

OVARIAN CANCER

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1. Overview

Ovarian cancer is ranked as the sixth most common cancer in women worldwide, with an estimated 125,000 dying of the disease each year. The highest incidences of ovarian cancer are found in USA and Northern Europe and lowest in Africa and Asia. The risk of ovarian cancer increases with age as more than four out of five cases are diagnosed in women over 50 years.¹

2. What is ovarian cancer?

Ovarian cancer is an abnormal growth of tissue that develops into a heterogeneous group of malignancies in a woman's ovaries. The disease often goes undetected until an advanced stage, as the malignancies often cause non-specific symptoms that mimic other conditions such as bladder disorders, which can lead to incorrect diagnosis.

The ovaries contain three kinds of tissue: epithelial cells (covering the ovary), germ cells (inside the ovary) and stromal cells (these produce estrogen and progesterone). Ovarian cancer most commonly forms in the epithelial ovary, which is known as epithelial ovarian cancer.² The epithelium is first trapped within the stroma to form inclusion cysts, which are then transformed into tumour cells. This process is thought to be hormonally driven.³

3. What is the prevalence of ovarian cancer?

Ovarian cancer is ranked sixth as the most common cancer in women and the seventh most common cause of cancer death.¹

Additionally:

- Each year approximately 204,000 new cases of ovarian cancer are diagnosed worldwide and 125,000 women die from the disease.³
- The incidence of ovarian cancer is highest in USA and Northern Europe and lowest in Africa and Asia.²
- The risk of ovarian cancer increases with age: it is more common in women who have been through the menopause.²
- Women with a BRCA1 or BRCA2 gene mutation have an increased risk of ovarian cancer and women who have not had children have a higher risk of ovarian cancer than women who have given birth.²
- Oral contraceptive use reduces the risk of ovarian cancer and the protective effect persists for many years after stopping the pill.²

4. What are the risk factors?

A risk factor is anything that can increase your chance of developing cancer. Whilst the cause of ovarian cancer is unknown, there are a number of influencing factors that can increase a woman's risk of ovarian cancer.

One of the most significant risk factors is the presence of specific gene mutations. Those women who have inherited a gene mutation in one of two genes known as breast cancer gene 1 (BRCA1) and breast cancer gene 2 (BRCA2) have an increased risk of ovarian cancer. The average cumulative risk of developing ovarian cancer by the age of 70 is 39% (22-51%) in BRCA1-mutation carriers and 11% (4.1-18%) in BRCA2 carriers.⁴

Secondly, the risk of ovarian cancer increases after menopause. More than four in five cases are diagnosed in women over 50 years.³

There are a number of other causative agents such as obesity, infertility, endometriosis and hormone replacement therapy.³

5. What are the signs and symptoms of ovarian cancer?

The signs and symptoms of ovarian cancer are not easy to recognise from other conditions, often leading to late presentation of symptoms from the patient and therefore late and even mis-diagnosis. Common signs and symptoms include⁵⁻⁷:

- Abdominal swelling
- Pain and gastro-intestinal symptoms
- Fatigue
- Weight loss
- Urinary symptoms
- Occasionally abnormal vaginal bleeding
- Abdominal or back pain
- Lack of energy

6. How is ovarian cancer diagnosed?

A number of diagnostic procedures are used to diagnose ovarian cancer. These include:

Imaging studies that detect whether a pelvic mass is present. They do not, however, indicate whether the mass is cancerous. Examples of imaging methods include:

- Ultrasound (this uses sound waves which are converted into a computerized image)
- Computed tomography (this is a scan that takes a number of cross-sectional images of the area being studied)
- Magnetic resonance imaging (this uses radio waves and magnets that are converted into a computerized image)

Other tests include:

- Blood tests
- Biopsy (This is the removal of a sample of the growth for testing)
- Laparoscopy (This allows a doctor to inspect the ovaries through a thin lighted tube that is inserted through a small incision in the lower abdomen)

7. What are the available treatment options?

There are two main treatment options used for ovarian cancer – surgery and chemotherapy.³ Radiotherapy is also occasionally used for repeat cases or if there is no response to other treatments. Once a diagnosis has been made, the next step is to determine the most appropriate treatment for the patient. In order to ensure an effective prognosis is reached, the cancer is measured against a staging scale to determine the severity of a patient's disease.⁸

Surgery

Surgery is the primary treatment of choice and removes the tumour, or as much as is possible.¹ It also has a key role to play in establishing the stage of the cancer and ascertaining how far the cancer has spread. Surgical techniques today allow for minimally invasive surgery where possible and more accurate staging.⁹ Whilst surgical treatment can be sufficient for small, specifically located tumours, additional chemotherapy may be required and such a combination therapy regimen is standard for those patients whose disease is more advanced.

Chemotherapy

Chemotherapy has been used as a standard treatment option in cancer for many years, mostly as an adjunct to surgery to treat any remaining traces of the disease. Chemotherapy has been shown to contribute towards improvements in the prognosis of ovarian cancer.¹⁰ It can be delivered either orally or more commonly, via a needle directly into the veins - this is known as an IV (intravenous) injection.

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