

spontaneous abortion

Elahe zarean

Fellowship of fetomaternal medicine

Isfahan university of medical sciences

Membership of the Iranian Society of Perinatology

- Approximately 10 to 15% of confirmed pregnancies spontaneously abort.
- Over 80% of spontaneous abortions occur in the first trimester.
- Fetal death and early delivery are classified as follows:
 - Spontaneous abortion: Pregnancy loss before 20 weeks gestation
 - Fetal death (stillbirth): Fetal death at ≥ 20 weeks
 - Preterm delivery : Delivery of a live fetus between 20 weeks and 36 weeks/6 days.

Etiology



- Chromosomal abnormality
- Maternal reproductive tract abnormalities (eg, bicornuate uterus, fibroids, adhesions) may also cause pregnancy loss through 20 weeks gestation.
- Viral infections :most notably cytomegalovirus, herpesvirus, parvovirus, and rubella virus.
- Immunologic abnormalities
- Major physical trauma
- Most often: unknown

Risk factors

- Extremes of maternal age:

< 20 years (17%)
20 to 24 (11%)
25 to 29 (10%)
30 to 34 (11%)
35 to 39 (17%)
40 to 44 (33%)
> 45 (57%)
- History of spontaneous abortion
- Cigarette smoking
- Use of certain substances (eg, cocaine, alcohol)
- A poorly controlled chronic disease (eg, [diabetes](#), [hypertension](#), overt [thyroid disorders](#)) in the mother.
- Obesity

Symptoms and Signs



- Crampy pelvic pain
- Uterine bleeding, and eventually expulsion of tissue.
- Bleeding in early pregnancy is common bleeding occurred in approximately 25% of first trimester pregnancies, and 12% of pregnancies with bleeding resulted in pregnancy loss .
- Late spontaneous abortion may begin with a gush of fluid when the membranes rupture.
- Hemorrhage is rarely massive.
- A dilated cervix indicates that abortion is inevitable.
- If products of conception remain in the uterus after spontaneous abortion, uterine bleeding may occur, sometimes after a delay of hours to days.
- Infection may also develop, causing fever, pain, and sometimes sepsis.

Diagnosis



- Transvaginal ultrasonography
- Serial Quantitative (beta-hCG)
- Pelvic examination

Transvaginal ultrasonography

- Fetal cardiac activity, which is usually detectable after 5.5 to 6 weeks.
- Serial ultrasonography is often required.
- If cardiac activity is absent and had been detected previously during the current pregnancy, fetal demise is diagnosed.

Diagnostic finding of abortion



In transvaginal ultrasound :

- Crown-rump length ≥ 7 mm and no heartbeat.
- Mean sac diameter ≥ 25 mm and no embryo.
- Absence of an embryo with a heartbeat, after a previous scan in current pregnancy:
 - ≥ 2 **weeks** earlier that showed a gestational sac **without a yolk sac**
 - OR
 - ≥ 11 **days** earlier in the current pregnancy that showed a gestational sac **with a yolk sac**.

Classification of abortion



- Threatened abortion: Patients have uterine bleeding and it is too early to assess whether the fetus is alive and viable and the cervix is closed. Potentially, the pregnancy may continue without complications.
- Inevitable abortion: The cervix is dilated. If the cervix is dilated, the volume of bleeding should be evaluated because it is sometimes significant.
- Incomplete abortion: The products of conception are partially expelled.
- Complete abortion: The products of conception have passed and the cervix is closed.

Classification of abortion



- Missed abortion: Death of an embryo or a fetus is confirmed, but there is no bleeding or cervical dilation and the products of conception have not been expelled.
- An anembryonic pregnancy (formerly blight ovum) refers to a nonviable pregnancy with a gestational sac, but with no yolk sac or embryo visualized on transvaginal ultrasonography.
- For recurrent pregnancy loss, typically testing is done to determine the cause of abortion.

Treatment

Threatened abortion:

- Observation.
- Clinicians may periodically evaluate the woman's symptoms or do ultrasonography to check fetal status.
- No evidence suggests that bed rest decreases risk of subsequent completed abortion.

Treatment

Inevitable, incomplete, or missed abortions :

- Observation or surgical or uterine evacuation.
- If the mother is Rh-negative, Rho(D) immune globulin.
- Pain medication as needed.
- Emotional support.

Treatment



- In the first trimester, expectant management is an option, but this approach is not recommended during the second trimester due to limited safety studies and risk of hemorrhage.
- Expectant management has an 80% success rate for complete expulsion within 8 weeks, with symptomatic women having better outcomes than asymptomatic women.
- Bleeding and cramping may occur, and patients should be counseled about when to return to the healthcare facility if symptoms are severe or to confirm passage of gestational tissue.

Treatment

- Until 10 to 12 weeks gestation, **medical** management may be used if spontaneous expulsion does not occur.
- A common medication regimen is **800 mcg of misoprostol vaginally**; a repeat dose may be necessary.
- Spontaneous abortions that are not completely expelled with expectant management or medications require **surgical** uterine evacuation.
- Traditionally, uterine evacuation was performed with sharp curettage alone. (suction curettage)
- **Urgent surgical** evacuation may be needed in cases of hemorrhage, hemodynamic **instability, or infection**.

TAKE HOME MESSAGE



- Spontaneous abortion is pregnancy loss before 20 weeks gestation; it occurs in approximately 10 to 15% of confirmed pregnancies.
- Spontaneous abortion is often caused by chromosomal abnormalities or maternal reproductive tract abnormalities (eg, bicornuate uterus, fibroids), but etiology in an individual case is usually not confirmed.
- Confirm spontaneous abortion and determine pregnancy status with quantitative beta-hCG, ultrasonography, and pelvic examination; a dilated cervix means that abortion is inevitable.
- Treat with expectant management (observe for passage of products of conception) or surgical or medication uterine evacuation.
- Often, uterine evacuation is not needed for complete abortions.
- Provide emotional support to the parents.