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?

Applicable ACR Imaging Criteria

RLQ pain, initial imaging 3195405	CT abdomen and pelvis with IV contrast	1-10 mSv ☢☢☢	3-10 mSv [ped] ☢☢☢☢	Usually appropriate	🟢
	US abdomen	0 mSv O	0 mSv [ped] O	May be appropriate	🟡
	US pelvis	0 mSv O	0 mSv [ped] O	May be appropriate	🟡
	MRI abdomen and pelvis without IV contrast	0 mSv O	0 mSv [ped] O	May be appropriate	🟡
	MRI abdomen and pelvis without and with IV contrast	0 mSv O	0 mSv [ped] O	May be appropriate	🟡
	CT abdomen and pelvis without IV contrast	1-10 mSv ☢☢☢	3-10 mSv [ped] ☢☢☢☢	May be appropriate	🟡
	Radiography abdomen	0.1-1mSv ☢☢	0.03-0.3 mSv [ped]..	Usually not appropriate	🔴
	Fluoroscopy contrast enema	1-10 mSv ☢☢☢	3-10 mSv [ped] ☢☢☢☢	Usually not appropriate	🔴
	CT abdomen and pelvis without and with IV contrast	10-30 mSv ☢☢☢☢	10-30 mSv [ped] ☢☢☢☢☢	Usually not appropriate	🔴
	WBC scan abdomen and pelvis	10-30 mSv ☢☢☢☢	Not Assigned	Usually not appropriate	🔴

This imaging modality was ordered by the ED physician

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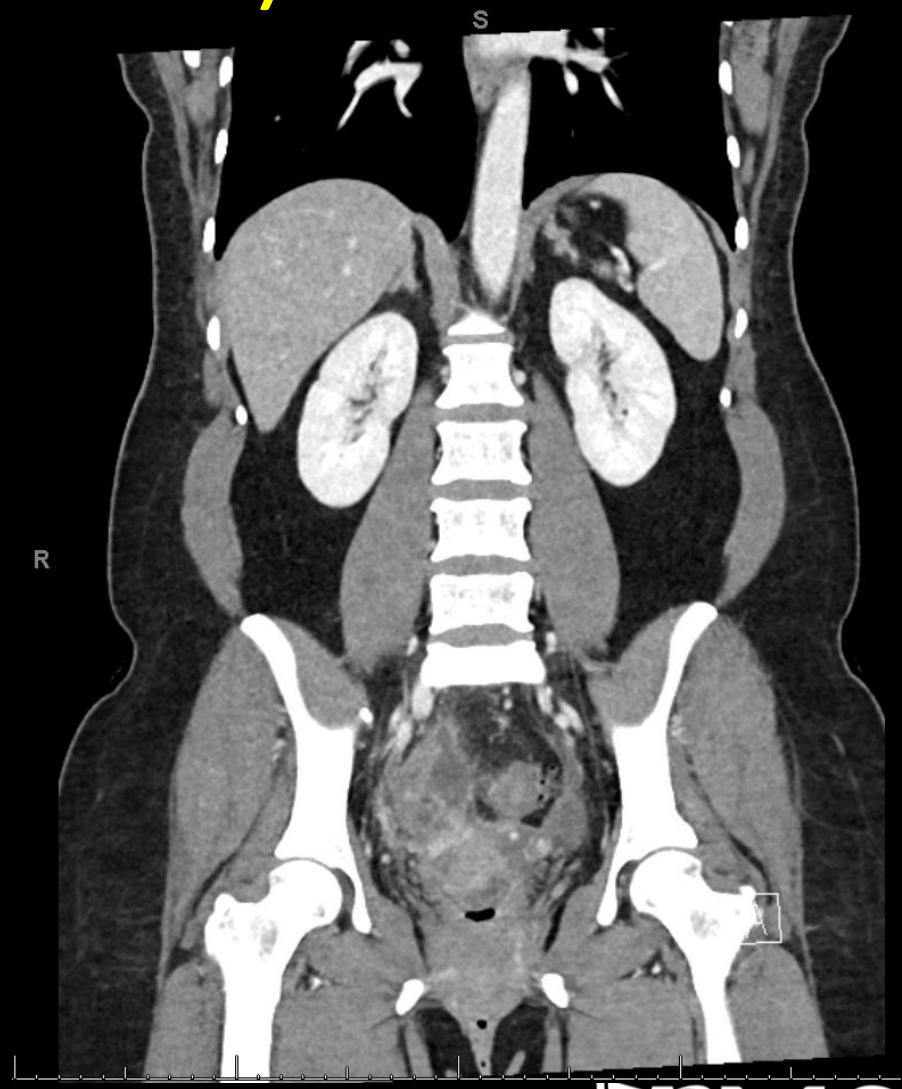
Findings (unlabeled)

