# Bleeding and Pregnancy: Potential Causes and Treatment

Bleeding during pregnancy is never considered normal and should be treated as a symptom of a serious (and possibly life-threatening) underlying problem. It will typically occur in either the first or third trimester and *when* it occurs will guide the conventional course of investigation to determine the cause and thus the treatment.

Bleeding can be common in the first trimester of pregnancy; it will generally indicate the presence of a gynecology health issue, an ectopic[1] pregnancy, or a miscarriage. Assuming a patient presents at eight weeks of pregnancy with vaginal bleeding or spotting, consideration should be given to the potential for any of these underlying causes. Keep in mind that even at eight weeks of pregnancy, it is still possible that the patient not know for certain whether she is pregnant and she may present with complaints of pain and irregular menses (and do not immediately rule out pregnancy as a possibility even if the patient uses contraceptives or preventatives.).

## *Gynecological Reasons*

It is possible that first or third trimester bleeding be due to gynecology problems and not due to complications with the pregnancy itself. A thorough history should be taken to determine if any of these conditions are present. It will be important to know whether there is or has been any discharge other than red. Table 1 outlines potential conditions that may contribute to bleeding during the first trimester of pregnancy. Urinary problems should also be considered and ruled out as bleeding may be associated to the urinary system rather than the female reproductive system. Investigations should be as minimally invasive as possible to prevent injury of the developing fetus and other complications.

**Table 1: Gynecological Problems Associated with Vaginal Bleeding**

| Condition(s) | Remarks |
|---|---|
| Cervical Erosion (growth of cervical canal cells over cervical surface)<br>Cervical Polyps<br>Fungal Infection of vagina/cervix surface | Bleeding may be accompanied by profuse white discharge of a thick or curdy nature with or without odor. May be leaking urine or other urinary symptoms.<br>May also be itching/discomfort/soreness associated with raw, bleeding surface. May occur after use of oral contraceptives or antibiotic treatment. May be common with pregnancy.<br>Cervical erosion bleeds easily, esp. with contact or pressure. Post coital bleeding is common. Cervical erosion and Cervicitis may be treated with laser or heat cauterizing.<br>Conventional treatment of fungal infection is generally with vaginal fungicide.<br>Rule out: Pregnancy, sugar intake, tight clothing, use of synthetic materials, allergic reactions, prescribed drugs, diabetes mellitus, herpes simplex, AIDS. |

[1] Greek. Ek = Away, Topos = Location; Literally meaning *out of place*. From Magnus-Hirschfeld Archive for Sexology, Course 2, Human Reproduction; http://www2.hu-berlin.de/sexology/ECE2/html/ectopic_pregnancy.html; viewed 02/06/2008.

**Table 1: Gynecological Problems Associated with Vaginal Bleeding (Continued)**

| | |
|---|---|
| Vaginal Inflammation<br>Endometrial Inflammation<br>Cervical Inflammation<br>Pelvic Inflammatory Disease (PID)<br>Retained Pessary (Uterine support or suppository) | Bleeding/Spotting may be accompanied by yellow discharge (generally indicating the presence of bacteria).<br>Depending on condition, may be symptoms of vaginal soreness and discomfort, pain on pressure to the cervix, painful intercourse. May be urinary symptoms, frequency and incontinence. With PID, pain will generally be within the region of both iliac fossa. Can be presence of fever with mild nausea and/or vomiting.<br>Rule out: Retention of pessary, gonorrhea, presence of chlamydia, other STDs.<br>Yellow discharges are treated conventionally with antibiotics (which may, as can be seen by the above description of white discharges, further complicate things.).<br>Removal of retained pessary required to prevent deepening infection/sepsis/toxic shock. |
| More severe instances of:<br>Vaginal Inflammation<br>Endometrial Inflammation<br>Cervical Inflammation<br>Pelvic Inflammatory Disease (PID) | Bleeding/Spotting may be accompanied by green discharge, considered more severe than white/yellow discharges. Red erosions over vaginal surface with severe inflammation. Discharge will contain tiny bubbles. There will be marked pain and discomfort, particularly with intercourse. Sexual transmission from partner is of concern.<br>Presence of trichomonas vaginalis and/or giardia (a bowel protozoa) generally confirmed.<br>Treatment with antiprotazoal agent for both partners for minimum of seven days. Abstinence during period of treatment. |
| Uterine or Cervical Tumor (Benign or Malignant)<br>Ovarian Cysts | Although generally not common under 40 years of age, still possible in young women and may be exacerbated by pregnancy. These are serious conditions that require invasive investigations to confirm, many of which can be harmful to a developing fetus.<br>In some cases, questions will arise over the need for pregnancy termination, risks to the mother and child if carried to full term, and referrals would be required to determine conventional means of intervention and subsequent treatment (generally through surgical procedures and in the case of cancer, may include subsequent chemical treatment). |

