Chapter 8
Benign Disease of the Female Pelvis
Susan Raatz Stephenson

Objectives
• List benign neoplasms of the vagina, cervix, uterus, and ovaries.
• Summarize the results of surgery and trauma to the uterus i.e. synechiae, uterine dehiscence.
• Distinguish extraterine masses such as abscesses, hematomas, lymphoceles, and appendicitis from uterine masses.
• List types of ovarian cysts, cause and their sonographic appearance.
• Explain the results and imaging appearance of ovarian torsion.

Nabothian Cysts
• Retention cyst of the nabothian gland
• Asymptomatic
• Common finding

Endometrial Hyperplasia
• Excessive growth of the endometrium
• Due to
  – High estrogen levels
  – Hormone replacement therapy
  – Tamoxaphin therapy
  – Diabetes
  – Obesity
  – PCOD/anovulatory cycles
Endometrial Hyperplasia

Asherman Syndrome / Synechiae
- Adhesions of the endometrium
- Due to
  - Trauma
  - Surgery
    - Cesarean section
    - D & C

Asherman Syndrome / Synechiae

Uterine Diheiscence
- Rupture of a uterine scar
- Due to
  - Myomectomies
  - Instrument perforation
  - Caesarian section
Uterine Dehiscence

**PATHOLOGY BOX 8-2**

<table>
<thead>
<tr>
<th>Uterine Tear/Dehiscence</th>
<th>Symptomatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUSN</td>
<td>Traction injury</td>
</tr>
<tr>
<td>Uterine retraction</td>
<td>Exosthesia</td>
</tr>
</tbody>
</table>

- Most common pelvic tumor
- Benign tumor of the uterus

Leiomyoma

- Degenerative Changes

**PATHOLOGY BOX 8-3**

<table>
<thead>
<tr>
<th>Leiomyomas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptomatic</td>
</tr>
<tr>
<td>Nontender</td>
</tr>
<tr>
<td>Spontaneous</td>
</tr>
<tr>
<td>Increased abdominal girth</td>
</tr>
<tr>
<td>Pain</td>
</tr>
<tr>
<td>Urinary frequency/urgency</td>
</tr>
<tr>
<td>Lower back pain</td>
</tr>
<tr>
<td>Leg discomfort/residing</td>
</tr>
</tbody>
</table>

- Hyperechogenic |
- Irregular endometrial stripe |
- Hypoechoic areas within the myometrium |
- Whorled internal architecture of a mass |
- Calcinations |
- Posterior bladder contour changes
Leiomyoma – Pedunculated

Leiomyoma – Submucosal

Leiomyoma – Calcified

Ovaries – Functional Cysts

Ovaries – Corpus Luteum
Ovaries – Corpus Luteum

Ovaries – Theca Lutein

Ovaries – Hemorrhagic Cysts

- Symptoms
  - Acute onset of pain
- Differentials
  - Ectopic pregnancy
  - Tubal infection
- Appearance dependent on age
  - Acute
    - Anechoic
  - Late acute
    - Solid mass
  - Resolving
    - Complex mass

Ovaries – Hemorrhagic Cysts

Ovaries – Torsion

- Partial or complete rotation of the ovary
- Due to
  - Mass
  - Cyst
  - Hyperstimulation

Ovaries – Torsion

<table>
<thead>
<tr>
<th>PATHOLOGY BOX 5-7</th>
<th>Ovarian Torsion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signs and Symptoms</strong></td>
<td>Ovarian enlargement</td>
</tr>
<tr>
<td>Sudden onset of severe pelvic pain</td>
<td>Loss of normal ovarian shape</td>
</tr>
<tr>
<td>Nausea</td>
<td>Hydrops ovarian</td>
</tr>
<tr>
<td>Vomiting</td>
<td>Hemorrhagic infarct</td>
</tr>
<tr>
<td>Palpable adnexal mass</td>
<td>Dilated vessels on the periphery of the mass</td>
</tr>
</tbody>
</table>

People may demonstrate decreased or decreased blood flow |
| Potentially colostrum fluid |

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Polycystic Ovary Syndrome (PCOS)
- Complex process due to androgen disorder
- AKA Stein-Leventhal syndrome

Cystic Teratoma
- Common germ cell tumor
- Contains
  - Hair
  - Teeth
  - Thyroid tissue
- Symptoms
  - Pain with torsion
  - Mass on clinical exam
Cystic Teratoma

- Predominately cystic mass
- Calcifications
- Fat-fluid level
- Shadowing
- Echogenic foci

Serous Cystadenoma

- Mucinous secreting tumor
- Large
- Unilateral
- Fluid images with pinpoint echoes
Meig’s Syndrome

- Triad of
  - Ovarian tumor
  - Ascites
  - Pleural effusion

- May image with
  - Sertoli-Leydig Cell
  - Gonadoblastoma
  - Granulosa Stromal Cell Tumors
  - Ovarian Sex Cord-Stromal Tumors
  - Brenner Tumors