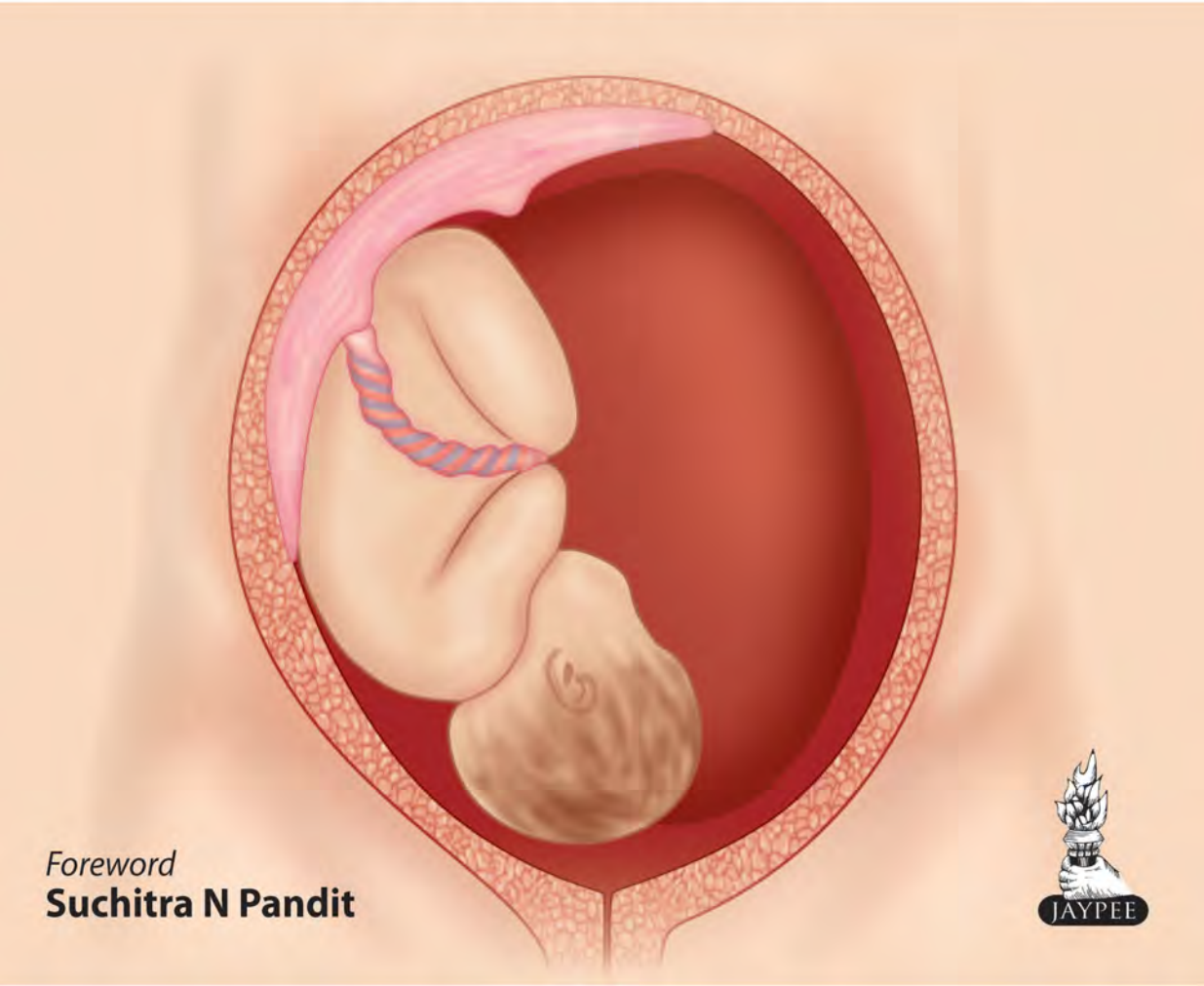
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Treatment and Prognosis in OBSTETRICS & GYNECOLOGY

Manju Gita Mishra
Hemali Heidi Sinha



Foreword
Suchitra N Pandit

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Chapter

2

Bleeding in Early Pregnancy

Rita Sinha, Hemali Heidi Sinha

DEFINITION

Any vaginal bleeding before 20 weeks of gestation is known as early pregnancy bleeding.

