OBJECTIVES

• To provide a brief overview of the disease and how it impacts you.
• Topics to be covered today –
  • Types of Ovarian cancer
  • Statistics
  • Risk Factors
  • Prevention
  • Screening
  • Signs and symptoms
  • Diagnosis
  • Treatment
  • The future
INTRODUCTION

• About the ovaries –
  – Part of the woman’s reproductive system. There are 2 ovaries one on each side of the uterus.
  – Very small organs measuring about 1.5cm.
  – Contain egg known as Germ cells.
– Source of 2 female hormones called Estrogen and Progesterone.
  • Regulate breast growth, body shape, body hair, menstrual cycles and pregnancy.
– In menopause, the ovaries shut down producing eggs and these hormones.
– Ovaries are linked to the uterus by the Fallopian tubes.
– The peritoneum is the abdominal wall lining or the covering.
  • Often cancers of the fallopian tube and peritoneum are grouped together with Ovarian cancer
Three kinds of ovarian cancers.

- **Epithelial carcinoma** – 85-90% of ovarian cancers.
  - Arise from the outside cover of the ovary.
  - Many kinds depending on how they appear under the microscopes. Examples include Serous, Clear Cell, Endometrioid, Mucinous and Mixed tumors. Treatment is the same.

- **Germ Cell tumors** – Less common, usually occur in women aged 10-29 years.
  - Arise from the Egg producing cells of the ovaries.

- **Stromal tumors** – very rare
  - Develop in the tissue that holds the eggs together inside the ovaries.
For 2016, it was estimated that 22,280 women in the US will be diagnosed with ovarian cancer.

For 2016, it was estimated that 14,080 deaths from this disease will occur.

Combined with fallopian tube and peritoneal cancers, these are the 5th most common causes of cancer deaths in the US.

Five year survival for women with Ovarian/fallopian/peritoneal cancers is about 46%.

- Depend on stage and grade and Age at diagnosis.
- Survival for women <45 years old is higher, 77% vs 20% for those 75 years and older.

Only 40% women with these cancers are cured.

Average age at diagnosis is 60-65 years.
RISK FACTORS – LIFETIME RISK 1-2%
following may be associated with an increase risk

- Family history – includes Breast, Ovarian or fallopian tube cancer.
- Genetic mutation – 10-15% occur due to a DNA abnormality passed down.
  Usually diagnosed at an early age. Mutation is called BRCA1 or BRCA2 gene mutation.
  - A woman with BRCA2 mutation has a 10-20% lifetime risk of ovarian cancer.

  Other genetic syndromes: Lynch, Peutz-Jeghers, LI-Fraumeni, and Ataxia-Telangiectasia Syndromes.

- Age - older age
- Obesity.
- Endometriosis – researches are trying to study this in more detail.
- Ethnicity – North American, Northern European, and Ashkenazi Jewish heritage.
- Reproductive history – women who never had children or unexplained infertility.
- Age at first birth - A 30-60% decrease in risk for cancer associated with younger age at pregnancy and first birth [<25 years].
- Hormone replacement therapy
- Pelvic inflammatory disease
PREVENTION

Subject of current research.
No proven way to prevent but following thought to be helpful -

– Birth control pills. The decrease in risk may last up to 30 years after stopping the pills.

– Breastfeeding. Prolonged breastfeeding reduces the risk.
– Pregnancy. Multiple pregnancies mean a lower risk.

