POSTMENOPAUSAL ADNEXAL MASS

FLAME LECTURE: 231
RANDALL / BURNS 12.24.15
Learning Objectives

- Outline the approach to a patient with an adnexal mass
- Compare the characteristics of functional cysts, benign ovarian neoplasms and ovarian cancers

Prerequisites:
- NONE

See also – for closely related topics
- FLAME LECTURE 230 – Premenopausal Adnexal Mass
- FLAME LECTURE 232 – Ovarian Cancer
ADNEXAL MASSES OVERVIEW

What’s the most likely cause?
- Premenopausal women: functional cyst
- Postmenopausal women: serous cystadenoma

What’s the most concerning cause? OVARIAN CANCER
- < 15 years old: most common ovarian cancer - yolk sac tumor
- 15 – 30 yo: most common ovarian cancer - germ cell tumor
- > 55 yo: most common ovarian cancer - epithelial tumor

There is NO effective screening method for ovarian cancer at this time
- Thus, even though the majority of ovarian masses are benign, we have a low threshold for escalating work up to rule out cancer
- Most adnexal masses are discovered incidentally on exam or imaging and investigation must be broadened beyond gynecologic causes
# Differential Diagnosis

## Gynecologic

<table>
<thead>
<tr>
<th>Benign</th>
<th>Malignant</th>
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<tbody>
<tr>
<td>Functional Cyst</td>
<td>Germ cell tumor</td>
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<tr>
<td>Leiomyomata</td>
<td>Sex cord/stromal tumor</td>
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<tr>
<td>Endometrioma</td>
<td>Epithelial carcinoma</td>
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<tr>
<td>Tubo-ovarian abscess</td>
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<td>Ectopic pregnancy</td>
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<tr>
<td>Mature teratoma</td>
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<td>Serous cystadenoma</td>
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<td>Hydrosalpinx</td>
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<td>Paratubal cyst</td>
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## Non-Gynecologic

<table>
<thead>
<tr>
<th>Benign</th>
<th>Malignant</th>
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<tbody>
<tr>
<td>GI cancers</td>
<td>Diverticular abscess</td>
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<tr>
<td>Appendicitis</td>
<td>Appendicitis</td>
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<tr>
<td>Nerve sheath tumor</td>
<td>Nerve sheath tumor</td>
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<tr>
<td>Ureter diverticulum</td>
<td>Ureter diverticulum</td>
</tr>
<tr>
<td>Pelvic kidney</td>
<td>Pelvic kidney</td>
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<tr>
<td>Bladder diverticulum</td>
<td>Bladder diverticulum</td>
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<tr>
<td>Retroperitoneal sarcomas</td>
<td>Retroperitoneal sarcomas</td>
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<tr>
<td>Metastases</td>
<td>Metastases</td>
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OVARIAN CANCER SYMPTOMS

- The symptoms of ovarian cancer are very insidious and should always be asked of any patient of any age with a known pelvic mass
  - Are you experiencing any abdominal or pelvic pain?
  - Have you been having any abnormal vaginal bleeding?
  - Have you noticed you get full quickly, have a decreased appetite, or feel bloated?
  - Have you experienced any weight loss over the past three to six months that you haven’t been trying to lose?
OVARIAN CANCER

- Woman’s lifetime risk: 1 in 70
  - If diagnosed at Stage I, 5-year survival is 90% BUT:
  - Most women are diagnosed at an advanced stage 2/2 the insidious nature of their symptoms, and 5-year survival is 30-55%!

- Risk factors:
  - Family hx is the strongest risk factor: BRCA 1 carriers have 60-fold increased risk, BRCA 2 carriers have 30-fold increased risk, and Lynch carrier has 13-fold increased risk
  - Anything that causes increased ovarian epithelium turnover causes more repair and more opportunities for cancer development
    - Conversely, factors that decrease ovulation, thereby decreasing ovarian epithelium disruption, are considered protective
  - Most ovarian cancers are diagnosed in postmenopausal women

RISK FACTORS

- Familial ovarian cancer syndrome (BRCA, Lynch)
- Ovarian cancer family hx
- Personal hx of breast cancer
- Early menarche / late menopause
- Infertility / nulliparity
- Increasing age

PROTECTIVE FACTORS

- Oral contraceptives
- Breastfeeding
- Multiparity
- Chronic anovulation (ex PCOS)
- BTL / salpingectomy / hysterectomy
BENIGN MASSES

