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Review on Ovarian Cancer, Histology , Pathology and Surgery

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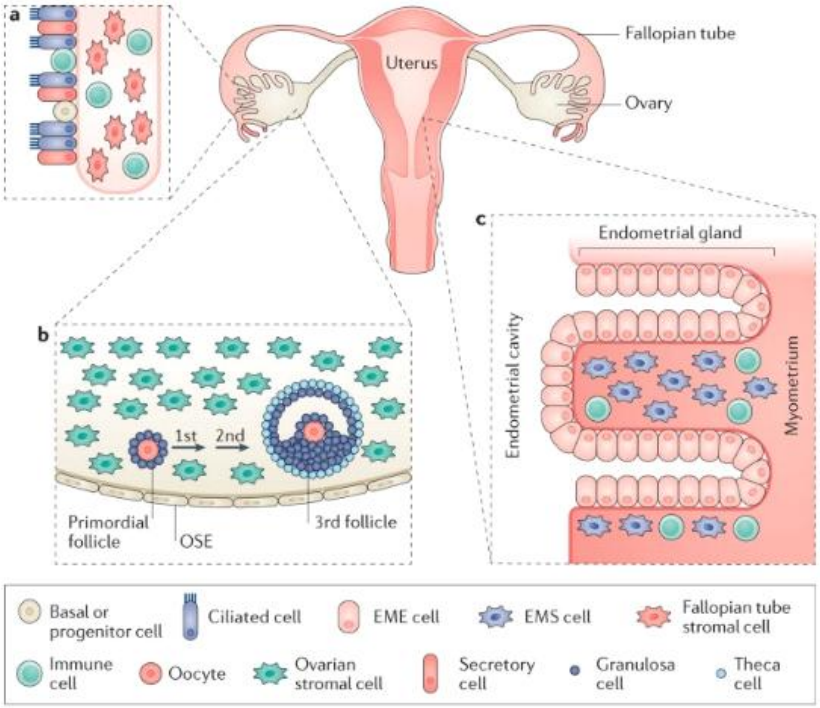
Abstract: *Epithelial ovarian cancer is the second most common cause of death among all gynecological cancers. Treatment is difficult because almost 75% of patients are diagnosed at an advanced stage. First-line treatment with aggressive cytoreduction and adjuvant therapy determines outcome. This article reviews the epidemiology, risk factors, pathophysiology, and histopathology of ovarian cancer and highlights the role of the team in the treatment of this disease and discusses some important issues that will impact patients with this disease in the future. Treatment options and follow-up.*

Keywords: ovarian cancer, histology, epidemiology.

I. INTRODUCTION

The relapse rate is high after starting treatment. Visible. In most of these relapses, the cost of treatment is low and the rate of treatment failure is high. Therefore, new treatments based on a better understanding of the properties of these cancer cells are now needed, as well as effective prevention and research strategies. This article reviews ovarian cancer, its risk factors, suggests treatment options and approaches for this disease, and discusses some ongoing research. A high recovery rate after the first treatment is considered mandatory.



In most of these relapses, the cost of treatment is low and the rate of treatment failure is high. Therefore, new treatments based on a better understanding of the properties of these cancer cells are now needed, as well as effective prevention and research strategies. The recovery rate is very high after the first treatment. In most of these relapses, the cost of treatment is low and the rate of treatment failure is high. Therefore, new treatments based on a better understanding of

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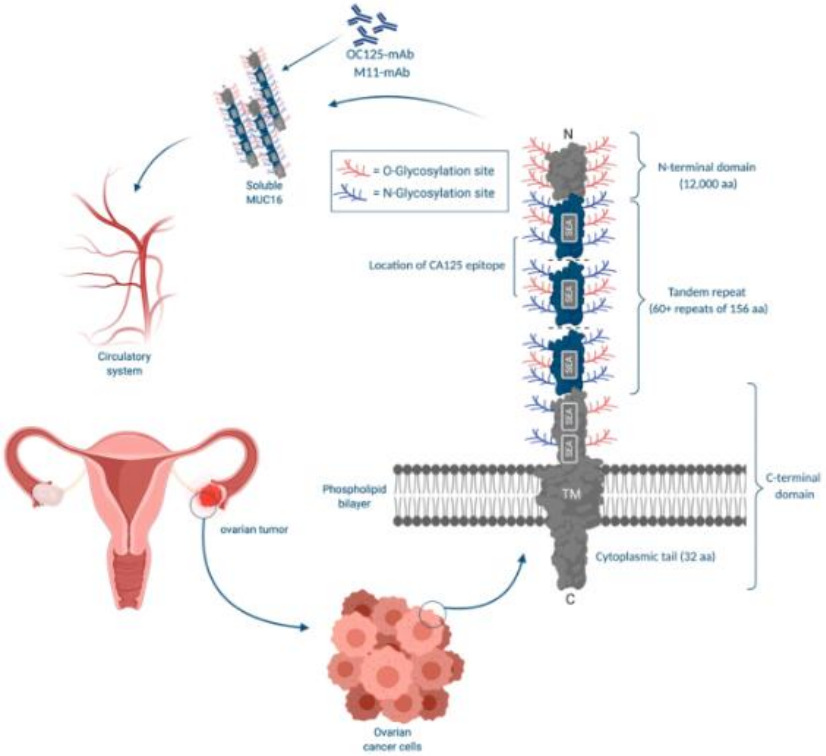
the properties of these cancer cells are now needed, as well as effective prevention and research strategies. Epithelial ovarian cancer (EOC) remains the second most common cause of death from gynecological cancer. Worldwide, 313,959 new cases (1.6% of all cancers) and 207,252 deaths (2.1% of all cancers) occur each year. The age-standardized incidence is 6.6/100,000 and the mortality rate is 4.2/100,000 (Globocan 2020). 75 percent of EOC data is very high. Although there have been advances in treatment such as cytoreduction and the use of new therapies, overall survival is low at 40% for stage III and 20% for stage IV. Although there are treatments available, the outcome of EOC relapse is less than expected. Screening of the population through medical examination, tumor research, and early detection through ultrasound examination has not been shown to have a positive effect on overall survival.

Risk Factors:

Many factors affect the risk of ovarian cancer. As with most cancers, the risk of ovarian cancer increases with age. The average age of patients at diagnosis is the early 60s. Additionally, the theory of regular ovulation says that the risk increases with ovulations, because it needs to be treated every time ovulation occurs. Therefore, conditions that cause a woman to ovulate less (including early menarche, nulliparity, and late menopause) are associated with a higher risk of ovarian cancer. Recent studies have shown that hormone replacement therapy and pelvic inflammatory disease (PID) may also increase the risk. Conversely, multiple births, use of oral contraceptives, and breastfeeding may reduce the risk of ovarian cysts.

Various risk factors associated with EOC have been identified. It mostly occurs in postmenopausal women, and increasing age may increase the risk. Nulliparity, endometriosis, obesity, perineal talc use and smoking (mucinous carcinoma) are other identified risk factors. Genetic susceptibility is a risk factor for EOC and accounts for 20% of EOC. Some case-control studies have shown protection from co-occurrence, older age, and oral contraceptive use.



Histology:

With the increasing understanding that ovarian cancer consists of distinct histologically and molecularly distinct subtypes, some classes of chemotherapy have specific modes of action, such as the treatment of HGSC PARP inhibitors and their use in the treatment of ovarian cancer. At LGSC. The efficacy of the MEK inhibitor selumetinib in LGSC has been established; Clinical trials comparing the use of MEK inhibitors with chemotherapy in the treatment of relapsed

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LGSC are ongoing; one compares binimetinib (also known as MEK162) to the doctor's preferred medical level. III study (MILO study).

Ovarian clear cell carcinoma is rare and accounts for <5% of ovarian cancers. Histopathologically, they show cellular hyalinization, cystic growth pattern and characteristic adhesion growth pattern. Immunohistochemistry showed that overexpression of BAX was present in stage I and II tumors, while the antiapoptotic protein BCL-2 was expressed more in metastatic cells than in primary cells. The relative BCL-2/BAX ratio is lower in early-stage ovarian clear cell carcinoma tumors than is relatively higher in metastatic disease. They are also diagnosed early and therefore have a good prognosis, similar to endometrioid cancer.

