

Study of Abnormal Uterine Bleeding

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Abstract: *Abnormal uterine bleeding in women of childbearing age is bleeding from the uterus that does not follow the normal pattern for menstrual cycles. That is, it occurs too frequently or irregularly or lasts longer or is heavier than normal menstrual periods. The most common type of abnormal bleeding results from problems that interfere with the release of the egg (ovulation). To diagnose abnormal uterine bleeding, doctors ask women questions about the pattern of bleeding (menstrual history) and do a pelvic examination, ultrasonography, and blood tests. A biopsy of the lining of the uterus may be done. Treatment depends on the cause and may include hormones or other medications, such as a combination birth control pill, or a procedure, such as hysteroscopy and dilation and curettage (D and C) If the biopsy detects abnormal cells, treatment involves high doses of a progestin and sometimes removal of the uterus. Above point are study in this research paper.*

Keywords: uterine bleeding

I. INTRODUCTION

Abnormal uterine bleeding is a common problem in women of childbearing age. It occurs most commonly at the beginning and end of the reproductive years: 20% of cases occur in adolescent girls, and more than 50% occur in women older than 45. In women of childbearing age, the most common cause of abnormal bleeding is ovulatory dysfunction. That is, the ovaries do not release an egg (ovulate) or do not regularly release an egg. Thus, pregnancy is less likely.

The ovaries may occasionally release an egg, these women should use contraception if they do not wish to become pregnant. Often, what causes the ovaries to malfunction is not known. Abnormal uterine bleeding commonly results when the level of estrogen remains high instead of decreasing as it normally does after an egg is released and is not fertilized. The high estrogen level is not balanced by an appropriate level of progesterone. In women with this type of abnormal bleeding, no egg is released, and the lining of the uterus may continue to thicken i.e. instead of breaking down and being shed normally as a menstrual period.

This abnormal thickening is called endometrial hyperplasia. Periodically, the thickened lining is shed incompletely and irregularly, causing bleeding. Bleeding is irregular, prolonged, and sometimes heavy and may last many days. This type of abnormal uterine bleeding is called anovulatory uterine bleeding.

In other women, an egg is released but progesterone production lasts longer than usual. As a result, the thickened lining of the uterus is shed irregularly. This type of abnormal uterine bleeding pattern is called ovulatory dysfunction. In women with obesity, this type can occur when estrogen levels are high. As a result, intervals with no periods alternate with intervals of prolonged bleeding.

If this cycle of abnormal thickening and irregular shedding continues, precancerous cells may develop, increasing the risk of cancer of the uterine lining (endometrial cancer), even in young women. Abnormal uterine bleeding is often an early sign of perimenopause (the several years before and the 1 year after the last menstrual period).

Causes of Abnormal Uterine Bleeding

Doctors classify causes of abnormal bleeding as due to an abnormality in a structure (structural) or due to another problem (nonstructural). Structural causes include- Polyps, Adenomyosis (when endometrial tissue grows into the wall of the uterus), Fibroids, Polycystic ovary syndrome, Precancerous conditions (hyperplasia— when the uterine lining is thickened but its cells are normal), Cancer

Nonstructural causes include, Ovulatory dysfunction, Blood clotting disorders. Use of contraceptives or certain medications

Abnormal uterine bleeding due to ovulatory dysfunction (AUB-O) is the most common cause of nonstructural abnormal bleeding and the most common cause overall. Causes of ovulatory dysfunction include :

- Polycystic ovary syndrome
- Pituitary disorders
- Thyroid disorders
- Premature menopause (primary ovarian insufficiency)
- Changes that occur around puberty or during the years before menopause occurs and the 1 year after (perimenopause)
- Bodywide disorders, such as liver disease or kidney disease
- Extreme physical or emotional stress
- Poor nutrition
- Sometimes the cause is unknown.

Symptoms of Abnormal Uterine Bleeding

In women with abnormal uterine bleeding, bleeding may differ from typical menstrual periods in the following ways:

- Occurs more frequently (fewer than 24 days apart)
- Varies in how many days it lasts
- Lasts longer than 8 days
- Occurs between periods (intermenstrual bleeding)
- Involves more blood loss (loss of more than about 3 ounces of blood or periods that last 8 days or longer)
- Does not occur regularly

Symptoms depend on the cause of bleeding. Bleeding may be abnormal during regular menstrual cycles, or bleeding may occur at unpredictable times. Some women have symptoms associated with menstrual periods, such as breast tenderness, cramping, and bloating, but many do not.

If bleeding continues, women may develop iron deficiency and sometimes anemia.

Whether infertility develops depends on the cause of the bleeding.

