

Difference Between Ovarian Cyst and Ovarian Cancer

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Key Difference – Ovarian Cyst vs Ovarian Cancer

Ovarian cysts are a group of benign tumors that occur in the ovaries while ovarian cancers are malignant tumors that arise in the ovarian masses due to unknown or partially understood etiological factors. As the name implies, **ovarian cancers are malignancies that severely endanger the life of the patient.** On the other hand, **ovarian cysts are benign tumors that do not threaten the patient’s life except in few rare occasions.** This is the key difference between ovarian cyst and ovarian cancer.

What are Ovarian Cysts?

Ovarian cysts are a group of benign tumors that occur in the ovaries. They can be categorized into various subcategories according to their etiology as shown below.

Functional ovarian cysts	<ul style="list-style-type: none"> · Follicular Cysts · Corpus luteal cysts · Theca luteal cysts
Inflammatory cysts	<ul style="list-style-type: none"> · Tubo ovarian abscesses · Endometrioma
Germ cell tumors	<ul style="list-style-type: none"> · Benign teratoma
<u>Epithelial</u>	<ul style="list-style-type: none"> · Serous cystadenoma · Mucinous cystadenoma · Brenner tumor
Sex cord tumors	<ul style="list-style-type: none"> · Fibroma · Thecoma

Functional Ovarian Cysts

The incidence of functional cysts is high among young females. The use of oral contraceptive pills decreases the likelihood of getting these benign tumors. The diagnosis is made when cysts measuring more than 3 cm are observed on the USS. No treatment is required if the patient is asymptomatic. A USS can be repeated to see if the tumor has regressed. In symptomatic patients, the tumor can be surgically resected by laparoscopic cystectomy. Corpus luteal cysts usually occur after ovulation and can be painful if it has ruptured forming areas of internal hemorrhage. Theca luteal cysts are associated with pregnancy.

Inflammatory Ovarian Cysts

Inflammatory ovarian cysts can be considered as a complication of the pelvic inflammatory disease. Young women are more likely to be affected by this condition. The management of these tumors includes the use of [antibiotics](#), surgical drainage or excision.

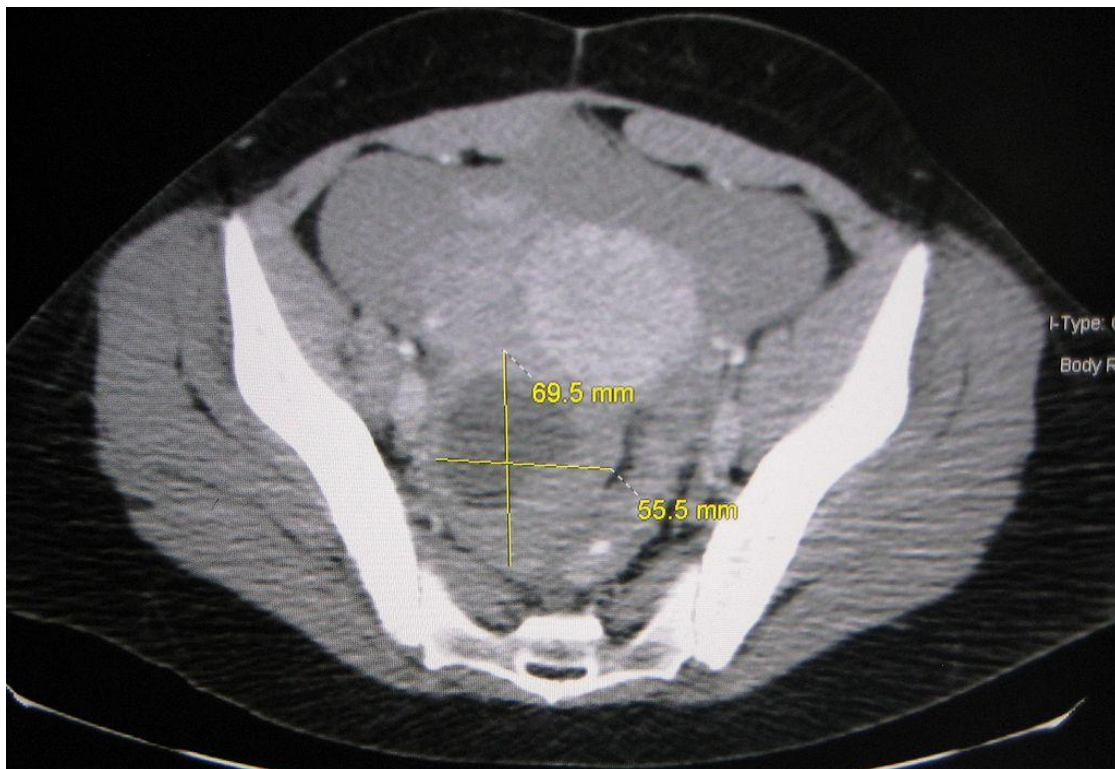


Figure 01: An Ovarian Cyst

Germ Cell Tumors

These are the commonest type of benign ovarian tumors accounting for more than 50% of the cases of ovarian masses in the age group between 20 – 30 years. The

mature dermoid cyst or cystic teratoma is the most frequently seen variety of the germ cell tumors with a very distant chance of malignant transformation. The teratomas are characteristically made of tissues derived from all three germ layers. The torsion of these masses compromises the blood supply to the adjacent structures giving rise to an acute onset of severe pain with nausea. The presence of a very high-fat content in the teratomas makes MRI the most appropriate method of investigation to be used in their diagnosis. Surgical excision is the most preferred mode of treatment.