INCIDENCE

Vaginal bleeding occurs in 15–25% of early pregnancies. 50% of women who have vaginal bleeding in early pregnancy have a viable pregnancy.
Bleeding in first trimester is not always a problem, it may be caused by:

- Sexual Intercourse
- An infection
- The fertilized egg implanting in the uterus
- Hormonal changes during pregnancy.

More serious cause of bleeding in early pregnancy is related to pregnancy, and maybe pre-existing or aggravated during pregnancy. These are:

- Abortion
- Cervical lesions
- Ectopic pregnancy
- Vascular erosions
- Hydatidiform mole
- Polyp.

Implantation bleeding: The process of implantation takes place 6–8 days postovulation or fertilization. Vaginal bleeding can occur as a result of the burrowing of the blastocyst into the uterine endometrium (invasion of the decidua basalis by chorion). The resulting bleeding is characterized by spotting or light bleeding for a day or two. This may be bright red in appearance.

In addition to creating anxiety for the women, vaginal bleeding may create a confusing clinical picture. Unusual vaginal bleeding in a woman who is sexually active especially if she is not using contraception, must be considered pregnancy related until proven otherwise.

Although abortions, ectopic pregnancy and Gestational Trophoblastic Disease (GTD) are key differential diagnoses, others should not be overlooked

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(cervicitis, cervical lesion, polyp, cervical/vaginal trauma, secondary to sexual activity, vaginitis/vaginosis and sexually transmitted infections including pelvic inflammatory disease (PID)).

Uterine fibroids are also associated with vaginal bleeding during pregnancy.

ABORTION

Any fetal loss from conception until the time of fetal viability at 20 weeks of gestation or expulsion of a fetus or embryo weighing 500 g or less which is not capable of independent survival is abortion.

Incidence

15–20% pregnancy.

Classification

- Spontaneous abortion—occurs without medical or mechanical means.
- Induced abortion.

Pathology—necrotic changes occur in the decidual tissues near the placental site which result in hemorrhage into this area.

As bleeding continues, the sac and the placenta become detached from the uterine wall and are expelled by uterine contractions.

Common Causes of Abortion, Trimester-wise

First Trimester

- Genetic factors
- Endocrine disorders
- Immunological disorders
- Infections
- Unexplained.

Second Trimester

- Anatomical abnormalities
- Cervical incompetence
- Mullerian fusion defects
- Uterine synechiae
- Uterine fibroids
- Maternal medical illness
- Unexplained.

Types of Spontaneous Abortion and Clinical Features

- *Threatened abortion*
  - Symptoms and signs of pregnancy coincide with its duration

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- Vaginal bleeding maybe slight or mild, bright red in color
- Pain is slight or absent
- On pelvic examination—cervical os is closed.

Prognosis—If the blood loss is less than normal menstrual flow and is not accompanied by the pain of uterine contractions, there is reasonable chance for pregnancy to continue. This occurs in 50% cases while other half will proceed to inevitable or missed abortion.

➲ *Inevitable abortion*
- Symptoms and signs of pregnancy coincide with its duration
- Vaginal bleeding is excessive and may accompanied with clots
- Abdominal pain is colicky felt in the suprapubic region, radiating to the back
- Pelvic examination—internal os of the cervix is dilated and products of conception may be felt through it.

➲ *Incomplete abortion*
- Retention of a part of the products of conception inside the uterus. The whole or part of the placenta may be retained
- The patient usually notices the passage of a part of the products of conception
- Bleeding is continuous
- Uterus is less than the period of amenorrhea, but still large in size
- On pelvic examination—cervical os is opened and retained products maybe felt through it.

