AMSER Case of the Month
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52 year old female with lower abdominal pain

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Patient Presentation

- **HPI:** 52 y/o female presents to the ED with a 3 day history of worsening RLQ pain and fevers
- **LMP:** 2 weeks ago
- **PMHx:** Hyperlipidemia, hypothyroidism, No surgical history
- **Meds:** fenofibrate, levothyroxine, simvastatin
- **ROS:** Negative other than for constipation
- **Vitals:** BP 136/77 mmHg, HR 124 BPM, RR 16, T 38.8 C
- **Physical Exam:**
  Alert, no acute distress, sinus tachycardia, cardiopulmonary exam otherwise benign, abdomen soft, non-distended, diffuse tenderness to palpation, worse in the RLQ with guarding, no CVA tenderness
Pertinent Labs

CBC
- WBC: Leukocytosis with a left shift

Urine
- Pregnancy test negative
- Urinalysis negative

CMP
- Na+ = 134
- K+ = 4.1
- Cl- = 99
- Glu: 181
What Imaging Should We Order?
<table>
<thead>
<tr>
<th>Imaging Modality</th>
<th>Estimated Dose</th>
<th>Pediatric Dose</th>
<th>Appropriateness</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT abdomen and pelvis with IV contrast</td>
<td>1-10 mSv</td>
<td>3-10 mSv [ped]</td>
<td>Usually appropriate</td>
</tr>
<tr>
<td>US abdomen</td>
<td>0 mSv</td>
<td>0 mSv [ped]</td>
<td>May be appropriate</td>
</tr>
<tr>
<td>US pelvis</td>
<td>0 mSv</td>
<td>0 mSv [ped]</td>
<td>May be appropriate</td>
</tr>
<tr>
<td>MRI abdomen and pelvis without IV contrast</td>
<td>0 mSv</td>
<td>0 mSv [ped]</td>
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</tr>
<tr>
<td>MRI abdomen and pelvis with IV contrast</td>
<td>0 mSv</td>
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</tr>
<tr>
<td>CT abdomen and pelvis without IV contrast</td>
<td>1-10 mSv</td>
<td>3-10 mSv [ped]</td>
<td>May be appropriate</td>
</tr>
<tr>
<td>Radiography abdomen</td>
<td>0.1-1 mSv</td>
<td>0.03-0.3 mSv [ped]</td>
<td>Usually not appropriate</td>
</tr>
<tr>
<td>Fluoroscopy contrast enema</td>
<td>1-10 mSv</td>
<td>3-10 mSv [ped]</td>
<td>Usually not appropriate</td>
</tr>
<tr>
<td>CT abdomen and pelvis without and with IV contrast</td>
<td>10-30 mSv</td>
<td>10-30 mSv [ped]</td>
<td>Usually not appropriate</td>
</tr>
<tr>
<td>WBC scan abdomen and pelvis</td>
<td>10-30 mSv</td>
<td>Not Assigned</td>
<td>Usually not appropriate</td>
</tr>
</tbody>
</table>

This imaging modality was ordered by the ED physician.
Findings (unlabeled)

Sagittal view

Coronal view
Findings (unlabeled)
Findings (labeled)

Septated/multiloculated fluid collection within the right adnexa

Sagittal view

Coronal view
Findings (labeled)

Septated/multiloculated fluid collection within the right adnexa

Axial view
Final Dx:

Right-sided Tubo Ovarian Abscess
Tubo-ovarian abscess

• Definition
  • A tubo-ovarian abscess (TOA) is a complex, infectious mass involving the fallopian tube, ovary, and occasionally other adjacent pelvic organs (e.g. bowel, bladder).

• Etiology
  • Most commonly arises as a late complication of pelvic inflammatory disease – bacteria from the lower genital tract ascend to the endometrium, through the fallopian tubes, and into the peritoneal cavity. However, TOA can occur without a history of PID or sexual activity.

• Microbiology
  • E. col, B. fragilis, other bacteroides species, and aerobic streptococci. Neither Neisseria gonorrhea or Chlamydia trachomatis is typically isolated from a TOA.
TOA: Evaluation and Imaging

**H&P and Labs**
- The classic presentation of a TOA includes abdominal pain, pelvic mass on physical exam, fever, and leukocytosis. Blood work may demonstrate leukocytosis with a left shift. A pregnancy test must be performed to r/o ectopic pregnancy.

**CT Imaging**
- Multilobular complex retrouterine/adnexal mass
- High attenuation fluid pelvic masses, which may contain fluid-fluid levels
- Usually shows a thick, uniform, enhancing abscess wall

**Differential:**
- Complex diverticular abscess, Appendiceal abscess, pelvic hemorrhagic cysts, hydrosalpinx, ectopic pregnancy, pelvic endometriosis
TOA: Treatment and Management

Should the tubo-ovarian abscess rupture, life-threatening sepsis can result.

- Any woman found to have a TOA should have a gynecological consultation and be hospitalized for further care.
- Antibiotics are the mainstay of treatment for TOA. Antibiotics are continued until there is complete resolution of the TOA on repeat imaging.
- Abscess drainage or Surgery is reserved for TOA cases measuring >7cm, for suspected TOA rupture, poor response to antibiotics, or suspected malignancy.
- TOA among post-menopausal patients is associated with a higher rate of malignancy than pre-menopausal patients.
References:


