

Womb

The **uterus (uterus, metra, hystera)** is a hollow muscular organ with a thick wall located in the small pelvis of a woman. It has a pear-shaped shape and is slightly flattened from the front to the back. The dimensions of the uterus vary according to the stage of the woman's life (for a woman who has not yet given birth = nulliparous, the dimensions are 8 x 5 x 2-3 cm (length x width x depth), for a woman who has already given birth = multiparous, the dimensions are slightly larger).

Parts of the uterus:

- **fundus uteri** - arc-shaped part above the body of the uterus
- **corpus uteri** - uterine body;
- **cornu dextra + sinistra** - the corners of the uterus, the fallopian tubes open here
- **cervix uteri** cervix; it is divided into **portio vaginalis (suppository)** and **portio supravaginalis**
- **isthmus uteri** a short section connecting the corpus and the cervix.



Female internal genitalia

You can also see **edges(=margo)** and **surfaces (=facies)** on the uterus, namely:

- **facies vesicalis (=anterior)** - front surface facing the bladder
- **facies intestinalis (=posterior)** - back surface facing the loops of the small intestine
- **margo dextra' + sinistra** - right and left edge of the uterus

Uterus Anatomy

The uterus is housed in a small pelvis between the bladder and the anus. It is anteroposteriorly flattened (in adulthood) and occupies a typical position:

- **anteflexio uteri** the longitudinal axis of the uterus forms an obtuse angle (160–170°) with the axis of the cervix, this angle is open forward;
- **anteversio uteri** the angle between the uterus and the vagina (70–100°).

Structure of the uterine wall (histological structure of the uterus)

The uterine wall is about 15 mm thick and consists of three basic layers:

- **endometrium;**
- **myometrium;**
- **perimetrium** (serosa or adventitia).

Endometrium

The surface of the endometrium is covered by a **single layer cylindrical epithelium**. Beneath the epithelial layer is the lamina propria, which is made up of simple tubular glands (glandulae uterinae). The stroma is highly cellular – rich in fibroblasts. From a functional point of view, the endometrium is divided into 2 basic layers:

- **zona (stratum) basalis** - this layer remains the same, it does not change during the menstrual cycle. Contains bases of glands, more collagen and reticular fibers;
- **zona (stratum) functionalis** - during the menstrual cycle, due to the influence of hormones, changes in the structure of this layer occur and its separation. The bodies of the glands extend into this part. The hormone estrogen from the bottom of the glands (zona basalis) is involved in regeneration.

The endometrium is supplied with blood from the arteriae arcuatae, which divides into 2 sets of arteries, depending on which part of the endometrium they supply:

- direct arteries – supply the zona basalis;
- spiral arteries (*arteriae spirales*) – supply the zona functionalis.

Myometrium

The myometrium is a thick layer of smooth muscle divided into 4 (some sources indicate 3) vaguely defined layers:

- **stratum submucosum** with a predominance of longitudinal bundles;
- **stratum vasculare** with a predominance of longitudinal bundles and rich vascularization;
- **stratum supravasculare** with a predominance of circularly oriented bundles;

- **stratum subserosum** with a predominance of longitudinally oriented sheaves.

In addition to muscle fibers, the myometrium contains an admixture of connective tissue, as well as vascular and lymphatic supply and autonomic nerves.

During pregnancy, this layer undergoes major changes - there is both hypertrophy, but also hyperplasia of muscle cells.

Perimeterium and parametrium

The upper and back part of the uterus is covered with serous coating - **perimeterium**, which partly extends to the front wall of the body of the uterus. He moves to the league on the sides. latum uteri. It is formed by the mesothelium. The subserosal ligament passes into the fixation apparatus of the uterus - the *parametrium*. The lower part of the uterus (the front wall of the cervix) is covered by the adventitia.

Supply and Lymphatic Drainage of the Uterus

Blood supply:

- **a. uterina** - from **a. internal iliaca**

Venous outflow:

- **plexus venosus uterovaginalis** - drains into **vv. uterinae** and subsequently ends in **v. internal iliaca**

Lymphatic drains

- **nodi lymphatici lumbales** - drains lymph from the **fundus** and the **corpus uteri**
- **nodi lymphatici iliaci interni** - drains lymph from the **corpus, isthmus** and **cervix uteri**
- **nodi lymphatici sacrales** - drains lymph from the **isthmus and the cervix uteri**
- **nodi lymphatici inguinales superficiales** - drains lymph from the **margins** and the **cornua uteri**

Changes of the uterus during the menstrual cycle

 For more information see *Menstrual Cycle*.