Diagnosis of Abnormal Uterine Bleeding :

- Description of the pattern of bleeding (menstrual history);
- A pregnancy test;
- A complete blood count;
- Measurement of hormone levels;
- Sometimes procedures such as an endometrial biopsy or hysteroscopy.

Abnormal uterine bleeding is suspected when bleeding occurs at irregular times or in excessive amounts. To establish that bleeding is abnormal, doctors ask questions about the pattern of bleeding (menstrual history).

To determine the cause, doctors ask about other symptoms and possible causes (such as use of medications, the presence of other disorders, fibroids, and complications during pregnancies). A physical examination is also done. Tests to check for possible causes of abnormal uterine bleeding

Doctors do a pregnancy test, even in adolescent girls and women who are going through menopause. Other tests to check for possible causes of vaginal bleeding may be done based on the findings during the interview and physical examination. For example, doctors usually do a complete blood count to estimate how much blood has been lost and whether anemia (including iron deficiency anemia) is present. They also may do blood tests to determine how fast blood clots (to check for clotting disorders).

Doctors typically do blood tests to measure hormone levels (to check for polycystic ovary syndrome, thyroid disorders, pituitary disorders, or other disorders that are common causes of vaginal bleeding). Hormones that may be measured include female hormones such as estrogen or progesterone (which helps control the menstrual cycle), thyroid hormones, and prolactin.

Doctors may do a cervical cancer screening test, such as a Papanicolaou (Pap) test and/or human papillomavirus (HPV) test, if women have not been tested recently. Doctors may also do an imaging test or a procedure. For example, they may do a biopsy if results of blood tests or a Pap test are abnormal or do not identify the cause of the bleeding.

Imaging tests and procedures

Transvaginal ultrasonography is usually used to check for growths in the uterus and to determine whether the uterine lining is thickened. Thickening of the uterine lining may result from noncancerous conditions such as polyps or fibroids or hormonal changes. Transvaginal ultrasonography is done if women have any of the following:

- Risk factors for endometrial cancer, such as obesity, diabetes, high blood pressure, polycystic ovary syndrome, and excess body hair (hirsutism), regardless of age
- Age 45 or older (younger if they have risk factors)
- Bleeding that continues despite treatment with hormones
- Pelvic or reproductive organs that cannot be examined adequately during the physical examination
- Findings suggesting abnormalities in the ovaries or uterus based on the physical examination

Transvaginal ultrasonography can detect most polyps, fibroids, abnormalities in the ovaries, and areas of thickening in the lining of the uterus. If transvaginal ultrasonography detects areas of thickening, other tests may be done to check for small polyps or other masses. One or both of the following tests may be done:

Ultrasonography after saline is infused into the uterus.

Insertion of a viewing tube through the vagina to view the uterus.

Both tests may be done in the doctor's office. If the doctor's office cannot provide hysteroscopy, the procedure can be done in a hospital as an outpatient procedure. An endometrial biopsy is usually also done to check for precancerous changes and for cancer in women with any of the following:

- Age 45 or older plus one or more risk factors for endometrial cancer (see above)
- Age under 45 plus several risk factors for endometrial cancer
- Bleeding that is persistent or recurs despite treatment
- Thickening of the uterine lining (detected by transvaginal ultrasonography)
- Inconclusive findings during transvaginal ultrasonography

Treatment of Abnormal Uterine Bleeding

- A drug to control the bleeding.
- If bleeding continues, a procedure to control the bleeding.
- If abnormal cells are present in the uterus, a progestin or progesterone or, in postmenopausal women, sometimes removal of the uterus.
- If iron deficiency anemia is present, iron supplements.
- Treatment of abnormal uterine bleeding depends on :
 - How old the woman is
 - How heavy the bleeding is
 - Whether the uterine lining is thickened
 - Whether the woman wishes to become pregnant

Treatment focuses on controlling the bleeding and, if needed, preventing endometrial cancer.

Medications

Bleeding can be controlled using medications, which may be hormones or not. Medications that are not hormones are often used first, especially in women who want to become pregnant or to avoid the side effects of hormone therapy and in women with heavy regular bleeding. These medications include

- Nonsteroidal anti-inflammatory drugs (NSAIDs)
- Tranexamic acid

Hormone therapy (such as birth control pills) is often tried first in women who do not want to become pregnant or who are approaching or just past menopause (this time period is called perimenopause). When the uterine lining is thickened but its cells are normal (endometrial hyperplasia), hormones may be used to control bleeding.

