

AMSER Case of the Month

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14-Year-Old Male with Acute Lower Abdominal Pain

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Patient Presentation

- **HPI:** 14-year-old male presents with lower abdominal pain x6 days associated with intermittent nausea and decreased appetite. Pain exacerbated by eating, and not relieved by Tylenol.
- **PMH:** Anxiety, depression, and PTSD.
- **Meds:** Lexapro, Vyvanse, Hydroxyzine, Risperidone
- No pertinent surgical or family history. No known allergies.
- **ROS:** No fever, URI or UTI symptoms, diarrhea/constipation
- **Physical Exam:** Afebrile. Normal S1/S2. Lungs clear to auscultation bilaterally. RLQ and suprapubic tenderness w/ guarding and rebound tenderness.

Pertinent Labs

Comprehensive Metabolic Panel:

AST: 22

ALT: 21

Alk Phos: 150

Complete Blood Count:

WBC: 10.1

Urinalysis: negative for leukocytes, nitrites, protein, and blood

Lipase: 20

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

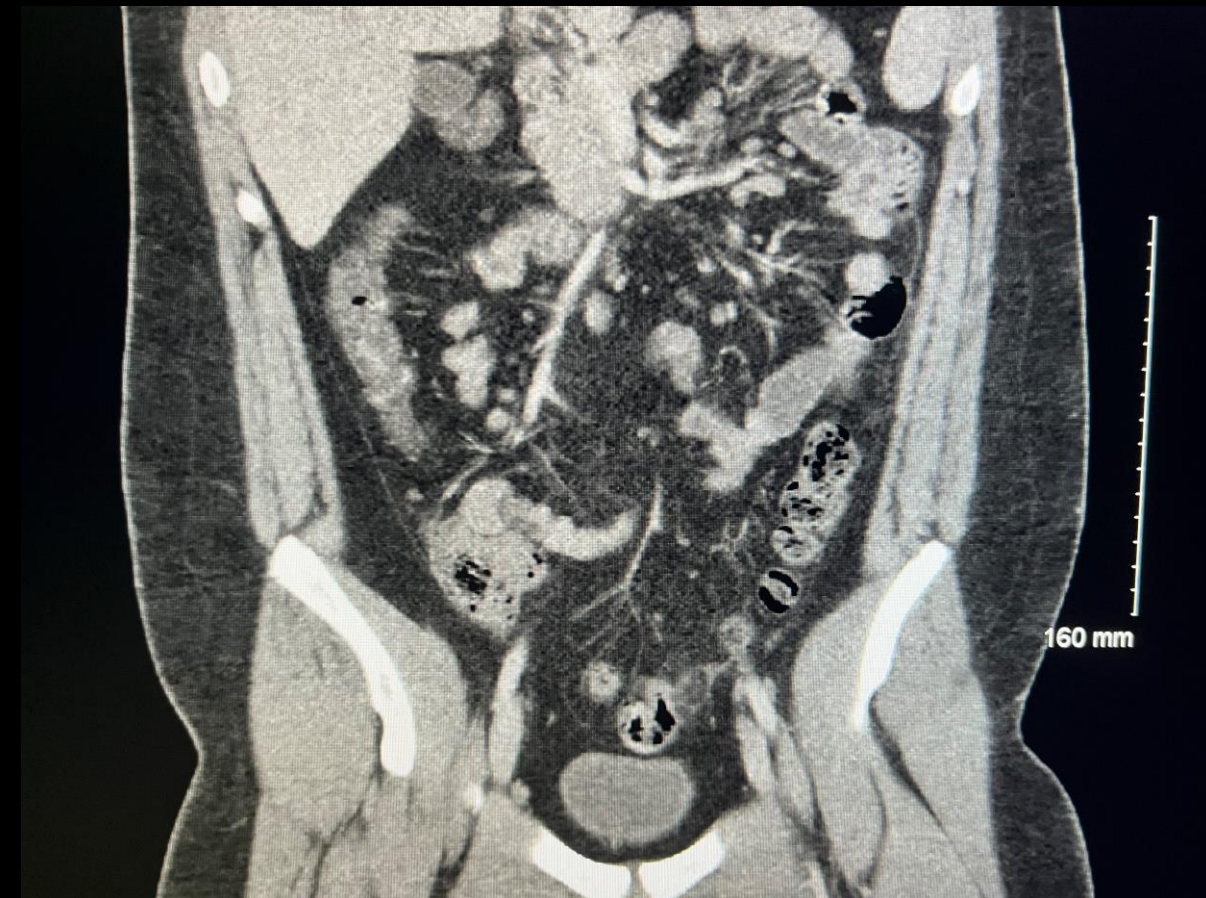
RLQ pain, initial imaging	CT abdomen and pelvis with IV contrast	1-10 mSv ☠☠☠☠	3-10 mSv [ped] ☠☠☠☠☠	Usually appropriate	●
	MRI abdomen and pelvis without and with IV contrast	0 mSv ○	0 mSv [ped] ○	May be appropriate	●
	US abdomen	0 mSv ○	0 mSv [ped] ○	May be appropriate	●
	US pelvis	0 mSv ○	0 mSv [ped] ○	May be appropriate	●
	MRI abdomen and pelvis without IV contrast	0 mSv ○	0 mSv [ped] ○	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 ☠☠☠☠☠	Null	Usually not appropriate	●

