6- Post-abortion management.</td>
</tr>
</tbody>
</table>

RPOC: Retained Products of Conception.
RECURRENT ABORTION

DEFINITION

- ≥ 3 consecutive spontaneous abortions before 24 weeks’ gestation.

TYPES

1. Primary: All pregnancies have ended in loss.
2. Secondary: One pregnancy or more has proceeded to viability (>24 weeks gestation) with all others ending in loss.

**INCIDENCE**
- Occurs in about 1% of women of reproductive age.
- Idiopathic recurrent abortion, in about 50%, in which no cause can be found.

**CAUSES**

<table>
<thead>
<tr>
<th>First trimester:</th>
<th>Chromosomal &amp; structural abnormalities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Fetal</strong></td>
<td></td>
</tr>
<tr>
<td>• <strong>Medical disorders</strong></td>
<td>o Diabetes.</td>
</tr>
<tr>
<td></td>
<td>o Thyroid disorders.</td>
</tr>
<tr>
<td></td>
<td>o PCOS (More common in women with recurrent abortion than the general population).</td>
</tr>
<tr>
<td></td>
<td>o SLE.</td>
</tr>
<tr>
<td></td>
<td>o Antiphospholipid syndrome (an autoimmune, hypercoagulable state caused by antibodies against cell-membrane phospholipids that provokes thrombosis as well as recurrent miscarriage).</td>
</tr>
<tr>
<td></td>
<td>o Thrombophilia (Deficiencies of antithrombin III &amp; Factor XII).</td>
</tr>
<tr>
<td></td>
<td>o Rh-isoimmunization.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second trimester:</th>
<th>o Cervical incompetence.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Anatomical disorders</strong></td>
<td>o Submucosal fibroids.</td>
</tr>
<tr>
<td></td>
<td>o Uterine anomalies (Bi/Unicornuate uteri).</td>
</tr>
<tr>
<td></td>
<td>o Asherman's syndrome.</td>
</tr>
</tbody>
</table>

| • **Infections** | o CMV. |
|                 | o Bacterial vaginosis. |

**MANAGEMENT**

Idiopathic recurrent abortion:
1. Support: From husband, family and obstetric staff.
2. Advice: Stop smoking & alcohol intake and decrease physical activity.
3. Drug therapy:
   - *Progesterone & hCG*: Start from the luteal phase and up to 12 weeks.
   - *Low dose aspirin*: Start from the diagnosis of pregnancy and up to 37 weeks.
   - *Low-molecular-weight heparin (LMWH)*: Start from the diagnosis of fetal heart activity and up to 37 weeks.

In the presence of a cause: Treatment is directed to control the cause.  

*Hysterosalpingogram* is the most useful investigation in patients with three consecutive spontaneous abortions in the second trimester.
COMPLICATIONS OF ABORTION

a. Hemorrhage.
b. Complications related to surgical evacuation: E&C and D&C.
   i. Uterine perforation: may lead to ruptured uterus in the subsequent pregnancy.
   ii. Cervical tear & excessive cervical dilatation: may lead to cervical incompetence.
   iii. Infection: may lead to infertility.
   iv. Excessive curettage: may lead to Asherman's syndrome.
c. Rh-isoimmunization: If the anti-D is not given or if the dose is inadequate.
d. Maternal depression after fetal lost.

POST-ABORTION MANAGEMENT

In cases of incomplete, inevitable, complete, missed and septic abortions.

1. Support: From the husband, family and obstetric staff.
2. Anti-D: to all Rh –ve, non-immunized patients, whose husbands are Rh +ve.
3. Counseling and explanation:
   - Contraception: Should start immediately after abortion if the patient choose to wait, because ovulation can occur 14 days after abortion, and so pregnancy can occur before the expected next period.
   - Best to wait 3 months before trying again. This allows more time to regulate cycles, to know the LMP and to give folic acid.