Epithelial Tumors

These tumors are typically seen among peri-menopausal women. Serous cystadenomas are the most common variety of them.

Sex Cord Stromal Tumors

These are formed in old women with ovaries that have undergone torsion. Ovarian fibromas are the commonest type of sex cord-stromal tumors.

What are Ovarian Cancers?

Ovarian cancers are the second most common gynecological malignancy. The disease prognosis remains poor, partly because of the late presentation but mainly due to the rapid rate at which the disease progresses.

A majority of the ovarian cancers are due to the malignant transformation of the ovarian [epithelium](#). Although the exact mechanism of pathogenesis of ovarian cancers has not been understood there are two suggested theories:

Incessant Ovulation Theory

This theory states that the continuous ovulation causing repeated damage to the epithelium of the ovaries induces mutations that ultimately result in malignant transformation of the cells.

Theory of Excess Gonadotropin Secretion

This theory suggests that the high level of estrogen which triggers the proliferation of the ovarian epithelial cells contributes to their malignant transformation.

Aetiology and Risk Factors

Decreased Risk of Ovarian Cancers	Increased Risk of Ovarian Cancers
Multiparity	Nulliparity
Oral contraceptive pills	Intrauterine devices
Tubal ligation	Endometriosis
Hysterectomy	Cigarette smoking
	Obesity and hereditary factors

Women with a family history of ovarian cancers are at a high risk of developing ovarian malignancies in the later life. Therefore, these individuals should receive a special attention to identify any malignant transformation in their rudimentary stages. Screening for BRAC1 and BRAC2 is the standard method used in the assessment of the risk. Usually, this is done in women with a positive family history of ovarian cancers who are above 35 years of age.



Figure 02: Ovarian Cancer

Classification of the Ovarian Cancers

Epithelial Ovarian Tumors	<ul style="list-style-type: none"> · Serous · Mucinous · Endometrioid · Clear cell · Undifferentiated
Sex Cord Stromal Tumors	<ul style="list-style-type: none"> · Granulosa cell · Sertoli-leydig · Gynandroblastoma
Germ Cell Tumors	<ul style="list-style-type: none"> · Dysgerminoma

	<ul style="list-style-type: none"> · Endodermal sinus · Tetroma · Choriocarcinoma · Mixed
Metastatic Tumors	<ul style="list-style-type: none"> · Krukenburg tumors

Epithelial Ovarian Cancers

Clinical Features

Most of the patients with epithelial ovarian cancers show symptoms but they are often nonspecific. This makes the clinical diagnosis and even the clinical suspicion of ovarian cancers much more difficult. The most common complaints include,

- Persistent pelvic and abdominal pain
- Increased abdominal size and persistent bloating
- Difficulty in eating and feeling full quickly

Examination and Investigation

- Pelvic and abdominal examination through USS and CT reveals the presence of a hard fixed mass.
- Chest examination is a vital aspect which should not be skipped. This helps the physician to identify any metastatic lesions
- Full blood count, urea, electrolytes and liver function tests are also essential.
- Since endometrial cancers are more likely to coexist with ovarian cancers, the endometrium also should be carefully assessed.

Management

- Surgical excision of all the visible tumors through [laparotomy](#)
- [Chemotherapy](#)

What is the Similarity Between Ovarian Cysts and Ovarian Cancers

- Both are ovarian masses.

What is the Difference Between Ovarian Cysts and Ovarian Cancers?

Ovarian Cysts vs Ovarian Cancers

Ovarian cysts are a group of benign tumors that occur in the ovaries.

Ovarian cancers are malignant tumors that arise in the ovaries due to unknown or partially understood etiological factors.

Type of Tumors

These are benign tumors.

These are malignant tumors.

Risk

The risk on life is relatively low.

Ovarian cancers are a life-threatening condition with a very poor prognosis.

Summary – Ovarian Cysts vs Ovarian Cancers

Ovarian cysts are a group of benign tumors that occur in the ovaries. Ovarian cancers are malignant tumors that arise in the ovaries due to unknown or partially understood etiological factors. Ovarian cancers are a life-threatening disease condition but ovarian cysts are benign tumors with a minimal threat on the patient's life. This is the difference between ovarian cyst and ovarian cancer.

References:

1. Monga, Ash, and Stephen P. Dobbs. *Gynaecology by ten teachers*. CRC Press, 2011.

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