Sagittal view



Coronal view

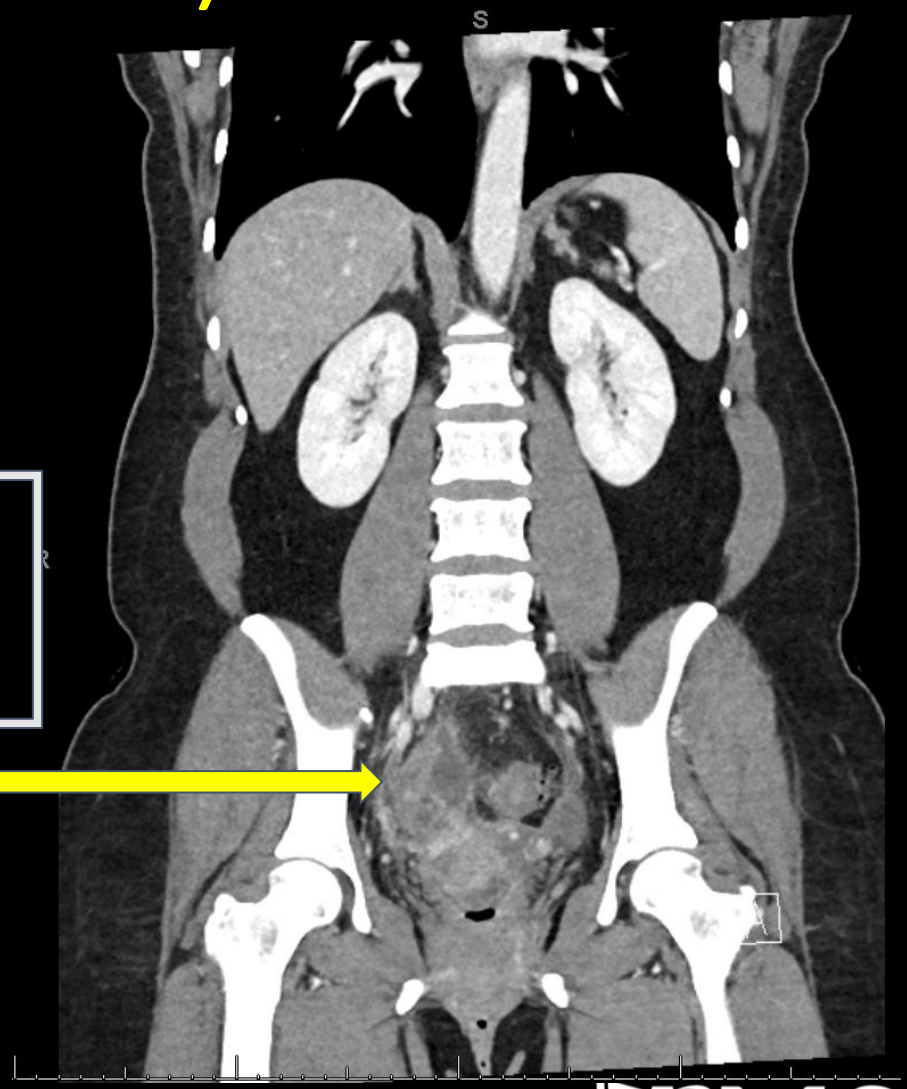
Findings (unlabeled)

