

# First & Second Trimester pregnancy Loss

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- Abortion is a pregnancy loss that occurs at less than 20 weeks of gestation.
- Miscarriage (spontaneous abortion) occurs in the absence of any medical or surgical intervention.
- The incidence of recognized miscarriage is commonly cited as 10% to 20%, with 80% occurring during the first 12 weeks of pregnancy.

# Etiology

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1. Chromosomal disorders
2. Infectious Factors
3. Endocrine Factors
4. Environmental Factors
5. Immunologic Factors
6. Uterine Factors

# Chromosomal disorders

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➤ Half of First-Trimester Pregnancy Loss cause by chromosomal disorders

That most of them are **trisomy**.

➤ Abortions in the Second -Trimester Pregnancy Loss are less due to chromosomal disorders and more due to underlying disorders and anatomical disorders.

# Infectious Factors

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**Infections are an uncommon cause of early spontaneous abortion.**

**Chlamydia trachomatis** and **Listeria monocytogenes** have been associated with spontaneous abortion. Serological evidence supports a role for **Mycoplasma hominis** and **Ureaplasma urealyticum** in some cases. In addition, miscarriage is independently associated with serological evidence of **syphilis**, **human immunodeficiency virus** infection, and vaginal colonization with **group B streptococci**.

# Endocrine Factors

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- **Thyroid autoantibodies** are associated with an increased incidence of spontaneous abortion
- **type 1& type 2 diabetes**, the degree of metabolic control in early pregnancy has been found to be related to an increased risk of spontaneous abortion and major congenital malformation.

# Environmental Factors

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➤cigarettes smoking

➤alcohol coumption

➤**Radiation** (administered at therapeutic doses to treat cancer)

However, exposure to most diagnostic procedures that expose the patient to less than 5 rads does not increase the risk of miscarriage.

The rates of spontaneous abortion and birth defects increase when the pregnancy is exposed to **over 20 rads**.

# Immunologic Factors

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➤ **Antiphospholipid antibody syndrome** has consistently been significantly associated with increased risk of early spontaneous abortion.



# Uterine Factors

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## ➤ Large and multiple uterine leiomyomas

Their location is more important than their size,

submucous leiomyomata playing a more significant role than others

## ➤ Asherman Syndrom

## ➤ Uterine septum

# Spontaneous Abortion clinical classification

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1. Threatened abortion
2. Inevitable abortion
3. Incomplete abortion
4. Missed abortion
5. Recurrent Pregnancy Loss

# Threatened abortion

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➤ **Bleeding in the first trimester without loss of fluid or tissue**

About half proceed to spontaneous abortion.

The combination of persistent bleeding and pain usually indicates a **poor prognosis** for pregnancy continuation.

**Ectopic pregnancy** should always be considered in the differential diagnosis of threatened abortion.

# Inevitable abortion

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**vaginal bleeding and/or the gross rupture of the membranes in the presence of cervical dilation**

Typically, uterine contractions begin promptly, resulting in expulsion of the pregnancy.

It is unusual for the progress of an inevitable abortion to be halted and for a pregnancy to successfully reach viability in this circumstance.

# Incomplete abortion

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**The internal cervical os opens and allows passage of blood and some tissue**

**Complete abortion** refers to a documented pregnancy that spontaneously passes all of the contents of the uterus. Before 10 weeks of gestation, the fetus and placenta are commonly expelled together.

# Missed abortion

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**Retention of a failed intrauterine pregnancy  
for an extended period**

usually defined as more than **two menstrual cycles**.

These patients have an **absence of uterine growth** and may have lost some of the early symptoms of pregnancy. Many women have no symptoms during this period except **persistent amenorrhea**

**TABLE 11-2.** Guidelines for Early Pregnancy Loss  
Diagnosis

**Sonographic Findings**

CRL  $\geq 7$  mm and no heartbeat

MSD  $\geq 25$  mm and no embryo

An initial US scan shows a gestational sac with yolk sac,  
and after  $\geq 11$  days no embryo with a heartbeat is  
seen

An initial US scan shows a gestational sac without a yolk sac,  
and after  $\geq 2$  weeks no embryo with a heartbeat is seen

