

Ovarian cysts in the perimenopausal and menopausal woman

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Q: If a perimenopausal woman complains of mild abdominal pain and she is found to have an ovarian cyst of 4 cm, in one ovary, on ultrasonography, what should be the management?

A: A large number of ovarian cysts are now being discovered on ultrasound and there is only a low risk of malignancy in these cysts and therefore, not all need be managed surgically. A cyst could be functional or organic. Functional cysts regress on their own.

Mild abdominal pain with a simple ovarian cyst of size 3-5cm, which are unilocular, could be managed conservatively without any intervention, on the assumption that it is a functional cyst. Other causes of abdominal pain like pelvic infection, urinary tract infection, abdominal colic, acid peptic disease, etc should be looked for and managed. This management is rational because, women with an ovarian cyst, but with no symptoms, family or personal history of cancer (e.g., ovarian, breast, colorectal), physical or laboratory evidence suggestive of infection, pregnancy, or systemic illness, are considered at low risk of ovarian cancer and may be followed with serial ultrasonography. If the cyst persists, and if it is not increasing in size, it could still be followed up without intervention¹, The patient should be reassured.

Q: What should be management of a unilocular simple 3-5 cm cyst in a menopausal woman?

A: The possibility of malignancy has to be kept in mind, more in the postmenopausal woman. The protocol of management should be the same. An international multicenter study found that postmenopausal patients with an asymptomatic simple ovarian cyst 3-5 cm in diameter and a normal CA125 had a 0% risk of malignancy³. CA125 is an antigenic determinant that is elevated in 80% of all patients with serous cystadenocarcinoma of the ovary but in only 50% of the patients with stage I disease. As a diagnostic aid, measurement of CA125 is most useful in postmenopausal patients with an ultrasonographically suspicious mass. In this setting, a level greater than 65 U/mL has been shown to have a positive predictive value of 97%. In RCOG guidelines², It is recommended that ovarian cysts in postmenopausal women should be assessed using CA125 and transvaginal grey scale sonography. There is no routine role yet for Doppler, MRI, CT or PET.

Q: What should be the management of a multilocular cyst in the post menopausal woman”

A: : Multilocular cysts as opposed to simple cysts need careful evaluation. Cysts >6cm should alert one to the possibility of malignancy. The differential diagnosis of such a cyst in this age group should include an inflammatory tubo-ovarian mass, an endometrioma, a benign Teratoma (Dermoid) or even a hemorrhagic corpus luteum cyst.. In all these conditions a laparoscopic cystectomy/salpingo-oophorectomy is all that is needed. Here, it is useful to remember that CA-125 is elevated (>35mIU) in endometriomas, Pelvic infections, pregnancy and associated liver disease. A markedly elevated Ca-125 (>200mIU) may make one strongly suspect malignancy and take a decision straight away in favour of a hysterectomy with bilateral salpingo-oophorectomy. A normal CA-125 level alone is not enough to rule out malignancy. Quite often the diagnosis of borderline malignant ovarian tumour is made presumptively at the time of surgery on seeing the excrescences on the tumour, adhesions etc, confirmation being made only after histopathology. Thus in a patient with multilocular cysts, a colour doppler scanning and testing of serum for tumour markers might help in preoperatively detecting malignancy, but even if preoperative evaluation does not indicate malignancy a careful histopathology is mandatory postoperatively.

Q. What should be the management of a menopausal woman with an simple ovarian cyst of larger than 6cm?

A: In a woman with an ovarian cyst larger than 5 cm differentiation should be made between organic and functional cysts. Normally formed follicles or corpus luteum in the ovary may sometimes undergo cystic transformation, leading to formation of follicular cysts or corpus luteal cysts, which are functional cysts. The majority of follicular cysts disappear spontaneously by either reabsorption of the cyst fluid or silent rupture within 4 to 8 weeks of initial diagnosis⁴. Unless ultrasound features definitely indicate organic cyst, a presumptive diagnosis of functional ovarian cyst could be made and the patient watched over for 6 months. However, persistence of the cyst over 6 months means there is likelihood that the cyst is not functional, and that it needs surgical intervention. If the patient has acute or chronic pelvic pain, which could be attributable to the cyst, surgical treatment is warranted, even if the cyst appears to be functional.

