

# Precancers in gynecology

**Precancer** is a **preinvasive intraepithelial lesion** that has the same etiopathology as invasive carcinoma. It is still progressing and there is a risk of developing into invasive cancer, which lasts about 10-15 years .

Precancers are asymptomatic, do not metastasize, and when they are completely removed, the disease is completely cured .

Spontaneous regression of precancers can sometimes occur, this particularly applies to precancers of the cervix during pregnancy

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## Anatomical division of precancers

Anatomically, a distinction is made between **precancers of the lower genital tract** and **endometrial precancers** .

Some works also talk about precursors from the upper part of the body; e.g. endometriosis, papillary tubal metaplasia, transitional epithelium of the tuboperitoneal junction) for low-grade tumors , for high-grade serous ovarian carcinoma (HGSC), the so-called serous tubal intraepithelial carcinoma (STIC).

Precancers of the lower genital tract include :

- precancer **of the vulva** ,
- precancer **of the vagina** ,
- **cervical** precancers ,
- precancer of **the anus** .

In the Czech Republic, it is not very common to count pre-cancers of the anus among gynecological pre-cancers, but abroad they are routinely screened as part of comprehensive gynecological care, and without a doubt, the anus belongs to the neoplastic syndrome of the lower genital tract [1] .

## Histological division

Physiologically, there are two types of epithelium in women: **stratified squamous** epithelium on the vulva (keratinized) and vagina (non-keratinized) and **the single-rowed cylindrical** epithelium of the endometrium. Precancer can arise from both types of epithelium.

Both are found on the cervix with an interface in the form of a transformational metaplastic zone ( *squamocolumnar junction* ).

Epithelial metaplasia in the transformation zone is a physiological process in which the columnar epithelium transforms into a squamous epithelium, and the interface between the two types shifts with age at the expense of the squamous epithelium. Physiologically, it takes place on the cervix, anus and esophagus .

The epithelium in the metaplastic zone is the most sensitive in terms of the development of precancer due to remodeling. For that reason, precancers of the squamous cell epithelium are also more common.

## Causes and risk factors

In precancers **of the vulva** , **vagina** and **cervix**, the cause is usually chronic infection **with oncogenic papillomavirus** (18 different types). 70% of oncogenic HPV infections are caused by HPV-16 or HPV-18. Infection alone is not enough, normally the atypical cells are removed by the immune system. Risk factors for precancer are **smoking** , **immunosuppression** , **immunocompetence** , **sexually transmitted diseases** (especially chlamydia and HSV-2), **promiscuity** (defined as more than 6 life partners), early coitarchy .

Endometrial precancers are caused by hyperestrinism. This can be absolute (normal level of progestogens and high estrogens) or relative (normal level of estrogens and low progestogens).

## Screening for precancers

- Colposcopy (for the vulva called vulvoscopy) – a colposcope device is used, which is a telescope (sic!) by design, not a microscope, as is sometimes stated .
- Cytology
- HPV typing

*More detailed information can be found on the page Prebioscopic examination methods in gynecology .*

*More detailed information can be found on the Prevention of gynecological tumors page .*

## Precancers of the cervix

This is a very sophisticated issue with the best developed screening system, therefore a separate article discusses this topic.

*More detailed information can be found on the Cervical Precancers page .*

## Precancers of the vulva

There are two types of **vulvar intraepithelial neoplasia ( VIN )**:

- *usual* VIN ( **uVIN** ) – lesions more frequent and with a better prognosis, caused by HPV infection,
- *differentiated* VIN ( **dVIN** ) – less common lesions that are not caused by HPV infection , have a mutated p53 gene , have a worse prognosis.

dVIN can occur in the field of *lichen sclerosus et atrophicus* , but *lichen sclerosus* does not belong to the limits of precancer in any case, it is a benign lesion, dermatosis .

*(Previously, the types VIN I, which today no longer belongs to VIN, VIN II and VIN III, which is synonymous with vulvar carcinoma in situ, were distinguished .)*

Other precancerous lesions include:

- extramammary form of Paget's disease ,
- *premelanoma* – the rule A ( *asymmetry* ), B ( *border* ), C ( *color* ), D ( *diameter* ), E ( *evolution* ) is used in the diagnosis .

In differential diagnostics, it is necessary to differentiate lesions of psoriasis and lichen. **Biopsy** is an essential method in diagnosis , samples are easily accessible by biopsy, and every suspicious lesion should be examined histologically .

## Vaginal precancers

**Vaginal intraepithelial neoplasia ( VaIN )** occurs most often in patients after hysterectomy (90%), especially in the surgical stump. There can also be a simultaneous occurrence on the cervix and in the vagina. In 80%, the lesions occur in the proximal third.

## Endometrial precancers

**Atypical hyperplasias** , which are precancerous to adenocarcinoma, may occur in the endometrium and may be either **simplex** or **complex** and **with** or **without atypia** . Another precancer is *carcinoma in situ* , which is less common and arises in atrophic mucosa.

## Treatment of precancers

*More detailed information can be found on the page Treatment of precancerous gynecological tumors .*

In general, you can choose a conservative, i.e. wait-and-see approach (rarely), or an active approach. An active approach includes either destructive methods for the pathological tissue, which are no longer used ( *cryoablation* , *laser-vaporization* ), or **ablative methods** . In the case of the vulva it is laser-skinning or excision, in the case of the vagina a partial or total colectomy, in the case of the endometrium hysterectomy with adnexectomy, in the case of the cervix cylindrical dissection or conization (cold-knife, LEEP or laser-ablation).

For endometrial precancers in women of childbearing age who want to become pregnant, progestagen treatment may be indicated. For lesions of the vagina and vulva caused by HPV, treatment with Imiquimod (immunomodulatory cream) can be chosen in some cases.

# links

## Related Articles

- Malignant tumors in gynecology
- Treatment of precancerous gynecological tumors
- Prevention of gynecological tumors
- Cervical precancers
- Precancers in dermatology

## External links

- [www.onkogyn.cz](http://www.onkogyn.cz) (<http://www.onkogyn.cz/>) (např. aktuální **TNM klasifikace**, jde o stránky *Onkogynekologického centra VFN*)

## Bibliography

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- ROB, Lukáš. *Alois MARTAN and Karel CITTEBART*. 2. edition. Praha : 1st Faculty of Medicine, Charles University in Prague, 2008. 19–22 pp. vol. 1. ISBN 978-80-7262-501-7.