During patient interview, information should be gathered to discover whether there is a previous history of gonorrhea, urethritis, genital herpes/warts, trichomonal infection, urethral symptoms in partner, recent change in partner (or frequent change in partner), use of intra-uterine devices, tampons, or suppositories, ‘abnormal’ or irregular pap results, family history of endometriosis or other reproductive organ diseases/conditions, and any previous gynecological or pelvic surgeries.

## *Ectopic Pregnancy*

An ectopic pregnancy is one in which the egg, after being fertilized, attaches to a location outside of the uterine cavity. Figure 1 illustrates possible locations for this to occur, although it most commonly occurs in a fallopian tube.

The causes of ectopic pregnancy are not really well known, but are believed to be related to the use of intra-uterine birth control devices or to gynecology health issues such as PID or endometriosis which would create obstructions to the normal flow or path of a fertilized egg. It is believed that abdominal surgeries may also contribute to future risk of ectopic pregnancy (and

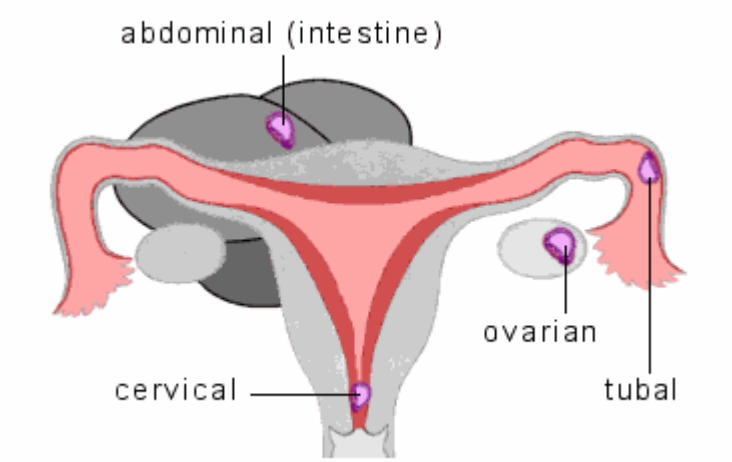


**Figure 1: Potential Sites of Ectopic Pregnancy**

any woman with a history of ectopic pregnancy should be considered at risk in the future).

In all cases where a woman of child-bearing years presents with lower abdominal pain and/or related back pain, this potential should be kept in mind until ruled out. Some women do not experience symptoms or may just exhibit those of early normal pregnancy, while others may present with vaginal bleeding or spotting (typically dark in color indicating 'old' blood) and cramping abdominal pains with or without lower backache. There will be a missed period or what may be described as a late period. It is important to note that ectopic pregnancy cannot be ruled out by a negative pregnancy test. Vaginal ultrasound may be used to confirm ectopic pregnancy (but again, this may also have a negative result).

As the pregnancy progresses, the woman will experience an increase of bleeding and lower abdominal pain and is at significant risk for a ruptured fallopian tube due to the size of the growing embryo. A full-term pregnancy is sadly not possible and if the embryo does not die on its own, the pregnancy must be terminated through surgical removal of the embryo and fallopian tube to avoid rupture if possible. In many cases spontaneous death of the embryo prior to rupture may eliminate the need for surgery, but surgical extraction of the embryo and other tissues related to the pregnancy may still be required if unable to pass normally out of or be absorbed back into the body. If the embryo does not die, surgery is the only possibility else rupture may occur and lead to death of the mother by bleeding. The following table summarizes potential complications and symptoms indicating a serious condition.

