Cyclic bleeding disorders

Cyclic bleeding disorders are a common problem and the cause of about **15-20 % visits** to gynecological clinics. It is mostly a manifestation of the female genitals illness or hormonal disorders, rarely a manifestation of general illness. The most important diagnostic criterium is carefully managed **menstrual calendar**.

Division according to symptoms:

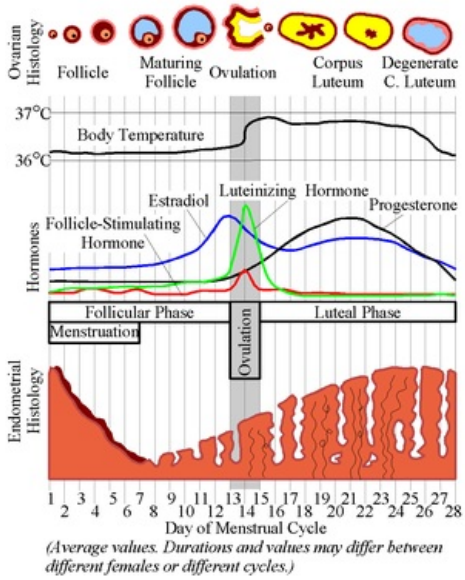
- **amenorrhea** (primary, secondary),
- **disorders of cycle onset and termination** (early/late menarche and menopause),
- **menstrual rhythm disorder** (oligomenorrhea, polymenorrhea),
- **disorder of intensity and duration of bleeding** (hypermenorrhea, hypomenorrhea, menorrhagia),
- **additional bleeding** (out of cycle),
- **functional disorders of the cycle** (metrorrhagia, uneven shedding of the endometrium),
- **pathological accompanying symptoms** (dysmenorrhea, premenstrual syndrome).

According to pathophysiology, we distinguish disorders at the level of the hypothalamus, pituitary gland or ovaries.

Amenorrhea

A condition where there is **no menstrual bleeding**. We divide it to:

- **primary** – if the girl experiences no bleeding until the age of 15 (congenital developmental defects, endocrine disorders, virilization),
- **secondary** – absence of menstruation for more than 3 months by women who have already menstruated (central and ovarian causes, endocrinopathy, internal diseases, operations, inflammations, tumors, polyps on the genital system).



Menstrual cycle

The diagnostic criterium for division is **progesterone test**. If menstrual bleeding occurs within 14 days after the application of progesterone, it is about **amenorrhea I. grade** (sufficient endometrial proliferation), if it doesn't show up, it is **amenorrhea II. grade** (with insufficient endometrial proliferation). It is always needed to **disprove pregnancy** and any other **organic cause** (e.g. *kryptomenorrhea* – cyclical changes on the endometrium are under way, but blood is not secreted due to mechanical obstruction).

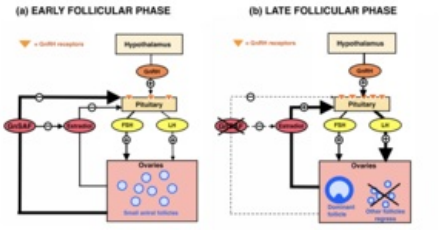
🔎 *For more information see Amenorrhoea.*

Disorders of cycle onset and termination

Physiological beginning of menstruatione (*menarche*) is usually between 10-15 a year, if it starts earlier, we refer to it as ***menarche praecox***, in case of late arrival ***menarche tarda***. End of menstruation (menopause) occurs physiologically between 49-51. a year. We refer to deviations as **premature or late menopause**.

Disorders of the menstrual rhythm

The physiological menstrual cycle lasts in an interval of 28±3 days[1]. The regularity of cyclical bleeding begins within 2 years from menarche,[1] we consider the disorders to be (to a certain extent) physiological. We consider disorders arising after this time as pathologies. We diagnose using a hormonal examination and ultrasound *per vaginam* (specifies the length of the follicular and luteal phase, or anovulation).