➲ *Complete abortion*
- All products of conception have been expelled from the uterus
- Bleeding is slight and gradually diminishes
- The pain ceases
- Uterus is slightly larger than normal
- Cervical os is closed.

➲ *Missed abortion*
- Retention of dead products of conception for four weeks or more
- Regression of pregnancy symptoms such as nausea, vomiting and breast symptoms
- Uterine size does not increase and may even decrease in size
- The fetal movements are not felt or cease if previously felt
- A dark brown vaginal discharge may occur (prune juice discharge)
- Complication—disseminated intravascular coagulation (DIC) may occur if the dead conceptus is retained for more than four weeks.

➲ *Septic abortion*
- Any type of abortion which is complicated by infection
- *E. coli*, bacteroids, anaerobic *Streptococcus*, *Clostridia* and *Staphylococci* are among the common causative organisms.

➲ *Recurrent abortion:* Three or more successive spontaneous abortion

Ectopic pregnancy: Ectopic means "out of place". Ectopic pregnancy is defined as the implantation of fertilized ovum outside endometrial cavity.

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The fertilized ovum settles in the fallopian tubes in more than 95% of ectopic pregnancies. This is the reason that ectopic pregnancies are commonly called tubal pregnancies. Other sites are uterine cornua, undeveloped horn of a bicornuate uterus, cervix, ovum and the abdominal cavity.

Ectopic pregnancy can be difficult to diagnose because symptoms often mirror those of a normal early pregnancy like missed periods, nausea, vomiting, frequent urination or breast tenderness. First warning sign of an ectopic pregnancy is pain or vaginal bleeding.

Hydatidiform mole: Hydatidiform mole is an abnormal conception resulting in hydropic swelling of the chorionic villi and trophoblastic hyperplasia leading to the formation of grape like vesicles. Gestational trophoblastic disease is the term used for the spectrum of diseases resulting from abnormal proliferation of trophoblasts. The diseases are vesicular mole, invasive mole, and choriocarcinoma.

Hydatidiform mole can be divided into two types, on the basis of gross morphology, histopathology and karyotype—complete mole and partial mole.

By the end of third month, women experience vaginal bleeding from spotting to excessive bleeding.

Sometimes, grape like cluster of cells are shed with blood.

Other symptoms are severe nausea and vomiting, high blood pressure. As pregnancy progresses, fetal movements are not perceived and there is no fetal heart beat.

CLINICAL APPROACH TO A PATIENT WITH BLEEDING IN EARLY PREGNANCY

History

- Vaginal bleeding—slight and bright red, associated with passage of fleshy mass or clots. Discharge may be serosanguinous or dark colored with foul smell and passage of grape like vesicles. This is commonly referred as "White Currant in Red Currant Juice." There is often abdominal pain which is colicky or agonizing
- Shoulder pain, may be a sign of ruptured ectopic
- Symptoms of early pregnancy—history of amenorrhea, morning sickness, frequency of micturition, breast discomfort, fatigue, hyperemesis, breathlessness, thyrotoxic features, syncopial attack
- Careful menstrual history—previous cycles, last menstrual period (LMP)
- Past history—similar episodes, infertility, details of contraceptive use
- History of inserting something into the vaginal (suggestive of an illegal abortion).

Examination

- General look
  - Lies quiet and conscious, perspires and looks blanched
  - Looks more ill than accounted for—Molar pregnancy.