**Table 2: Complications of Ectopic Pregnancy[2]**

| Complications | Symptoms |
|---|---|
| Rupture of fallopian tube into abdominal cavity | Severe lower abdominal pain, guarding, rigidity, immobility, low blood pressure, rapid pulse, sweating, pallor. |
| **Miscarriage (rupture into lumen of fallopian tube)** | Lower abdominal pain, but less than above. Uterine blood loss, pallor, slight fever. There may be retention of urine. |

## *Miscarriage (also known as Spontaneous Abortion)*

Research suggests that up to 25 percent of pregnancies in the United States end spontaneously[3] with seventy-five percent of these being within the first trimester. Reasons of abnormality in egg, sperm, fetus, reproductive organs of the mother, or in defective implantation of the zygote are given, with poor diet, illness, and psychological state of the mother considered as contributing risk factors. An ultrasound may be used to determine if the fetus is still alive and to rule out ectopic pregnancy. Other investigations are only performed if the situation is grave.

A threatened miscarriage is one that results in continuation of the pregnancy after a period of slight vaginal bleeding or spotting of brownish or dark red color during which the woman may experience abdominal discomfort or 'dragging' pains in the lower abdomen and/or symptoms of backache. Rest is a critical factor and should be total until bleeding stops. Conventionally, progesterone supplementation may be given to prevent miscarriage, although there is little evidence of efficacy. This could be routinely prescribed if the woman has a history of miscarriage.

In a miscarriage ending in death of the fetus (inevitable) vaginal bleeding will be heavier and more often redder in color. Pain and cramping can be more difficult than in threatened miscarriage and may be quite severe depending upon the length of pregnancy. Full expulsion of the fetus and uterine contents is known as a complete miscarriage and retention of any part of the products of pregnancy is known as incomplete. This kind of miscarriage poses risks to the mother of infection or toxic shock. Ergometrine[4] will be given once death of the fetus is confirmed to aid in emptying the uterus of tissue and a dilation and curettage (D&C) may be performed to ensure all tissue has been removed. Grief counseling should be recommended.

The following table summarizes potential complications and symptoms indicating a serious condition.

**Table 3: Complications of Miscarriage[5]**

| Complications | Symptoms |
|---|---|
| Infection | Fever, offensive vaginal discharge, general malaise. Treated with removal of infective tissue, antibiotics. |

[2] From: *The Clinical Medicine Guide, A Holistic Perspective* by Dr. Stephen Gascoigne, page 356.

[3] From: *HopeXchange, Pregnancy Statistics*, http://www.hopexchange.com/Statistics.htm, 02/14/2008.

[4] Ergometrine is a powerful uterine stimulant and is used to reduce blood loss post-partum and may be used in the event of incomplete miscarriage or abortion.

[5] From: *The Clinical Medicine Guide, A Holistic Perspective* by Dr. Stephen Gascoigne, page 328.

| | |
|---|---|
| Toxic Shock | Low blood pressure, rapid pulse rate, pallor, sweating. Treated with removal of infective tissue, hospitalization, fluid replacement, and antibiotics. |
| **Missed Miscarriage (A more rare type of miscarriage where the body fails to recognize the death of an unborn child and does not simultaneously abort)[6]** | Missed periods, slight vaginal bleeding, dead fetus but no expulsion, pregnancy test may still show positive. Spontaneous labor is most desirable. |