Often, a **birth control pill** that contains estrogen and a progestin (a combination oral contraceptive) is used. Besides controlling bleeding, oral contraceptives decrease the cramping that may accompany bleeding. They also decrease the risk of endometrial (and ovarian) cancer. Bleeding usually stops in 12 to 24 hours. Sometimes high doses are needed to control the bleeding. After bleeding stops, low doses of the oral contraceptive may then be prescribed for at least 3 months to prevent the bleeding from recurring. Some women should not take estrogen, including that in combination oral contraceptives. Such women include :

- Women with significant risk factors for a heart or blood vessel disorder or who have had blood clots.
- Women who have had a baby within the last month.
- A progestin or progesterone (which is similar to the hormone the body makes) may be used alone when :
- Women should not take estrogen (that is, when estrogen is contraindicated).
- Treatment with estrogen is ineffective or not tolerated.
- Women do not wish to take estrogen.

Progestins and progesterone can be given by mouth for 21 days a month. When these hormones are taken this way, they may not prevent pregnancy. Thus, if women do not wish to become pregnant, they must use another method of birth control, such as an intrauterine device (IUD) or medroxy-progesterone given by injection every few months.

Other medications that are occasionally used to treat abnormal uterine bleeding include danazol (a synthetic male hormone, or androgen) and gonadotropin-releasing hormone (GnRH) agonists (synthetic forms of a hormone produced by the body, sometimes used to treat bleeding caused by fibroids). However, these medications have significant side effects that limit their use to a few months. Danazol is not frequently used because it has many side effects.

If heavy menstrual bleeding is thought to be caused by fibroids, other oral medications, some of which contain hormones, may be used (see also Fibroid Treatment).

If women are trying to become pregnant and bleeding is not too heavy, they may be given clomiphene (a fertility drug) by mouth instead of hormones. It stimulates ovulation.

If women have iron deficiency anemia or symptoms of iron deficiency without anemia, iron supplements are usually given by mouth but sometimes must be given by vein (intravenously). Normal consumption of iron in the diet usually cannot compensate for iron loss due to chronic bleeding, and the body has a very small iron reserve. Consequently, lost iron must be replaced by taking iron supplements.

Procedures

If the uterine lining (endometrium) remains thickened or the bleeding persists despite treatment with hormones, hysteroscopy is usually done in an operating room to look into the uterus. It is followed by dilation and curettage (D and C). For a D and C, tissue from the uterine lining is removed by scraping. This procedure may reduce bleeding. However, in some women, it causes scarring of the endometrium (Asherman syndrome), Scarring can cause menstrual bleeding to stop (amenorrhea) and make biopsy of the endometrium difficult later. Endometrial ablation does not prevent pregnancy.

If bleeding continues after a D and C, a procedure that destroys or removes the lining of the uterus (endometrial ablation) can often help control bleeding. This procedure may use burning, freezing, or other techniques. It may help 60 to 80% of women.

If fibroids are the cause, blood flow to the fibroids may be blocked with small, synthetic particles injected through a thin, flexible tube (catheter) into these arteries (called artery embolization). Alternatively, fibroids may be removed through a catheter inserted into a small incision just below the navel (laparoscopy), through a catheter inserted into the vagina (hysteroscopy), or through a larger incision into the abdomen.

Endometrial Ablation

If bleeding continues to be substantial after other treatments have been tried, doctors may recommend removal of the uterus (hysterectomy).

Treatment for precancerous cells of the uterus (endometrial hyperplasia)

If the uterine lining contains abnormal cells and menopause has not occurred, women may be treated with one of the following:

- A high dose of medroxyprogesterone acetate (a progestin)
- Norethindrone
- Micronized progesterone (a natural rather than synthetic progesterone)
- An intrauterine device (IUD) that releases levonorgestrel (a progestin)

A biopsy is done after 3 to 6 months of treatment. If the cells appear normal, women may be given medroxyprogesterone acetate for 14 days each month. If they want to become pregnant, they may be given clomiphene instead. If the biopsy detects abnormal cells, a hysterectomy may be done because the abnormal cells may become cancerous. If women are postmenopausal, hysterectomy is usually done. If women have a condition that makes surgery risky, a progestin is used.

Emergency Treatment & Suggestion

Rarely, very heavy bleeding requires emergency measures. They may include fluids given intravenously and blood transfusions. Occasionally, doctors insert a catheter with a deflated balloon at its tip through the vagina and into the uterus. The balloon is inflated to put pressure on the bleeding vessels and thus stop the bleeding.

Very rarely, estrogen is given intravenously. Treatment is limited to 4 doses because this treatment increases the risk of blood clots. Immediately afterward, women are given combination oral contraceptives until bleeding has been controlled for a few months.

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