

22. NEWS ON THE DIAGNOSIS AND TREATMENT OF OVARIAN CANCER

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Introduction. Ovarian cancer is a global problem with poor prognosis, is typically diagnosed at a late stage, and has no effective screening strategy. Standard treatments for newly diagnosed cancer consist of cytoreductive surgery - total hysterectomy with ovariectomy with omentectomy, taxol, and platinum-based chemotherapy.

Aim of study. Ovarian cancer is the second most common and the most lethal gynecologic malignancy in the western world. So far, there is a lack of methods recommended for screening and early diagnostics of this disease. As a consequence, and also due to the absence of early warning symptoms, about 70% of cases are diagnosed at an advanced stage and have bad prognosis. Late-stage ovarian cancer is incurable in the majority of cases, but recently it tends to become a kind of chronic disease. This is mostly due to the progress in surgical technology and contemporary regimes of systemic treatment, as well as some new drugs entering the clinic.

Methods and materials. A systematic review of the literature was performed, using the databases Medline, PubMed, Google Scholar to identify relevant articles, with reference to “ovarian cancer”, “diagnosis”, “treatment”.

Results. Early diagnosis improves survival, but only 15% of ovarian cancers are diagnosed at an early or localized stage. Most of the cases are diagnosed at an advanced stage, which leads to poor outcomes of this disease. The existing screening tests have a low predictive value. Detailed gynecological evaluation along with transvaginal ultrasound and laboratory markers like cancer antigen-125 (CA-125) assay are the key early detection strategies which have shown no significant beneficial effect in the morbidity or mortality of this cancer. Surgery and combination treatment with carboplatin and paclitaxel are the standard of care for patients with newly diagnosed disease, although the use of neoadjuvant chemotherapy is increasing. Clinical strategies have also evolved along with the understanding that ovarian cancer is not one disease but rather comprises several with different histologic and underlying genetic characteristics. The most common histologic type is high-grade serous carcinoma, which is associated with underlying DNA repair deficiencies and copy number alterations. Other, less common histologic types include endometrioid (both low- and high-grade) as well as low-grade serous, mucinous, and clear cell carcinomas. Antivascular agents (specifically bevacizumab) and poly(ADP-ribose) polymerase (PARP) inhibitors have received regulatory approval for many aspects of treatment. PARP inhibitors, which inhibit DNA repair, have shown the greatest activity in those ovarian cancers that harbor deleterious BRCA mutations, and they have also demonstrated activity in the maintenance setting after a response to and completion of platinum-based chemotherapy in patients with sensitive recurrent ovarian cancer regardless of BRCA status. Newer or experimental strategies to improve both up-front and second-line or later treatment include the addition of biologic agents to chemotherapy; the use of newer combination strategies that employ antivascular agents, PARP inhibitors, and immuno-oncology drugs; and the use of new agents such as antibody-drug conjugates.

Conclusion. Standard treatment for ovarian cancer is surgery, with a goal of complete tumor resection, and chemotherapy based on platinum compounds and taxanes. Currently, there are many possible new treatment options emerging from recent clinical trials, based both on the modifications of standard approaches and on the addition of new biological drugs to the standard treatment. From among new drugs, bevacizumab and several PARPi were recently approved for ovarian cancer treatment. They are still tested in several settings, including maintenance treatment which is itself an emerging approach with growing applicability and potential.