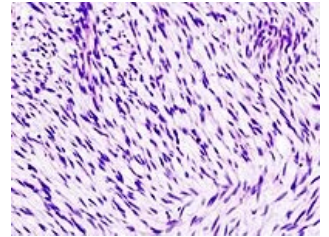


# Malignant tumors of the uterine body (pathology)

Malignant tumors of the uterine body include: **leiomyosarcoma, stromal sarcoma, carcinoma of the uterine body, carcinosarcoma.**

## Leiomyosarcoma

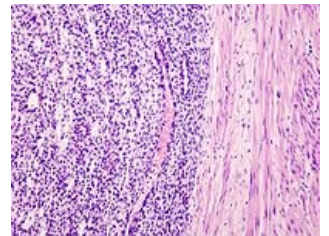
It is a **malignant tumor** *arising from smooth muscle cells. It is rarer than its benign variant – leiomyoma. Macroscopically, it is a solid nodule of light color* and soft consistency. Sometimes it is sharply demarcated, other times it infiltrates the surroundings. We often see necrosis and other regressive changes in it. Under the microscope, we see higher cellularity, nuclear polymorphism and mitotic activity in this tumor. After removal, it often **relapses** and can also **hematogenously metastasize**. Prognosis depends on the degree of tumor differentiation, approximately 40% of patients survive 5 years.



 For more information see *Leiomyosarcoma*.

## Stromal sarcoma

The Endometrium undergoes many changes during the menstrual cycle and has tremendous proliferative activity. Tumors arising from the endometrium can be benign, borderline or malignant. Stromal sarcoma is the '*most important* of endometrial tumors. This tumor is dangerous because it grows **diffusely, infiltrates between the bundles of the myometrium**, and penetrates into lymphatic and blood vessels. In addition, it protrudes into the uterine cavity just like polyp. All these features indicate that this tumor is **highly invasive** and therefore a preventive **hysterectomy** is performed. Even so, relapses occur, **hematogenous and lymphatic metastases**' appear in approximately 15% of cases.



According to proliferative activity, we divide:

- low-grade – low malignant,
- high-grade – highly malignant.

## Adenocarcinoma

 For more information see *Carcinoma of the uterine body*.

Tumor arising from the **glandular epithelium** of the endometrium. It is the **most common malignant tumor** of the female genitalia in developed countries and the USA. It occurs most often in women between the ages of 55 and 65. It is rare in women under 40.



## Risk Factors

All risk factors have one thing in common: long-term estrogen therapy, which increases the risk of developing cancer. This also includes estrogen-producing tumors (e.g., granulomatous tumor). Includes:

- factors affecting the development of **atherosclerosis**— DM, arterial hypertension, obesity (obesity is associated with increased synthesis of estrogens from fat);
- **infertility and childlessness** - lack of protective effect of hormones during pregnancy;
- **early menarche** and **late menopause** - the endometrium is under the influence of hormones for a longer period of time.

## Clinical signs

Most often, a woman is brought to the gynecologist's office by ``vaginal discharge and abnormal bleeding *in menopause, which is related to ulceration on the surface of the tumor. As the tumor grows, the uterus may enlarge and attach to surrounding structures if the tumor grows outside the uterine body.*

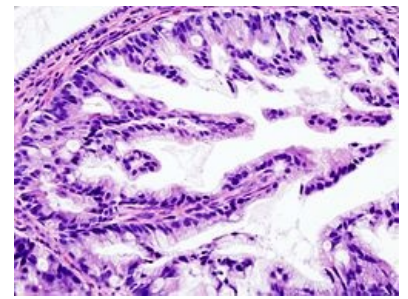
## Microscopic image

The microscopic picture is related to the cause of the tumor. If the tumor arises as a result of long-term estrogen exposure, then the adenocarcinoma imitates the original architecture of the mucosa, let's call it '*endometrioid carcinoma*'. This type of tumor can be further differentiated:

- acinous,

- squamous cell,
- adenosquamous,
- tubular with cilia.

However, in 20% of cases, the development of adenocarcinoma is not associated with the excessive influence of estrogens or malignant reversal of mucosal hyperplasia. These tumors occur **at an older age', are less differentiated and therefore significantly more aggressive**. They have the same microscopic appearance as ovarian tumors. They arise from **mutation of the p53 gene**. Includes:

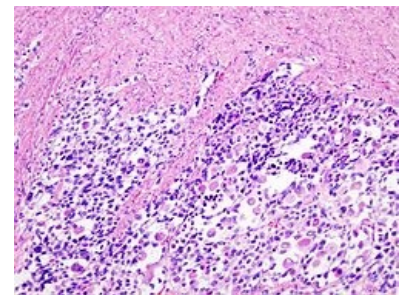


- serous papillary carcinoma,
- clear cell adenocarcinoma.

**⚠ Regardless of the microscopic type of tumor, they always grow exophytically or infiltratively!** In the later stages, they grow into the myometrium and into the blood vessels. **They metastasize lymphogenically** to regional pelvic lymph nodes.

## Carcinosarcoma

A group of tumors arising from the müllerian epithelium. It is composed of **epithelial and mesenchymal components**. **They occur in postmenopausal women. They grow very fast and are extremely aggressive!** They enter the uterine body and grow into the myometrium. **They can spread metastases'** through lymph and blood. Five-year survival is no more than 30%.



- **Macroscopic picture:** we often see necrosis and bleeding in them.
- **Microscopic image:** epithelial component is poorly differentiated endometrial ca. According to differentiation, the mesenchymal component is divided into:
  - **Homologous mixed tumor** - carcinosarcoma: the mesenchymal component has the character of primitive undifferentiated spindle tissue of sarcomatous character
  - **Heterogeneous mixed tumor** - mixed müllerian mesodermal tumor: mesenchyme further differentiates. Mesenchyme can differentiate into striated muscle (*rhabdomyosarcomatous*), cartilage (*chondrosarcomatous*), bone and (*osteosarcomatous*) and adipose tissue (*liposarcomatous*).

## Links

### Related Articles

- Womb
- Uterine curettage
- Endometrial polyp
- Mixed Tumors
- Precancers in gynecology
- Malignant tumors in gynecology

### References

- POVÝŠIL, Ctibor – ŠTEINER, Ivo, et al. *Special Pathology*. 2. edition. Prague : Galen, 2007. 430 pp. ISBN 978-807262-494-2.