Adnexal mass in Postmenopausal women

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• Excluding malignancy is the **main priority** in postmenopausal women with an adnexal mass
• Urgent conditions (eg, adnexal torsion, tubo-ovarian abscess) may also occur in postmenopausal women, and are more likely to be associated with malignancy
• **Pelvic pain or pressure** is the most common symptom associated with an adnexal mass

• **Ovaries are not usually palpable** in postmenopausal women, and a finding of a **palpable ovary** in this population should prompt pelvic imaging to assess for an ovarian or tubal neoplasm
Clinical finding

• The size, consistency, and mobility of a mass, if present, should be noted

• **Rectovaginal examination** is performed to allow palpation of the ovary posteriorly
Features that are suggestive of malignancy

- Solid mass
- Irregular or fixed mass
- Posterior cul-de-sac nodularity
- Tenderness on pelvic examination
- Abdominal distention and ascites
- Abdominal mass
Pelvic ultrasound is the first line imaging study for the evaluation of an adnexal mass.
Step one: Is it a simple cyst?

Simple cysts are characterized by:
- Round or oval shape
- Anechoic fluid filling the cyst cavity
- Thin walls
- No internal flow with color Doppler imaging
Cysts greater than 1 cm in size should be documented.

Practices may choose any threshold from 3 to 5 cm as a justifiable cutoff for not following a simple cyst in a postmenopausal woman.

The 5 cm cutoff is advised only for "exceptionally well visualized cysts."
Simple cyst

• Initial repeat imaging is advised in 3 to 12 months, depending on the features of the cyst and the clinical concern of the patient and clinician.

• Further imaging follow-up after two years should be pursued on a case-by-case basis using clinical parameters.
Step two:
Are there characteristics of specific entities?

The B-features are:

1. Unilocular cyst (any size)
2. Solid components (not present or less than 7 mm in diameter)
3. Presence of acoustic shadowing
4. Smooth multilocular cyst (less than 10 cm in diameter)
5. No blood flow
The B-features:

- Unilocular cyst
- Tumour with largest solid component < 7 mm
- Acoustic shadows
- Smooth multilocular tumour < 100 mm
- Colour score 1 (no blood flow)
The M-features are:

1. Irregular solid tumor
2. Ascites
3. At least four papillary structures
4. Irregular solid-multilocular tumor, largest diameter over 10 cm
5. Very strong color flow
The M-features:

- Irregular solid tumour
- Presence of ascites
- ≥4 papillary projections
- Irregular multicocular-solid tumour ≥100 mm
- Colour score 4 (strong blood flow)
Step three: Follow-up ultrasound or additional testing?

- If the surgeon removing the tumor has oncologic training and is able to effectively stage ovarian cancer

- If the mass does prove to be malignant, then preoperative MRI distinction between a benign neoplasm and an ovarian malignancy may not be really needed

- CT is not a primary modality for evaluation of adnexal masses
• Measure **CA 125** in all postmenopausal women with an adnexal mass

• **Human epididymis protein 4 (HE4)**: A component of the Risk of Malignancy Algorithm (ROMA) and serum Overa tests

• HE4 levels have been reported to be **significantly lower** in premenopausal compared with postmenopausal women
Recommendation of 2016 ACOG:

- Referral of postmenopausal women with an adnexal mass and **CA 125 levels >35 units/mL**
- Referral of premenopausal women with an adnexal mass based on the judgment of the clinician after considering both the CA 125 level and other clinical factors
• **CEA** may be elevated in malignancies that produce the protein, particularly mucinous cancers associated with the gastrointestinal tract or ovary

• Upper limit of normal for CEA
  - Non-Smokers: 3.8 mcg/L
  - Smokers: 5.5 mcg/L
• Cancer antigen 19-9 (CA 19-9) is a mucin protein that may be elevated in ovarian cancer
Serum biomarkers

• **OVA1**

  2 up-regulated: [CA] 125 II, Beta 2 macroglobulin

  3 down-regulated: Transferrin, Transthyretin, Apolipoprotein A1

• Postmenopausal women:

  ➢ Low probability of malignancy: OVA1 <4.4
  ➢ High probability of malignancy: OVA1 ≥4.4
Serum biomarkers

- **Overa:**
  - CA 125 II
  - Human epididymis protein 4 (HE4)
  - Apolipoprotein A1
  - FSH
  - Transferrin

- Low risk of malignancy <5.0
- High risk of malignancy ≥5.0
Surgical exploration: most complex ovarian masses

Exceptions to:

• Benign masses, stable in size and appearance (e.g., a mass with an appearance consistent with an endometrioma that was documented prior to menopause)

• Ovarian cysts with a simple sonographic appearance (unilocular, thin walls, anechoic fluid) that are <10 cm in diameter are unlikely to be malignant
Plan

• In simple cyst draw a serum CA 125, and if the result is $<$35 units/mL and no symptoms or risk factors associated with ovarian cancer are present
Summary

• **High risk** – Features of malignancy (ie, solid, nodular, thick septations)

• **Intermediate risk** – Not anechoic and/or unilocular, but no features of malignancy (eg, a mass with thin septations or low level echoes)

• **Low risk** – Anechoic unilocular fluid filled cysts with thin walls
Summary

- **High risk:** Surgical exploration
- **Intermediate risk:** Management based upon
  - Coexisting tumor
  - Marker levels
  - Risk factors
  - Symptoms
- **Low risk:** Surveillance rather than surgery
• For postmenopausal women with a mass with an intermediate or low risk appearance, surgical exploration is required if a serum tumor marker is elevated.
Surgical exploration rather than surveillance is suggested for postmenopausal women with a mass size $\geq 10\,\text{cm}$ in diameter.