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- Vital signs—temperature, pulse, blood pressure and respiratory rate.
- Look for pallor.
- Abdominal examination
  Auscultate for bowel sounds—absent in peritonitis due to septic abortion
  - Assess presence, location and severity of pain, check whether the abdomen is distended
  - Palpate for abdominal rigidity and guarding (peritonitis, ectopic pregnancy)
  - Palpate for rebound tenderness
  - Assess the abdominal mass (molar/ectopic pregnancy).
- Pelvic examination
  - External pelvic and digital vaginal examination
    - Inspection for laceration outside the vagina or over the external genitalia
    - Assessment of the amount of bleeding per vaginam
    - POC lying outside the vaginal orifice.
  - Per speculum examination—look for:
    - Any visible product of contraception (POC) protruding from the cervical os or visible in the vaginal canal
    - Foul swelling vaginal/cervical discharge
    - Cervical laceration (indicative of instrumentation, may be suggestive of illegal abortion)
    - Foreign body in the vagina.
  - Digital vaginal examination:
    - Assess the amount of bleeding
    - Check whether the cervical os is open or closed (to determine the stage of abortion).
  - Bimanual examination—look for:
    - Size of the uterus
    - Any pelvic pain (severity, location and what causes the pain, whether present at rest, increase with touch and pressure, increase on moving the cervix)
    - Any adnexal mass—ectopic pregnancy.

Investigation

- Complete blood count, ABO grouping and Rh typing, thyroid function test, urine pregnancy test, serum beta human chorionic gonadotropin (hCG) level
- Ultrasonography (USG)—transabdominal and transvaginal.

DIAGNOSIS

- Threatened abortion
  - Positive urine pregnancy test
  - On USG (ultrasonography), intrauterine viable fetus
- Incomplete abortion
  - Positive uterine pregnancy test
  - On USG—nonviable fetus, POC in situ

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- Complete abortion
  - Positive urine pregnancy test
  - On USG—empty uterine cavity
- Ectopic pregnancy
  - Positive urine pregnancy test
  - On USG—POC not seen in uterus, some adnexal mass may be seen
- Molar pregnancy
  - Positive urine pregnancy test
  - On USG—snow storm appearance.

GENERAL MANAGEMENT OF VAGINAL BLEEDING IN EARLY PREGNANCY

Universal

Monitor the woman's vital signs and general condition. When complications exist, it is important to take steps to continue stabilizing the woman's condition, before giving specific management for abortion. If the condition of the patient suddenly worsens, reassess for shock or other complications, and treat as appropriate.

Oxygen

If the woman is stable and there are no life-threatening complications (she is not in shock and the vital signs are normal), oxygen is not required. If woman is in shock, manage accordingly.

Fluids

If the woman is stable and there are no complications (she is not in shock and the vital signs are normal), IV fluids are NOT required. If woman is in shock, manage accordingly.

Medicines

Oral medicines may be given if the woman is stable and there are no life threatening complications. The IV or IM routes of administration are the only acceptable routes for giving medicines if the woman is in shock. If she is also being treated for a life-threatening condition, follow the treatment guidelines for that condition.

Antibiotics

Antibiotics should preferably be given intravenously. If an evacuation is needed, start antibiotics before carrying out the evacuation. In case of a septic abortion, give the woman an antibiotic cover for at least 48 hours before carrying out uterine evacuation.

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Tetanus Toxoid

If there is a possibility that the woman was exposed to tetanus (if the abortion was not performed with sterile instruments and/or if there was any contamination of the instruments or wound with dirt, as may be the case in an unsafe abortion, there is a chance of exposure to tetanus) and her vaccination history is uncertain, give her tetanus toxoid injection (0.5 mg IM) and tetanus antitoxin.

MANAGEMENT OF THREATENED ABORTION

- Rest in bed until one week after bleeding stops
- Women are advised to avoid strenuous exercise, sexual intercourse, as it may disturb pregnancy by the mechanical effects and effects of semen prostaglandins on the uterus
- If bleeding stops, follow up in antenatal clinic. Reassess, if bleeding occurs
- If bleeding persists, assess for fetal viability or ectopic pregnancy. Persistent bleeding particularly in the presence of a uterus larger than expected, may indicate twins or molar pregnancy
- Hormonal treatment and local agents are contraindicated.

