

Vagina (histology)

The vagina is one of the internal organs of the female reproductive system. The histological structure of the wall of the **vagina** is divided into a mucosal, muscular and outer, mainly fibrous layer. It is directly connected to **pars vaginalis cervicis uteri**.

Tunica mucosa

Lamina epithelialis contains stratified squamous nonkeratinizing epithelium. The cells of this epithelium contain numerous glycogenous granules, which is why their cytoplasm appears bright under a light microscope. After the cells break down, thanks to the action of *Lactobacillus acidophilus*, glycogen is split into lactic acid. This creates an acidic environment (pH = 4) in the vagina, which protects it from infectious influences. During the menstrual cycle, the height of the epithelium changes (the norm for adult women is approximately 150 µm). It is positively stimulated by estrogens.

An exfoliative cytology examination involves swabbing the cells with a cotton swab.

Lamina propria mucosae includes sparse collagen tissue, elastic fibers are also abundantly represented. There are no glands, instead there is significant lymphatic and neutrophil infiltration and the presence of many venous plexuses. Venous plexuses ensure **transudation of fluid** - the penetration of fluid from the blood into the tissue - with moistening of the epithelium. It is divided into papillary processes.

The mucus found in the vagina is a product of the cervix. Lubrication is provided by **Bartholin's gland** (similar to Cowper's gland in men). Inflammation is common in it.

Tunica muscularis

Counts bundles of smooth muscle cells. The *inner* layer is *circular*, the *outer* layer is *longitudinal*.

Tunica adventicia

It is built with denser collagen fibers and a large amount of elastic fibers. In it, we can find larger vessels, more complex clusters of nerves in the plexuses, but also a separate nerve ganglia.

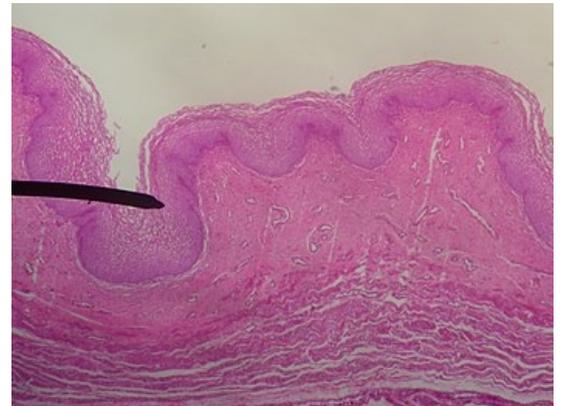
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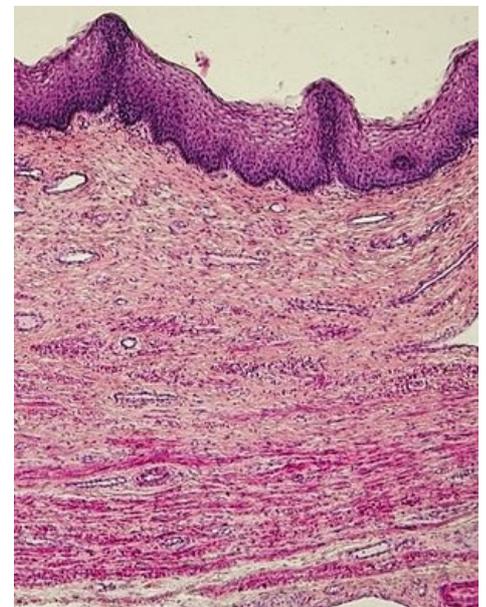
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Used literature

- MESCHER, Anthony. *Junqueirovy základy histologie*. 1. edition. Praha : Galén, 2018. 560 pp. ISBN 978-80-7492-324-1.
- ŠRAJEROVÁ, Jana MUDr. *Dýchací systém* [lecture for subject Histologie a obecná embryologie, specialization Všeobecné lékařství, 1. LF UK]. Praha. 20. 03. 2020.



Layers of vaginal epithelium



Changes in the epithelium of the vagina in a post-menopausal woman