– Surgical procedures like a hysterectomy or a tubal ligation.
  • Women with the genetic abnormalities that can increase risk of ovarian cancer are recommended to have their ovaries and fallopian tubes removed. This can reduce their risks by 70-90%.
  • Those who qualify for this kind of surgery usually encouraged first to talk to a Genetic counselor and their physicians.
SCREENING

• Early detection is often not possible.
• A standard screening test that benefits the entire population [like Mammography] is not available.
• Diagnoses are usually late:
  – Due to their location in the body.
  – Symptoms often occur after the cancer has spread.
• 70% of the Epithelial ovarian cancers are found in the advanced stage or after the tumors have spread to other areas of the abdomen.
• Spread to the lungs or brains is quite rare.
<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Signs</th>
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<tbody>
<tr>
<td>Pelvic or abdominal pain</td>
<td>Weight loss</td>
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<tr>
<td>Abdominal bloating</td>
<td>Enlarged abdomen</td>
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<tr>
<td>Problems with urination</td>
<td>Fluid in the abdomen</td>
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<tr>
<td>Fatigue</td>
<td>Abnormal pelvic exam</td>
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<tr>
<td>Upset stomach</td>
<td>Abnormal physical exam</td>
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<td>Indigestion</td>
<td>Abnormal labs</td>
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<td>Painful intercourse</td>
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<tr>
<td>Back pain</td>
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<tr>
<td>Menstrual irregularities</td>
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<tr>
<td>Constipation or blood in stool</td>
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<td>Irregular vaginal bleeding or changes in discharge</td>
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DIAGNOSIS

- History and physical that includes a Gynecologic exam and a Rectal exam. May include a Pap test.
- Imaging studies usually consist of a Vaginal Ultrasound to view the uterus and the ovaries.
  - This technology relies on sound waves to create a picture of the ovaries including cysts and tumors.
- A Biopsy may be recommended. If a biopsy is not possible sometimes other tests are done.
- Blood test for a tumor marker called CA125 if ovarian or Fallopian tumor is suspected.
  - This measures a protein in the blood called CA125. Made by ovarian tissue as well as some other cells in the body. Can be associated with many false positives, so not a good screening test.
  - Normal level is 37 or less.
  - Can be high in benign diseases of the ovary like Endometriosis, pelvic inflammatory disease [called PID], or fibroids of the uterus.
  - More accurate in menopausal women.
  - OVA-1 test and OvaSure tests [from blood] are not reliable.
– A CT scan may be ordered especially if the Ultrasound is not helpful.

– PARACENTESIS
  • May be performed if excess fluid is detected.
  • Involves the insertion of a tiny needle and extracting fluid from the abdominal cavity.
  • Similar to having blood removed from the arm.
  • This fluid can also be analyzed for cancer cells and often helps make the diagnosis. The fluid once removed would be sent to a pathologist. Biopsies may not be needed if cancer cells are found OR the ultrasound is highly suspicious.
WHAT’S NEXT?

– Referral to Gynecologist Oncologist [a specialized surgeon for the treatment and removal of Gynecologic tumors].

– Surgery: Removal of both ovaries, fallopian tubes, the uterus, cervix and some lymph nodes deep in the pelvis. Biopsies of the surrounding organs and walls of the abdomen and pelvis are also taken.
  • Used to determine the Stage of the cancer as Treatment depends on the Stage.

– Prognosis and treatment options depend on the following:
  • The type of ovarian cancer and how much cancer there is.
  • The stage and grade of the cancer.
  • Whether the patient has extra fluid in the abdomen that causes swelling.
  • Whether all of the tumor can be removed by surgery.
  • Whether there are changes in the BRCA1 or BRCA2 genes.
  • The patient’s age and general health.
  • Whether the cancer has just been diagnosed or has recurred (come back).
Stages of Ovarian Cancer

There are 4 stages -

- **Stage I**: cancer is only in the ovaries or the fallopian tubes.

- **Stage II**: cancer has spread into the pelvis.

- **Stage III**: cancer has spread outside of the pelvis, into the abdomen and lymph nodes higher up, around the aorta.

- **Stage IV**: cancer has spread to organs outside of the abdomen.