MANAGEMENT OF INEVITABLE ABORTION

- Any attempt to maintain pregnancy is useful
- If the pregnancy is less than 12 weeks, plan for evacuation of the contents of the uterus. 400 μg misoprostol should be given and it should be repeated once after 4 hours, if necessary
- Arrange for evacuation as soon as possible
- If the pregnancy is of more than 12 weeks, we should wait for spontaneous expulsion of the POC and then evacuate the uterus to remove any retained POC
- If necessary, uterine contractions should be augmented to expel the POC with oxytocin 20 units in 500 mL of Ringer's lactate at the rate of 40 drops/minute.
- 800 μg misoprostol tablet is administered transvaginally again after four hours. Two tablets can be given if the woman has not aborted till then.

MANAGEMENT OF INCOMPLETE ABORTION

- If the bleeding is light to moderate and the pregnancy is less than 12 weeks, fingers or sponge forceps should be used to remove the POC protruding through the dilated cervix.
- If the bleeding is heavy and the pregnancy is less than 12 weeks, uterus should be evacuated
  - Manual vacuum aspiration is the preferred method of evacuation. Sharp curettage should not be done

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- If evacuation is not immediately possible, 400 μg misoprostol should be given orally (it should be repeated once after 4 hours, if necessary).

➲ If the pregnancy is more than 12 weeks
- Oxytocin drip should be started, 20 units of oxytocin in 500 mL of Ringer's lactate at the rate of 40 drops/minute until the POC are expelled
- 200 μg misoprostol can be given vaginally every 4 hours, if necessary until the POC are expelled. More than 800 μg should not be administered.

➲ After 12 weeks of pregnancy, fetus is usually expelled completely.

MANAGEMENT OF COMPLETE ABORTION

➲ Evacuation of the uterus is not necessary as all the POC have been expelled
➲ Observe for heavy bleeding
➲ Ensure follow-up of woman after treatment.

Follow-up after abortion
➲ Counsel that spontaneous abortion is common
➲ Reassure woman that chances for subsequent successful pregnancy are good
➲ Advise contraception.

MANAGEMENT OF MISSED ABORTION

➲ We should wait for four weeks for spontaneous expulsion.
➲ Evacuation of the uterus is indicated in the following conditions:
- Spontaneous expulsion does not occur within 4 weeks
- Profuse bleeding
- Infection or disseminated intravascular coagulation (DIC).

➲ Management done according to the size of the uterus
- Uterine size less than 12 weeks—suction evacuation
- Uterine size more than12 weeks—evacuation be done by:
  - Prostaglandins—intravaginal (PgE2) intravenous, intra- or extra-amniotic (PGF2 alpha)
  - Oxytocin drip
  - Combination of drugs.

MANAGEMENT OF SEPTIC ABORTION

➲ Blood, cervical swabs and urine are sent for culture and sensitivity. This helps in identifying the infecting organism and appropriate antibiotics may then be administered
➲ If bleeding is minimal, treat infection with broad-spectrum antibiotics
- Dilatation and curettage is done.

➲ If bleeding is severe,
- POC from the cervix are removed with a sponge holding forceps
- Intravenous broad spectrum antibiotics should be given
- When infection is controlled—dilatation and curettage is done.

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MANAGEMENT OF HABITUAL ABORTION

- Rest
- Increased intake of vitamin B, vitamin C and vitamin E
- Medical treatment
  - Hypofunction of corpus luteum—progesterone is added
- Surgical treatment
  - Correction of congenital anomalies of uterus: removal of myoma
  - Repair of incompetent cervix—12–20 weeks.

CONCLUSION

Bleeding in early pregnancy is common, affecting about 15% of confirmed pregnancies. The pregnancy may remain viable in spite of bleeding (threatened abortion) or bleeding may be a feature of non viability (missed abortion/blighted ovum). The pregnancy may be partly (inevitable/incomplete abortion) or completely expelled (complete abortion).

Though the term abortion has been used throughout the chapter, the term miscarriage is preferred, to distinguish spontaneous from induced pregnancy losses.

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1. Guidelines: Define a non viable pregnancy. NEJM: 2013;369:1443-51.
2. James DK, Steer PJ, Weiner CP, Gonik B. High-risk Pregnancy: Management Options. Elsevier Inc. 4th Edition, 2011.

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