- In premenopausal women, benign gynecologic masses are most commonly functional cysts
  - **Follicular cyst** – most common
    - Failure of follicular rupture during follicular phase, usually unilateral (3-8cm)
    - Resolves in 60-90 days
  - **Corpus luteum cyst** – CL that is >3cm or hemorrhagic
    - Over-enlargement of corpus luteum during luteal phase of cycle
    - Causes delayed menstruation
BENIGN MASSES – CONT’D

- **Theca lutein cyst**
  - Due to abnormally high ß-HCG (pregnancy, IVF, complete molar pregnancy)

- **Endometrioma – “Chocolate cyst”**
  - Ectopic endometrial tissue + pelvic pain, dysmenorrhea, dyspareunia, infertility

- **Mature teratoma – “Dermoid”**

- **Complications:** 4-10cm cyst can cause ovarian torsion
  - <5cm, twisted ovary would self resolve
  - >10cm, too large to torsed
  - Dermoid cysts at particularly high risk of torsion
EVALUATION OF ADNEXAL MASS

- Physical exam:
  - Is beneficial for discovering masses incidentally, however has low sensitivity and is generally difficult to differentiate between benign and malignant conditions
  - Has especially limited ability to detect masses in patients with high BMI

- Transvaginal ultrasound:
  - Pros: highly available and tolerable, cost-effective, most effective routine imaging
  - Cons: lacks specificity and positive predictive value for cancer, especially in premenopausal women
  - Concerning findings: mixed or solid consistency, + septations, mural nodules, papillary excrescences (outgrowths), ascites
  - Benign findings:
    - Benign cysts: Round, unilocular, thin-walled sonolucent cysts with smooth, regular borders
    - Mature teratoma (dermoid cyst): hypoechoic attenuating component with multiple small homogeneous interfaces
**BENIGN CYST EVALUATION**

**Pre-menarche**
- **< 2cm**
  - Repeat US in 6-12 weeks
- **> 2cm**
  - Surgical evaluation

**Pre-menopausal**
- **< 5 cm**
  - No follow-up
- **5 – 10 cm**
  - Hemorrhagic
    - Repeat US in 6-12 weeks
  - Non-hemorrhagic
    - Repeat US in 1 year
- **> 10 cm**
  - Surgical evaluation

**Post-menopausal**
- Hemorrhagic
  - Repeat US in 6-12 weeks
- Non-hemorrhagic
  - **< 3 cm**
    - No follow-up
  - **3 – 5 cm**
    - Repeat US in 1 year
  - **5 – 10 cm**
    - Repeat US in 6-12 weeks
  - **> 10 cm**
    - Surgical evaluation

*While waiting for repeat US, provide OCP’s (won’t resolve current cyst but will prevent future cysts)*
EVALUATION

- **CT, MRI, PET:**
  - Not recommended for initial evaluation and don’t add significantly to TVUS
  - CT best used to look for metastases after all other workup suggests possible malignancy
  - MRI useful for distinguishing origin of non-adnexal masses but not for ovarian tumors

- **Serum CA-125:**
  - Low sensitivity because only elevated 50% of stage I cancers and can also be elevated due to other conditions (fibroids, endometriosis, PID, ascites, pregnancy)
  - Higher sensitivity in postmenopausal women because less incidence of alternative causes of elevation
  - CA-125 is not diagnostic. Usually measured to observe response to treatment and recurrence
  - However, every postmenopausal woman presenting with an adnexal mass should get TVUS + CA-125 work up.

- **Other work up:** If PMP bleeding OR thickened endometrium on TVUS, consider EMB. If patient is anemic also do endoscopy/colonoscopy for possible metastatic GI tumor
  - CA19-9, CEA
A postmenopausal woman presents with an adnexal mass:

**Transvaginal US**

**CA - 125**

REFER TO GYN/Onc IF:

- Elevated CA 125 (any elevation)
- Suspicious US findings or ascites
- Nodular or fixed pelvic mass on exam
- Abdominal/Distant metastasis
- 1st degree relative hx of breast/ovarian ca

STANDARD MANAGEMENT: **HYSTERECTOMY + BSO**

WHEN TO DO LESS:

- If mass truly appears benign or is benign on frozen section intra-operatively, can consider only performing unilateral salpingo-oophorectomy
- Generally, would recommend still taking the contralateral tube and even ovary (given cancer risks)

WHEN TO DO MORE:

- Surgical staging of ovarian cancer requires
  - hysterectomy
  - omentectomy
  - peritoneal washing
  - Pelvic & para-aortic lymph node sampling
- However, when possible, should always perform complete cytoreduction (removing every piece of visible cancer regardless of what it is attached to, as long you can safely do so)
IMPORTANT LINKS / REFERENCES

  1. UpToDate.com