**Modalities**

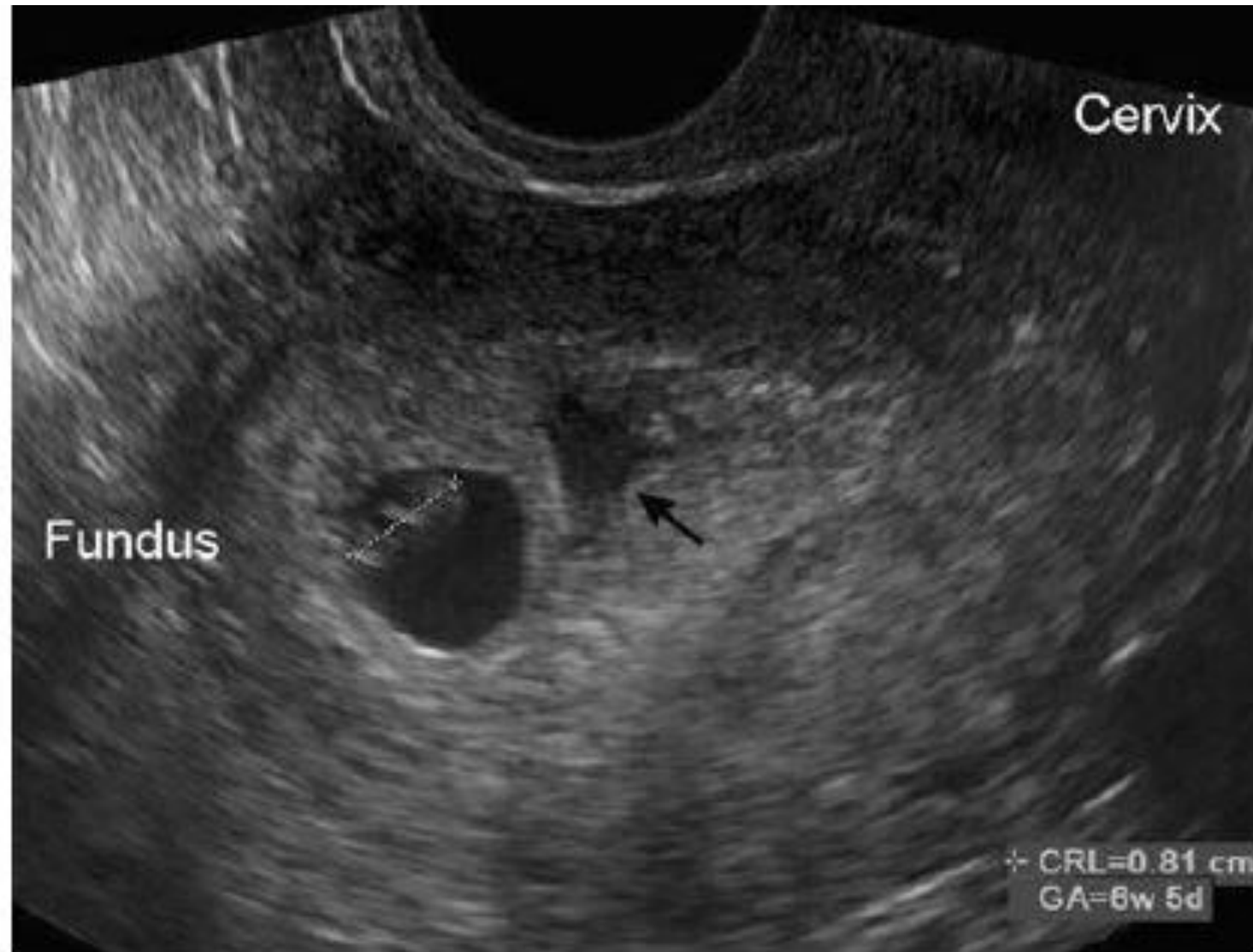
Transvaginal preferable to transabdominal US

M-mode imaging used to document and measure  
heartbeat

Pulsed Doppler US methods generally not used to  
evaluate a normal early embryo

CRL = crown-rump length; MSD = mean sac diameter;  
US = ultrasound.

From American College of Obstetricians and Gynecologists,  
2019b; Brown, 2018; Doubilet, 2013.





# Recurrent Pregnancy Loss

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**(ASRM) : Two or more intrauterine pregnancy losses.**

- Historically, the diagnosis required that the pregnancy losses be consecutive, but this is no longer the case.
- The timing of the pregnancy losses may provide a clue to their cause.
- Genetic and autoimmune factors most frequently result in early embryonic losses,
- Anatomic abnormalities are more likely to result in second-trimester losses.

# First-Trimester Recurrent Pregnancy Loss

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➤ **Karyotyping is recommended for both parents when recurrent early pregnancy loss occurs**

there is a 3% chance that one parent is an asymptomatic carrier of a genetically balanced chromosomal translocation.

➤ **The immune system also has a role in up to 20% of early recurrent pregnancy loss.**

Lupus anticoagulant and anticardiolipin antibody have been linked with excessive pregnancy wastage.