Follicular phase disorders caused by GnSAF dysfunction

Oligomenorrhea

Lengthening the interval between menstrual bleeding (**longer than 35 days**).[1] Bleeding is usually prolonged and more intense. It most often occurs during **anovulation**, irregular ovulation or during the extension of the follicular phase. Less often, it is caused by the persistence of the corpus luteum. The cause are **hormonal disorders** (polycystic ovary syndrome, prolactinoma), **lifestyle disorders** (increased stress, drastic diets, extreme sports, eating disorders), as well as **inflammation**, **cysts**, **polyps** a **tumors** in the female reproductive system.

During the **medical therapy** , we apply **progesterone in the second half of the cycle.** At the same time, it can be combined with preparations containing **estrogenes** (combined hormonal contraception). Anovulation in women who are trying to conceive, can be stimulated by administration of clomiphene citrate and FSH.

Polymenorrhea

Too frequent menstruation (cyclus lasts '**less than 22 days**).[1] There is usually a shortening of the luteal phase, which causes **premature death of the follicle** accompanied by a drop in estrogen levels. Anovulatory cycles can also be caused by **excessive stress** and **increased mental or physical stress**. Shortening of the follicular phase is less common and may be followed by ovulation (in that case, no therapy is needed). Excessive bleeding can cause **anemia**. For this reason, it is appropriate to supplement the diagnosis with the examination of blood values and iron levels.

Therapy is usually based on administration of **combined hormonal contraception**. If the cause is a shortened luteal phase, progesterone can be given in the second phase of the cycle. We stimulate anovulation in women who are trying to conceive by administering clomiphene citrate and FSH. In case of manifestation of anemia, we indicate **iron supplementation**.

Disorders of the intensity and duration of menstrual bleeding

Menstrual bleeding usually lasts for **3-5 days** and the total amount of blood loss should not exceed 1 ml of blood per 1 kg of the woman's weight (usually **35-80 ml**). In clinical practice, blood loss is measured by the number of pads used per day (usually 2-7). More accurate values of blood loss can we get by considering the pads used.[1]

Hypermenorrhea and menorrhagia

Hypermenorrhea is defined as **excessive bleeding** (more than 5 pads per day), which is usually accompanied by *menorrhagia*, which is **prolonged bleeding** (more than 7 days).

Causes include organic disorders – **endometrial changes** (polyps, chronic endometritis, irregular endometrial shedding) and **myometrium changes** (myoma, functional muscle insufficiency after uterine hypoplasia, adenomyosis), **cancer illnesses**, further **functional disorders** local fibrinolysis) and extragenital disorders including **systemic diseases** (hypertension, kidney diseases, hemorrhagic diatheses, avitaminosis C and B) and **anticoagulans therapy**.

For **diagnosis**, it is essential to rule out or confirm an organic cause (mainly cancer). We use ultrasound examination, determination of hormone levels, possibly hysteroscopy, separate abrasion of the throat and body of the uterus and histological examination.

Treatment depends on the concrete diagnosis. We deal with systemic disorders in cooperation with an internist, a hematologist and an endocrinologist. To regulate bleeding, we administer **progesterone in the second half of the cycle** or combined **HA**. In the perimenopausal period, we consider **hormone replacement.** To stop bleeding, we apply **antifibrinolytics** (especially by young people) or **hemostatics** (paraaminobenzoic acid, tranexamic acid). Administration of **non-steroidal anti-inflammatory drugs** (mainly COX-2) will reduce blood loss. In the case of organic causes that do not respond to conservative treatment, we indicate **surgical methods** (hysteroscopic and laparoscopic procedures, hysterectomy).

Hypomenorrhea

Week cyclical bleeding (less than 2 pads per day). It is caused by the different structure and vascular supply of the endometrium.

The reason may be **insufficient ovarian function** or **alteration of the endometrium** (estrogen resistance, fibrotization, destruction). A frequent cause of the disappearance of the basal layer of the endometrium is extensive **inflammation** of the endometrium, or **instrumental revision** of the uterine cavity. The condition when the uterine cavity is obliterated is called **Asherman's syndrome**. In the case of complete obliteration, amenorrhea is present, if some islands of the endometrium are still preserved, it manifests as hypomenorrhea.

In diagnostics, we determine hormone levels, perform ovulation detection, ultrasound examination, hysterosalpingography, and hysteroscopy.