- **Recurrent Tumor**: refers to cancer that has come back after treatment. Does not require Staging. Stage Assignment is done only with the original tumor.
STAGES I AND II

Stage IA
- Cancer inside one ovary
  - Ovary
  - Uterus
  - Cervix
  - Vagina

Stage IB
- Cancer inside both ovaries or fallopian tubes
  - Fallopian tube

Stage IC
- Cancer in pelvic peritoneum

Stage IIA
- Fallopian tubes
- Ovary
- Uterus
- Cervix
- Vagina

Stage IIB
- Colon

Stage II
- Cancer in pelvic peritoneum
- Peritoneum

Primary Peritoneal Cancer
STAGES III AND IV

Stage IIIC
- Tumor size
  - More than 2 cm

Fallopian tube
- Lymph nodes
- Ovary
- Cancer
- Uterus
- Bladder
- Peritoneum

Stage IV Ovarian Epithelial, Fallopian Tube, and Primary Peritoneal Cancer
- Extra fluid around the lung
- Cancer has spread to other parts of the body:
  - Lung
  - Liver
  - Lymph nodes in the groin
  - Bone

Metastatic cancer
- Cancer cells in the lymph system
- Cancer cells in the blood
TREATMENT

• Involves a Multidisciplinary team consisting of a Gyn- Oncologist, a Medical Oncologist and the Primary physician. Others include the pharmacists, social workers, dietitians, and nursing staff.

• Almost always Chemotherapy is needed after surgery.
  – Given to stop the growth of cancer cells, either by killing the cells or by stopping them from dividing.
  – For this disease, given Intravenously into a vein. These can then reach the cancer cells throughout the body via blood.
  – Usually consists of a number of ‘cycles’ given over a set period to time.
    • Given through a special IV called a mediport.
    • Your medical oncologist will address these at the appts.
  – Clinical trial are an option for patients interested.

– For the Ovarian Germ Cell tumors which was not addressed today, first treatment is usually Surgery. Sometimes chemo is recommended. May be possible to ‘spare’ the reproductive organs during surgery.
WHAT QUESTIONS TO ASK?

– Discuss your concerns about surgery, the risks, and post operative care.
  • Address your sexual and reproductive health concerns.

– You will be referred to Medical oncologist. Most patients do need chemotherapy. The medical oncologist will work with you to create a personalized treatment and follow up plan.

– How chemo will affect you in the short term and the long term.

– Try and understand the rationale for why this is recommended.

– More information on Cancer.gov.
AFTER TREATMENT -

• Follow up –Outlined by your doctors.
• Watching for ‘recurrence’.
  • This CAN occur because small areas of cancer cells may remain undetected for sometime in the body. Over time these may increase in number until they are ‘powerful’ enough to cause symptom.

• Managing long term side effects as well as late effects of chemo.
• Keep your personal records including the pathology results and treatment history.
SURVIVORSHIP

Means “Having no signs of cancer after finishing treatment”.

• Living with and beyond cancer - Begins at diagnosis and continues into the future.

• One of the most complicated parts of having cancer.
  – Survivors may experience strong feelings, including joy, fear, concern, relief, and guilt.
  – Some people may appreciate life even more and may aim for healthier lifestyles and change their lives around. Others may become more anxious or depressed which this could affect their lives.
  – Issues around sexuality and fertility concerns, financial, and work place problems as well as body image issues.
  – Important to understand that Regular Exercises, avoiding smoking and limiting alcohol, healthy diet, and good stress management will have a positive impact on you and your family.

   » Your team can work with you on creating an appropriate plan for you.
   » Alternative medicine options can also be explored and found helpful

– ASCO has booklet in PDF format which is a Survivorship guide.
THE FUTURE

COPING – effective strategies include:

– Understanding your challenges. Embracing your new ‘body’ and new lifestyle.
– Thinking through problems and finding solutions.
– Asking for help and support from your health care team, friends and loved ones.
– Feeling comfortable with the choices you have made.
– Support groups.
  • Please reach out to groups in your community. We understand that this may not be ‘right’ for everyone.
– Accepting your challenges and remaining Positive.
– Becoming an advocate for your disease. Get involved!

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