Symptoms:

Most ovarian cancers begin in the epithelium or lining of the ovary. There may be little or no symptoms in the early stages.

If symptoms do occur, they may be similar to other conditions such as premenstrual syndrome, irritable bowel syndrome, or temporary bladder problems. However, with ovarian cancer, symptoms may persist and worsen.

Early symptoms may include:

- Pelvic pain or pressure
- Unexpected vaginal bleeding
- Pain or abdominal pain
- Bloating
- Feeling full too quickly during meals
- Changes in urinary patterns
- For example, frequent urination
- Changes in bowel movements
- For example, constipation

Treatment:

OC treatment includes surgery to remove the tumor (cytoreduction) and chemotherapy. Platinum compounds have been the mainstay of treatment since the mid-1970s. Originally this was cisplatin, but it was associated with many adverse effects. Second-generation platinum compounds were therefore rapidly developed, culminating in the introduction of carboplatin in 1989, which is similar to cisplatin but has less severe effects, especially in terms of nephrotoxicity. The addition of treatment plans in 2010 brought the possibility of better safety, but even this treatment is not without serious side effects. PARP inhibitors are generally considered safe and effective, but there is a risk of hematological toxicity. Another type of medication, bevacizumab, increases the risk of fatal damage to the digestive tract, so patients with a history of treatment for bowel or intestinal diseases should not include this type of treatment. Additionally, patients with high blood pressure should be carefully monitored. In patients with poor surgical outcomes and in whom cytoreduction is less successful, neoadjuvant chemotherapy (NACT) followed by crossover cytoreduction is recommended. Before starting neoadjuvant therapy, cancer must be confirmed histopathologically by culture trucut biopsy. It is important to consider tumor biology before planning treatment. Cytoreduction of large tumors is important in low-grade serous, clear cell, and solid tumors due to reduced chemotherapy. However, cytoreductive surgery (BSO) associated with hysterectomy/bilateral salpingo-oophorectomy for ovarian cancer has shown better results. Laparoscopy should be performed first to determine whether mass reduction surgery will be beneficial to the patient. The presence of large tumors or debris may impede perfusion of the affected area, cause tissue damage, and increase the risk of cellular damage due to antibiotic use.

Treatment:

Treatment for OC includes surgical removal of the tumor (cytoreductive surgery) and systemic chemotherapy. Since the mid-1970s, platinum compounds have formed the basis for chemotherapy. Initially, this was cisplatin, which, however, was associated with a range of adverse effects. Therefore, second-generation platinum compounds soon began to be

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developed, resulting in the 1989 introduction of carboplatin, which is just as effective as cisplatin but has fewer serious adverse effects, especially primarily in terms of nephrotoxicity. The addition of targeted therapies in the 2010s brought the possibility of a better safety profile, but even this therapy is not without serious adverse effects. PARP inhibitors, which have generally been found to be safe and well tolerated, are associated with a risk of serious hematological toxicities. Bevacizumab, another targeted drug, increases the risk of even fatal gastrointestinal perforation, and so patients that have a history of treatment for inflammatory bowel disease, or bowel resection, should be excluded from such therapy. In addition, hypertensive patients should be closely monitored

Neoadjuvant chemotherapy (NACT) followed by interval cytoreduction is recommended for poor surgical candidates and patients with less likelihood for complete cytoreduction. Histopathological confirmation of invasive cancer by guided trucut biopsy should be done before starting neoadjuvant chemotherapy. It is important to consider tumour biology before planning sequence of therapy. Cytoreduction of the bulky tumour is important in low-grade serous carcinoma, clear cell carcinoma and mucinous tumours owing to the less chemo responsiveness .

However, for advanced-stage ovarian cancer, a debulking surgery comprising hysterectomy/bilateral salpingo-oophorectomy (BSO) has shown better outcomes. It is imperative to determine whether debulking surgery would be beneficial for a patient by initially performing exploratory laparoscopic surgery. The presence of a large or residual tumor burden can block perfusion to the affected region leading to damaged tissue and increase chances of further cellular damage with multidrug chemotherapy resistance.

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