Endometrial proliferation can be promoted by the administration of **estrogens**. Secretory transformation is stimulated by **gestagens**. In Asherman's syndrome, we indicate hysteroscopy with **release of adhesions** and introduction of an **intrauterine device with estrogens** (usually 1-2 months).

> In the case of hypomenorrhea with a present ovulatory cycle and a fully developed secretory phase, there is no need to indicate therapy.

Additional bleeding (outside the cycle)

Usually light bleeding (of a spotting nature) that occurs outside of cyclical bleeding.

Ovulation bleeding
: It occurs by 5% of women in fertile age. It can be accompanied by other symptoms such as pain in the lower abdomen or increased vaginal secretion. Bleeding is caused by the endometrium's response to a drop in estrogen levels.

Premenstrual bleeding

It occurs a few days before the start of menstruation, the cause is insufficiency of the corpus luteum, polyp, inflammation, fibroid, uterine hypoplasia or intrauterine device.

Postmenstrual bleeding
It follows the menstrual cycle and arises, for example, as a result of insufficient endometrial regeneration, estrogen deficiency, uterine hypoplasia, myomatosis, inflammation or the presence of an intrauterine device.

Functional disorders

Metrorrhagia

Acyclic irregular uterine bleeding of various intensity. It most often appears after menarche (juvenile metrorrhagia) and before menopause. It can be a symptom of serious pathologies (endocrinopathy, inflammation, tumors), which is why precise diagnosis is essential.

🔎 *For more information see Metrorrhagia.*

Uneven shedding of the endometrium

Abnormal bleeding from an anatomically normal uterus. Endometrial hyperproliferation occurs, which is not opposed by progestogens during anovulatory cycles. Excessive stimulation of the endometrium by estrogens (long-term, high levels) leads to its excessive growth, which causes reduced trophicity and thus the mucosa becomes **fragile**. When estrogen levels fluctuate, it begins to be secreted unevenly. Bleeding tends to be heavy and prolonged.

Therapy consists of **stopping bleeding** and **preventing recurrences**. We stop bleeding by using **norsteroids** (synthetic progestins with an estrogenic effect), i.m. application of estrogens and progesterone can also be used. In case of anemia, we start its medical treatment. We correct the dysfunction by administering estrogens (supporting the strength and trophicity of the endometrium) and gestagens to induce the transformation of the endometrium. In the prevention of **relapses**, we indicate the cyclic application of progesterone in the second half of the cycle, combined HA, or hormone replacement.

Pathological accompanying symptoms

Dysmenorrhea

Characteristic is **pain** and other **somatic symptoms** (diarrhea, headaches, nausea, vomiting, collapse) that begin just before menstrual bleeding and disappear after the following 2-3 days. We distinguish between **primary** (idiopathic) and **secondary** (due to pathological processes) dysmenorrhea

🔎 *For more information see Dysmenorrhoea.*

Premenstrual syndrome

Regular presence of **somatic and psychological problems** in the luteal phase of the menstrual cycle. They are of different nature and intensity. It occurs in a high number of women. It most often appears 7 days before menses and disappears with its onset. The cause is probably an imbalance of the endocrine and neurotransmitter systems, which are linked to psychological factors. A special type is **premenstrual dysphoric disorder**, in which the symptoms of PMS are so accelerated that they make the patient's social adaptation impossible (affective lability, anxiety, tension, dysphoria, etc.).

To establis the diagnosis, it requires the presence of one somatic and one psychological symptom in three consecutive cycles. Léčba je symptomatická. **Lifestyle modification** and **psychiatric care** are the basis.Of the drug, we indicate **hormonal contraception** with a low estrogen content in combination with drospirenone (gestagen with antimineralocorticoid activity), which reduces the formation of edema. In the treatment of the pain, we indicate **non-steroidal antiphlogistics**. Sometimes we give supplementation of vitamins (B6, E) and minerals (magnesium, calcium).

🔎 *For more information see Premenstrual syndrome.*

Source

Related articles

- Dysmenorrhoea
- Premenstrual syndrome
- Menstrual cycle
- Metrorrhagia

Source

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Reference

1. HÁJEK, Zdeněk – ČECH, Evžen – MARŠÁL, Karel, et al. *Porodnictví.* 3. edition. Praha : Grada, 2014. 538 pp. ISBN 978-80-247-4529-9.