

# Malignant tumors of the ovary

**Ovarian Malignancies**<sup>[1]</sup> are most often tumors from the **surface epithelium** (90%). From the group of tumors from **germ cells** (2-3% malignant), the most common malignant tumor is **dysgerminoma**. Other malignant tumors are from the group of tumors *from stromal and germline cells*. tumors of the uterine body, mamma carcinoma, malignant lymphomas and GIT tumors metastasize to the ovaries (Krukenberg's tumor) < ref name='Rob-Martan' />.

 For more information see *Ovarian Tumors*.

Epithelial tumors mainly spread *implantationally* and lymphogenously<sup>[2]</sup>. Dysgerminomas metastasize mainly ``lymphogenically, *implantation rarely*<sup>[1]</sup>.



Krukenberg Tumor of Ovary

## Epidemiology

Malignant ovarian tumors have an annual incidence of approximately 11/100,000 women<sup>[3]</sup>.

## Diagnostics

Epithelial tumors are mostly asymptomatic and are discovered as an incidental finding during an ultrasound examination. Biochemical examination of tumor marker CA-125 is also important. In the late stages, they can be manifested by palpable resistance, **ascites**, cachexia (facies ovarica), cycle disorders and bleeding are usually present. There may be painful torsion of the ovary up to infarction or the appearance of a subtorsion cyst.

In germ tumors, detection of  $\alpha$ -fetoprotein (AFP), hCG and carcinoembryonic antigen (CEA) is possible.

Sertoli-Leydig tumor (androblastoma) produces androgens, which corresponds to the clinical manifestations. Estrogen-active granulosa tumors can manifest as premature pseudopuberty, irregular menstrual bleeding, and endometrial carcinoma with its manifestations can also develop under the influence of estrogen.

The basis is ultrasound examination, biochemical examination *tumor markers*, diagnostic and operative laparoscopy with prevention of malignant spread through the peritoneum (*endo-bag*) and subsequent histological examination.

## Metastasis

- lymphogenically: pelvic and para-aortic lymph nodes,
- hematogenously: lungs, liver, bones, CNS.

## Staging

TNM classification or FIGO classification is used for staging:

- **T1, FIGO I** - tumor confined to ovary (*1a* one ovary, *1b* both ovaries, *1c* capsule rupture and malignant cells in ascites/peritoneal cytology) ,
- **T2, FIGO II** - tumor only in pelvis (*2a* uterus/tube, *2b* other tissues, *2c* malignant cells in ascites/cytology from peritoneum),
- **T3, FIGO III** - tumor outside the pelvis, metastases on the peritoneum (*N1* lymph nodes, *3a* micrometastases, *3b* meta < 2 cm, *3c* meta > 2 cm),
- **M1, FIGO IV** - distant metastases.

## Treatment

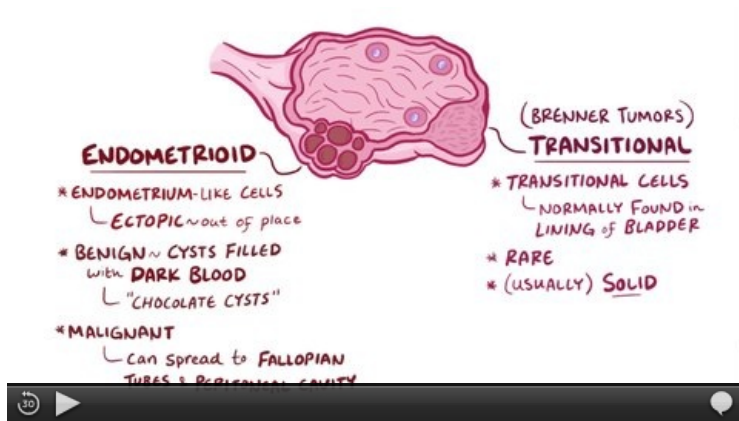
 For more information see *Surgical treatment of gynecological malignancies, Non-surgical treatment of gynecological malignancies*.

Treatment varies according to the histological type. Epithelial and non-epithelial tumors, with the exception of dysgerminoma, are treated **surgically, often with very extensive procedures with the aim of achieving zero macroscopic residue (R0)**<sup>[2]</sup>. *Chemotherapy* is used adjuvantly (epithelial tumors paclitaxel + carboplatin 6-8 cycles with an interval of 21 days between cycles)<sup>[4]</sup>.

Radiotherapy is not used for epithelial tumors.

Dysgerminomas are very chemosensitive and radiosensitive. For minor late complications, bleomycin, etoposide, cisplatin (BEP)<sup>[1]</sup> chemotherapy is preferred.

# Summary video



Video in English, definition, pathogenesis, symptoms, complications, treatment.

## Links

### Related Articles

- Ovarian tumors
- Malignant tumors in gynecology

### External links

- [www.onkogyn.cz](http://www.onkogyn.cz/) (<http://www.onkogyn.cz/>) (e.g. the current *TNM classification*, it is the website of the VFN Oncogynecological Center)
- Ovarian cancer, Mefanet (<http://mefanet.lfp.cuni.cz/clanky.php?aid=266>)

### References

1. ROB, Luke – MARTAN, Alois – CITTERBART, Karel. *Gynecology*. 2. edition. Prague : Galen, 2008. 390 pp. pp. 206–211. ISBN 978-80-7262-501-7.
2. CIBULA, David. *Management of malignant gynecological tumors - surgical treatment* [lecture for subject Gynecology and obstetrics pre-state internship, specialization General medicine, 1. medical faculty Charles University in Prague]. Prague. 2/14/2014.
3. Web portal - Epidemiology of malignant tumors in the Czech Republic. *Diagnosis report: C56 – ZN of the ovary* [online]. ©2015 (2012 data). [cit. 2015-11-11]. <<http://www.svod.cz/report.php?diag=C56>>.
4. FREITAG, Pavel. *Management of gynecological malignancies* [lecture for subject Gynecology and obstetrics pre-state internship, specialization General medicine, 1. medical faculty Charles University in Prague]. Prague. 2/14/2014.