Axial view

Findings (labeled)

Sagittal view

Septated/multiloculated fluid collection within the right adnexa



Coronal view

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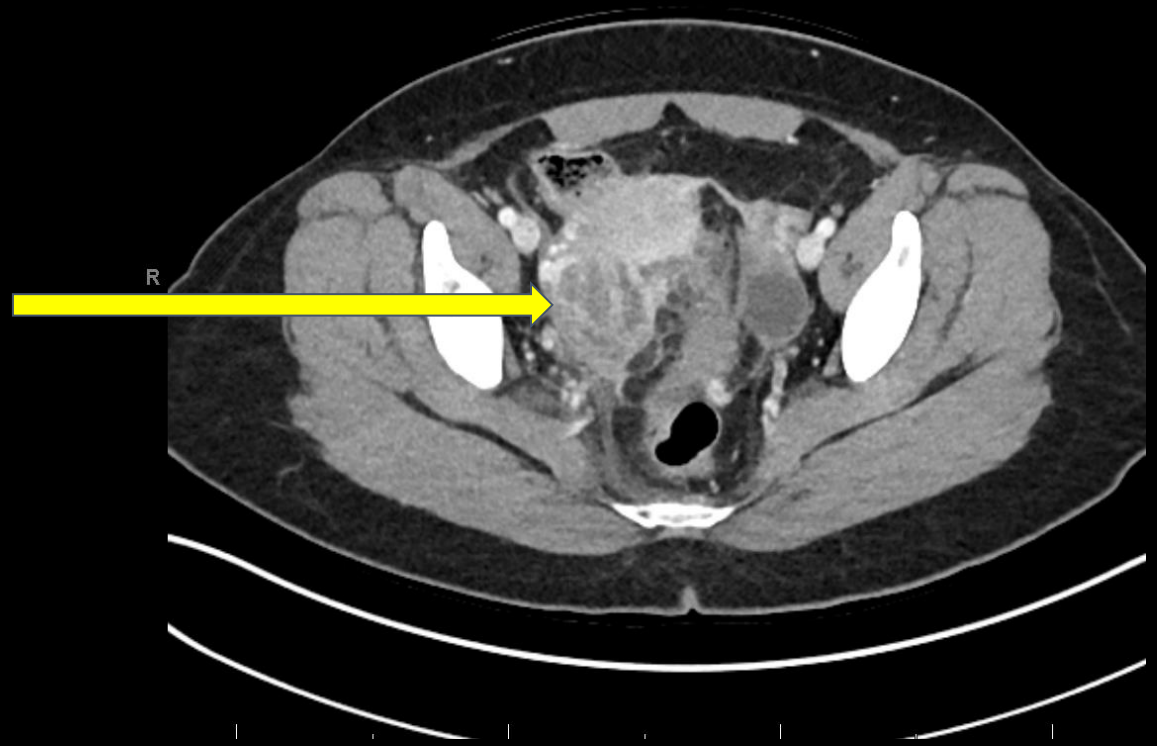
Findings (labeled)

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:

1. Fouks, Y., Cohen, A., Shapira, U., Solomon, N., Almog, B., & Levin, I. (2019). Surgical Intervention in Patients with Tubo-Ovarian Abscess: Clinical Predictors and a Simple Risk Score. Journal of minimally invasive gynecology, 26(3), 535–543. https://doi.org/10.1016/j.jmig.2018.06.013
2. Gaillard F, Tubo-ovarian abscess. Case study, Radiopaedia.org (pictured image) https://doi.org/10.53347/rID-10876
3. Granberg, S., Gjelland, K., & Ekerhovd, E. (2009). The management of pelvic abscess. Best practice & research. Clinical obstetrics & gynaecology, 23(5), 667–678. https://doi.org/10.1016/j.bpobgyn.2009.01.010
4. Lareau, S. M., & Beigi, R. H. (2008). Pelvic inflammatory disease and tubo-ovarian abscess. Infectious disease clinics of North America, 22(4), 693–708. https://doi.org/10.1016/j.idc.2008.05.008

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