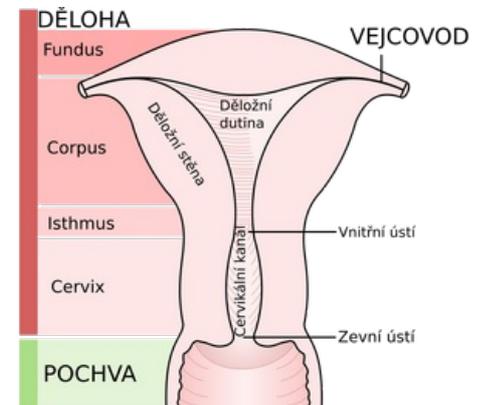
During the menstrual cycle, depending on the level of sex hormones, changes occur in the uterine endometrium. These changes they relate in particular to the zona functionalis, which proliferates during the menstrual cycle, the simple tubular glands branch, grow and, thanks to the stimulation of progesterone (from the corpus luteum in the ovary), secrete is produced. This prepares the endometrium to receive the fertilized egg. However, if fertilization did not occur, the corpus luteum disappears, the production of progesterone ceases and a new menstrual cycle begins - menstruation and with it the loss of the zona functionalis. The zona basalis is thinner, contains the basal parts of the uterine glands and is not subject to changes during the menstrual cycle.

Uterine changes during a woman's life

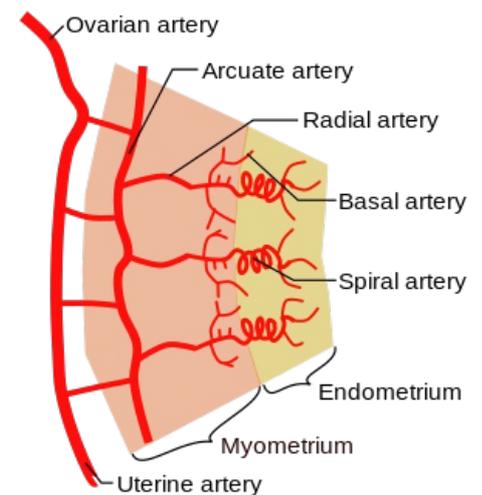
During life, the shape of the uterus, its size and proportions change. All of this is dependent on estrogen levels.

Changes of the uterus depending on the period of life:

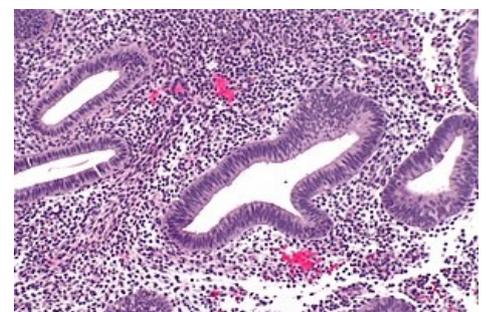
- **typus uteri infantilis** = resting period - in children, the uterine body is smaller than the cervix (ratio 2:1);
- **typus uteri pubertalis** - during puberty, the level of estrogen increases sharply, and the uterine body responds to this fact with its growth (ratio 1:1);
- **typus uteri adultae** - there is a gradual increase of the uterine body until the ratio between it and the cervix increases to 2:1. Gradually, its position will be modified into anteflexion and anteversion;
- **typus uteri senilis** - as a result of insufficient estrogen stimulation, the uterine body shrinks again and the uterus resembles *typus uteri pubertalis*.



Anatomy of the uterus



Vascular supply of the uterine wall



Detail - Endometrium and myometrium in the proliferative phase of the menstrual cycle

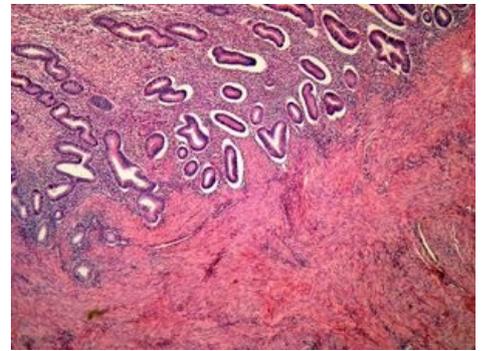
Uterus changes during pregnancy:

- the uterus grows depending on the growth of the fetus;
- takes a spherical shape;

Links

Related Articles

- Menstrual cycle
- Ovarian cycle
- Uterus (preparation)
- Ligamentum latum uteri
- Hyperplastic endometrium (preparation)



Endometrium and myometrium in the proliferative phase of the menstrual cycle

References

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