Radiologic Evaluation of Complex Adnexal Mass

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Agenda

To discuss:

• Anatomy of Female Pelvis

• Radiologic Modalities Used to Evaluate the Female Pelvis

• Differential Diagnosis of Complex Mass in the Female Pelvis
Female Pelvic Anatomy

http://www.bartley.com/107/illus1165.html
Hysterosalpingogram

Our Patient:

Ms. L, 31-years-old, presents with right lower quadrant pain
Radiological Modalities for Evaluation of Female Pelvis

<table>
<thead>
<tr>
<th>Ultrasound</th>
<th>Magnetic Resonance Imaging</th>
<th>Computed Tomography</th>
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<tbody>
<tr>
<td>Transabdominal</td>
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<td>Ionizing radiation and i.v. contrast</td>
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<tr>
<td>Transvaginal</td>
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<td>Staging for ovarian cancer</td>
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- No ionizing radiation and i.v. contrast
- Initial evaluation
- Differentiates cystic from solid lesions
- No ionizing radiation and i.v. contrast
- Surgical evaluation
- Best typifies Nature of lesion
- Ionizing radiation and i.v. contrast
- Staging for ovarian cancer
- Evaluates sizable ovarian masses

Our Patient’s pelvic ultrasound

Complex Mass

Courtesy of Dr. Chad Brecher, M.D.
Our Patient’s complex adnexal mass

Complex Mass

Normal Ovary

Courtesy of Dr. Chad Brecher, M.D.
# Differential Diagnosis for Complex Adnexal Mass

**Benign**
- Cystadenoma
- Hemorrhagic cyst
- Endometrioma
- Teratoma

**Malignant**
- Ovarian Carcinoma
  - Epithelial
  - Germ cell
  - Stromal

**Other**
- Ectopic pregnancy
- Abscess
- Hematoma

**Uterin Origin**
- Subserosal uterin fibroid
Our Patient: Axial Abdominal CT

Ascites

Hydroureter

Courtesy of Dr. Chad Brecher, M.D.
Our Patient: Pelvic CT

Pelvic Mass

Courtesy of Dr. Chad Brecher, M.D.
Our Patient: Coronal CT

Mass
Uterus
Bladder

Courtesy of Dr. Chad Brecher, M.D.
Let’s Review the characteristic appearance of some other adnexal masses
Patient 2:
Ultrasound of Simple Cyst
Patient 3: T1-weighted MR

Mass
Uterus
Bladder

http://brighamrad.harvard.edu/Cases/bwh/hcache/62/full.html
Patient 3: Fat-suppression MR

http://brighamrad.harvard.edu/Cases/bwh/hcache/62/full.html
Conclusion

• US and MR - major modalities for evaluating female pelvis
  CT - role in staging ovarian cancer

• Current imaging are non-specific in distinguishing between
  benign and malignant complex masses

• Some techniques allow definitive diagnosis of characteristic
  masses
e.g. fat-suppressing MR identifies teratomas from
  hemorrhagic cysts or endometriomas
Reference

Publications

Web Resources
• http://brighamrad.harvard.edu/Cases/bwh/hcache/62/full.html
• http://radiology.bidmc.harvard.edu/kinds_of_exams/Xrays/hystero.html
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