**Treatment may include low-dose aspirin along with unfractionated heparin.**

**Endocrine Factors: 8-12% RPL**

➤ **Asherman syndrome** can be associated with not only early recurrent pregnancy loss

amenorrhea, hypomenorrhea, cyclic pain, and infertility.

**Diagnosis** : Hystrogram

**Treatment** : lysis of the synechiae and postoperative high doses of estrogen

# Second trimester Pregnancy Loss

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Second trimester pregnancy losses are typically caused by :

➤ **Anatomic abnormalities**, such as septate uteri or fibroid

**Management:** operative hysteroscopy, and/or laparoscopy

➤ If **leiomyomata** are felt to be the causative factor of recurrent second trimester pregnancy loss, **myomectomy** is appropriate.

➤ **reconstructive surgery** of the uterus may be necessary for congenital uterine malformations.

**TABLE 11-5.** Some Causes of Midtrimester Spontaneous Pregnancy Losses

**Fetal Anomalies**

Structural  
Chromosomal

**Placental Causes**

Abruption, previa  
Vasculopathy  
Chorioamnionitis

**Maternal Disorders**

Autoimmune  
Infections  
Metabolic

**Uterine Defects**

Congenital  
Leiomyomas  
Incompetent cervix

Recurrent pregnancy loss in the second trimester can also be caused by

**cervical insufficiency** :A condition in which the increasing pressure within the uterus causes a weakened cervix to efface and dilate painlessly.

**Predisposing factors** :uterine anomalies ,previous trauma to the cervix including mechanical dilation or history of conization.

**Treatment** :Cervical cerclage is used to tie the cervix closed during the early second trimester

# Treatment

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For incomplete, inevitable, or missed abortions treatment includes :

**Expectant**

**Medical**

**Surgical**

**Expectant : usually is recommended for first trimester**

**Surgical** :is definitive and predictable but is **invasive** and not necessary for all

**Medical:** using prostaglandins may obviate curettage

both approaches are associated with unpredictable bleeding, with some women still requiring surgery to empty the uterus.

➤ The use of **ultrasound** to evaluate the uterus helps to determine whether surgical intervention is needed.

➤ Hemostasis is enhanced through uterine contraction stimulated by oral methylergonovine.

**(ACOG); Rh-negative mothers should receive Rh immunoglobulin (RhoGAM)**



# INDUCED ABORTION

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Induced abortion is the medical or surgical termination of pregnancy **before** the time of fetal viability.

Three medications for first-trimester medical abortion have been widely studied and used:

1. the antiprogesterin **mifepristone** (formerly known as RU-486)
2. the antimetabolite **methotrexate**
3. the prostaglandin **misoprostol**

- A combined misoprostol–mifepristone regimen is the most commonly used.

These agents cause abortion by increasing uterine Contractility in appropriately selected women with pregnancies up to **70 days** of gestation (calculated from the first day of the LMP).

- The most common form of suction curettage for first-trimester abortions is vacuum aspiration.
- Second-trimester abortions are most commonly performed through the cervix, using suction and/or extraction forceps, but also can be induced with medication.

# Complications

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The most common complications associated with an induced abortion include :

1. Uterine perforation
2. Cervical laceration
3. Hemorrhage
4. Incomplete uterine
5. Evacuation
6. Infection

- In cases of **postabortal infection**, the patient usually presents with **fever, pain, a tender uterus, and mild bleeding.**
- **Oral antibiotics and antipyretics** are typically sufficient to manage these mild infections.
- If tissue remains in the uterus (incomplete abortion), a repeat suction curettage is necessary.

# Septic Abortion

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- Patients may present with sepsis, shock, hemorrhage, and, possibly, renal failure.
- Septic abortion rarely occurs as a **complication of an induced abortion** that is performed by a trained health care provider.
- **Broad-spectrum parenteral antibiotics, intravenous fluid therapy, and prompt evacuation of the uterus are indicated.**
- A careful evaluation for trauma, including perforation of the uterus, vagina, or intra-abdominal structures, should also be carried out.

# Postabortal Syndrome

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- **Postabortal syndrome** (also called postabortal hematometra) develops when the uterus fails to remain contracted after miscarriage (with or without suction curettage) or induced abortion.
- The patient presents with **cramping pain and/or bleeding and is found to have an open cervix**, bleeding, and a large, “softer-than-expected” uterus, a result of the collection of blood in the uterus (hematometra).
- The clinical presentation is often indistinguishable from incomplete abortion.  
**Suction curettage is the treatment for both conditions**
- Postevacuation treatment with an ergot derivative and an antibiotic **reduces** the risk of postabortal syndrome, further bleeding, and infection.

Thank You