Organic cysts are formed due to some benign or malignant pathology in the ovary resulting in formation of ovarian cysts which do not regress. In case of suspected organic cysts, immediate surgery is indicated. The criteria that the cyst is organic, are that, the cyst is more than 5 cm and persisting, there are thick septa within the cyst, there are intra or extracystic vegetations, or if there is heterogenous content within the cyst. Colour Doppler USG should be done in these cases. Low resistance index (less than 0.5) and high CA 125 levels are suggestive of malignancy. In younger women, if there is no suspicion of malignancy, ovarian cystectomy with conservation of ovary could have been done. But in a post menopausal woman, unilateral salpingo-oophorectomy with removal of the tissue without possible spillage into the abdomen would be the ideal treatment of choice. Laparoscopic surgery being a less morbid procedure, for the patient, should be preferred if the centre has facilities for laparoscopy. In case of suspected malignancy, although there are many reports of laparoscopic surgery in advanced centres, by and large, laparotomy is considered to be the gold standard.

Q: What are the ultrasound criteria to know if a cyst harbours malignancy?

A: Morphologic indexing of a cyst is helpful to know if the cyst is malignant. Morphologic index developed by De priest is given below.⁶

Ultrasound score	1	2	3	4
Tumour volume	<10cm	10-50cm	50-200cm	>200cm
Cyst wall structure and wall thickness	Smooth <3mm	Smooth >3mm	Papillary <3mm	Papillary >3mm
Septal structure	No septa	Thin septa <3mm	Thick septa 3-10mm	Solid area >10mm

A point scale (0 to 4) was developed within each category, with the total points per evaluation varying from 0 to 12.

An ultrasound morphology index score <5 in a pre-menopausal woman is in keeping with a benign aetiology.

In post-menopausal patients, a morphology index score ≥5 has a positive predictive value for malignancy of 0.45.

Malignancy indexing can also be helpful in diagnosing malignancy in a post menopausal woman

Risk of Malignancy Index (RMI) = U × M × CA 125.

U=Ultrasound score

M=3, a constant for menopausal women.

CA 125=value of CA 125.

- Low-risk RMI = <25; Risk of cancer is <3%
- Moderate-risk RMI = 25 to 250; Risk of cancer is 20%;

- High-risk RMI = >250 Risk of cancer is 75%;

Q: What are the risk factors for ovarian cancer?

A: Family history of ovarian cancer is associated with increased risk of ovarian cancer. Family history of epithelial cancers are specially associated with increased risk of ovarian cancer. There are genetic markers, which can predict whether such an individual is at an increased risk of developing ovarian cancer. The most studied gene associated with ovarian cancer is the BRCA1 gene. If relatives of patients who develop ovarian cancer are found to have this gene, they could undergo frequent surveillance for development of ovarian cancer. If such individuals have to undergo hysterectomy, they should undergo a prophylactic bilateral oophorectomy as well. Similarly there are quite a few other genes also which have been found to be present in increased frequency in women with ovarian cancer. But, without further studies to confirm their usefulness, it has not been found necessary to genetically screen the population as a whole to see who is at increased risk of ovarian cancer. These studies are available in India, but are prohibitively costly.

Infertility and nulliparity is associated with increased risk of ovarian cancer. The use of infertility drugs was suspected to increase the risk, but it has been found that it is infertility per se and not the use of ovulation inducing drugs that increases the risk of ovarian cancer. The use of oral contraceptive pills, sterilization and gynaecological surgeries like hysterectomy has been found to be associated with a decreased risk of ovarian cancer.

Can all ovarian cysts be managed by the gynaecologist?

A: Ovarian cysts which appear to be advanced in staging are best handled by oncology surgeons, as they are better equipped to do lymphadenectomy, difficult dissections in the highly vascular tumour, etc. ACOG guidelines recommend the following cases to be referred to the oncology surgeon;

Post-menopausal women with suspicious pelvic mass and:

- Elevated CA-125 level (>35 U/mL)
- Ascites
- A nodular or fixed pelvic mass
- Evidence of abdominal or distant metastasis
- A family history of 1 or more first-degree relatives with ovarian or breast cancer.

Pre-menopausal women with a suspicious pelvic mass and:

- Greatly elevated CA-125 level (> 200 U/mL)
- Ascites
- Evidence of abdominal or distant metastasis
- A family history of 1 or more first-degree relatives with ovarian or breast cancer.

References:

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5.Greenlee RT.et al., Prevalence, incidence, and natural history of simple ovarian cysts among women >55 years old in a large cancer screening trial.

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