[6] Most missed miscarriages occur within the first 12 weeks after conception. They are usually identified when no fetal heart rate can be heard through echo-Doppler testing. The missed miscarriage is then confirmed by ultrasound. Many women do not realize that their child in utero has died, though occasionally women will notice brownish spotting. Often if death has just occurred, the body may simply begin to miscarry within a few days. When it is clear the body will not miscarry, an obstetrician has several options for ending the pregnancy. If the pregnancy is extremely early, prior to 7-8 weeks, medication like Misoprostol can cause the body to expel the remaining tissue in the uterus. This is considered conventionally as non-invasive, and the resultant tissues expelled resemble a heavy period. Pain can be significant with a pregnancy loss even at this early stage. Women are often given pain medication to help with contractions. Passing any tissue is not generally physically painful, though it can certainly take an emotional toll on any woman having to experience a missed miscarriage. From: *Wise Geek Website, Missed Miscarriage;* http://www.wisegeek.com/what-is-a-missed-miscarriage.htm, 02/14/2008.

Misoprostol is a prostaglandin analog that is registered in over 60 countries for treatment and prevention of gastric ulcers caused by prolonged use of anti-inflammatory medications. Because misoprostol causes uterine contractions, it is conventionally useful for a variety of obstetric and gynecologic purposes. In recent years, clinicians and researchers have begun building the evidence to support its "off-label" use for a number of reproductive health indications. From: *Reproductive Health Technologies Project;* http://www.rhtp.org/abortion/misoprostol/default.asp, 02/14/2008.

## Bleeding in the Third Trimester

Bleeding during the last three months of pregnancy is less common than first trimester bleeding and must always be considered a serious and potentially life-threatening condition. Third trimester bleeding may be caused by gynecological conditions such as those already discussed, or by two pregnancy-related conditions known as abruptio placenta and placenta praevia. After week 28, vaginal bleeding is known conventionally as antepartum hemorrhage and generally does not include conditions unrelated to pregnancy. Antepartum bleeding will be treated as an emergency and will typically prompt hospitalization to ensure the safety of the mother and baby.

A woman presenting at 34 weeks of pregnancy with either condition will have the additional worry of premature labor and the survival of her baby (although premie survival is possible with excellent critical care).

### *Abruptio Placenta*

This type of bleeding is caused by a partially separated placenta from the uterine wall. Normally, the placenta is firmly attached and it is through this that nutrients and oxygen pass from mother to baby. High blood pressure is associated with this condition and other risk factors include smoking, past history of abruption, cocaine use, scarring or fibroids in the area of placenta attachment, poor diet or social conditions, and physical trauma. Abruption can be life-threatening to the fetus and to the mother.

There may or may not be presence of vaginal bleeding, depending upon whether abruption is *revealed* (bleeds to cervix) or *unrevealed* (trapped between uterine wall and placenta). Approximately fifteen percent of these cases are not known until labor begins or delivery has occurred. Figure 2 illustrates an abruption. [7]

Symptoms can include light or heavy, dark or bright red vaginal bleeding depending on location

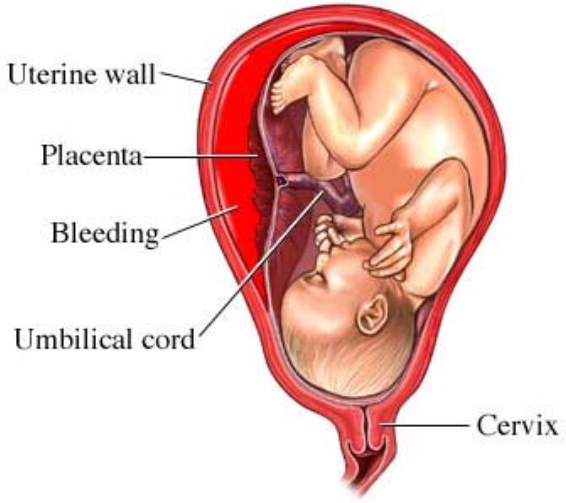


**Figure 2: Abruptio Placenta**

of abruption and how long it takes for blood to pass, a tender, painful uterus or one that is hard

[7] From: *Nucleus Communications, Inc.*; http://www.nucleusinc.com, Copyright 2002.

or rigid feeling. There can be distention of the uterus and signs of labor. The amount of blood should not be taken as an indication of the seriousness of the situation because it can be trapped. An ultrasound can show position of the placenta and the presence of clotting due to abruption. *Vaginal examination should not be conducted due to possibility of placenta previa*.

If symptoms of abruption are very mild and the ultrasound does not show evidence of placenta previa, bed rest will be ordered. More serious symptoms may involve hospitalization to enforce bed rest and support the process. Pain relief will generally be given and monitoring will be routinely performed to ensure the condition does not worsen. Where blood loss is great, transfusions may be administered to resolve anemia. In severe cases, labor will be induced or an emergency C-section performed. The following table summarizes potential complications and symptoms indicating a serious condition.

**Table 4: Complications of Abruptio Placenta**[8]

| Complications | Symptoms |
|---|---|
| Shock due to blood loss | Rapid pulse rate, low blood pressure, pallor, sweating; there can also be light-headedness, weakness, confusion, restlessness, and shallow, rapid breathing. |
| **Fetal Death** | Absence of fetal movement, absence of heart sounds. |

## *Placenta Previa*

Unlike abruption placenta, bleeding from placenta previa is generally sudden and typically painless unless there are other complications (noted below). Figure 3 illustrates the difference between normal placenta placement and placenta previa, where the placenta will slightly (known as marginal), moderately (known as partial), or completely (known as total) cover the

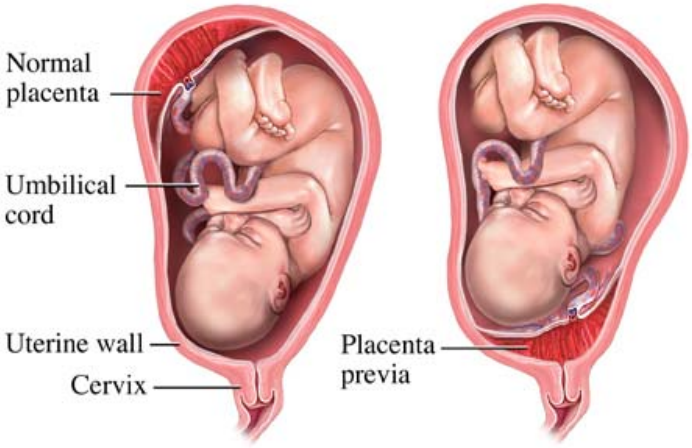


**Figure 3: Normal Placenta versus Placenta Previa**

[8] From: *The Clinical Medicine Guide, A Holistic Perspective* by Dr. Stephen Gascoigne, page 331.

cervix. [9] Placenta previa that is identified prior to the 20th week of pregnancy may resolve on its own as the uterus and baby grow during remaining weeks. If this is the case, progress will be monitored by ultrasound and it should be recommended that intercourse be avoided due to the potential of initiating bleeding. In no case should vaginal investigations be performed for the remainder of the pregnancy. Some women do not experience bleeding while others will experience sudden, painless bleeding that may be recurrent or may show late in the pregnancy or upon the beginning of labor. Blood will generally be bright red.

If the condition persists, treatment can depend on how much bleeding is taking place and whether the fetus is mature enough for early delivery. Close monitoring will occur until such time as the fetus can be taken by C-section (usually at around 39 weeks) since a vaginal birth is not possible, and in very severe early cases the pregnancy terminated if the life of the mother is threatened due to excessive loss of blood and the fetus is not mature enough to survive early delivery. If our woman at 34 weeks is experiencing excessive bleeding, it is likely that emergency surgery, C-section, and supportive IV and blood transfusion will be necessary to save her life and the life of her baby.

Known complications to placenta previa are placenta abruption (previously discussed), severe maternal bleeding before or during delivery (life threatening to both mother and baby), placenta abnormally attached or grown into the uterine wall (placenta accrete, increta, or percreta) which may require a hysterectomy due to extremely severe bleeding, premature delivery posing a risk to the fetus (prior to 37th week), and congenital defects (occurring 2.5 times more often in placenta previa pregnancies than in normal placenta placement.), any of which makes the situation all the more serious.

[9] From: *Nucleus Communications, Inc.*; http://www.nucleusinc.com, Copyright 2004.

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