This imaging modality was ordered by an outside provider.

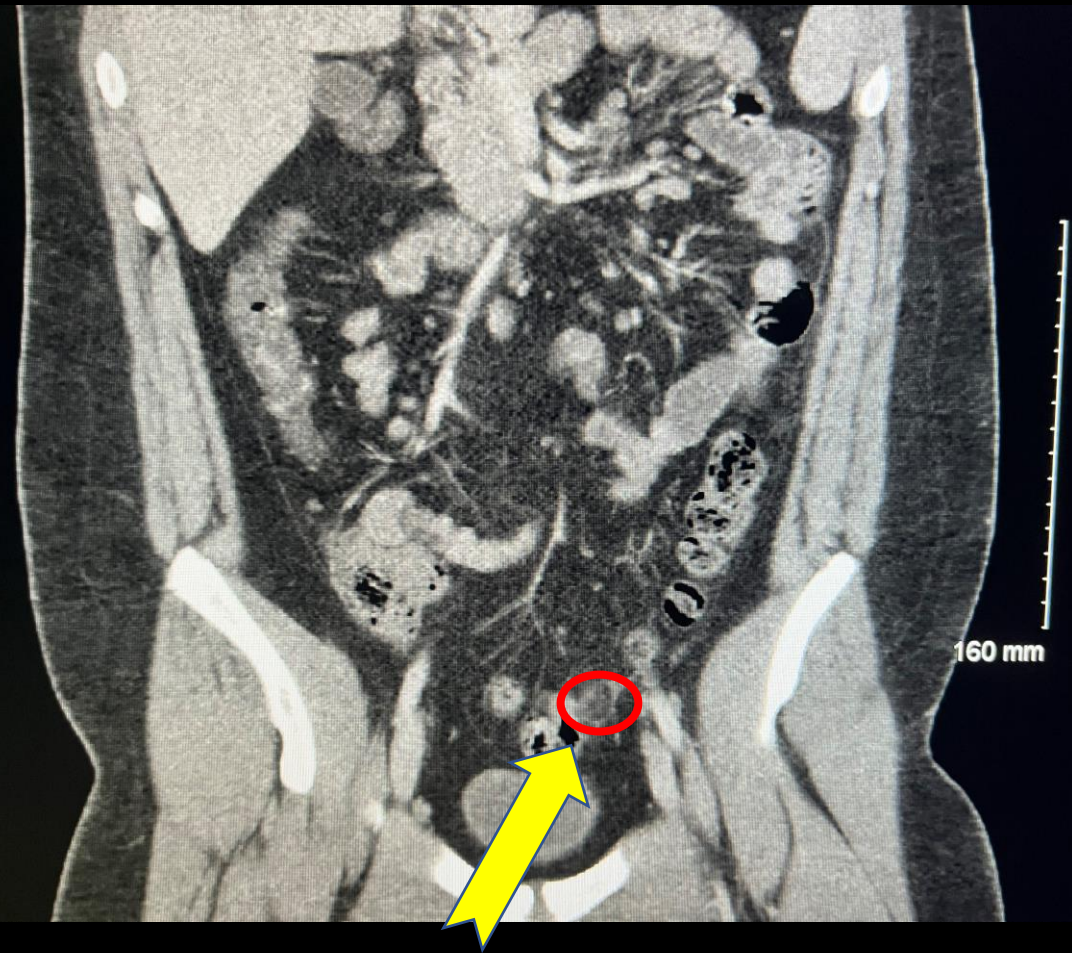
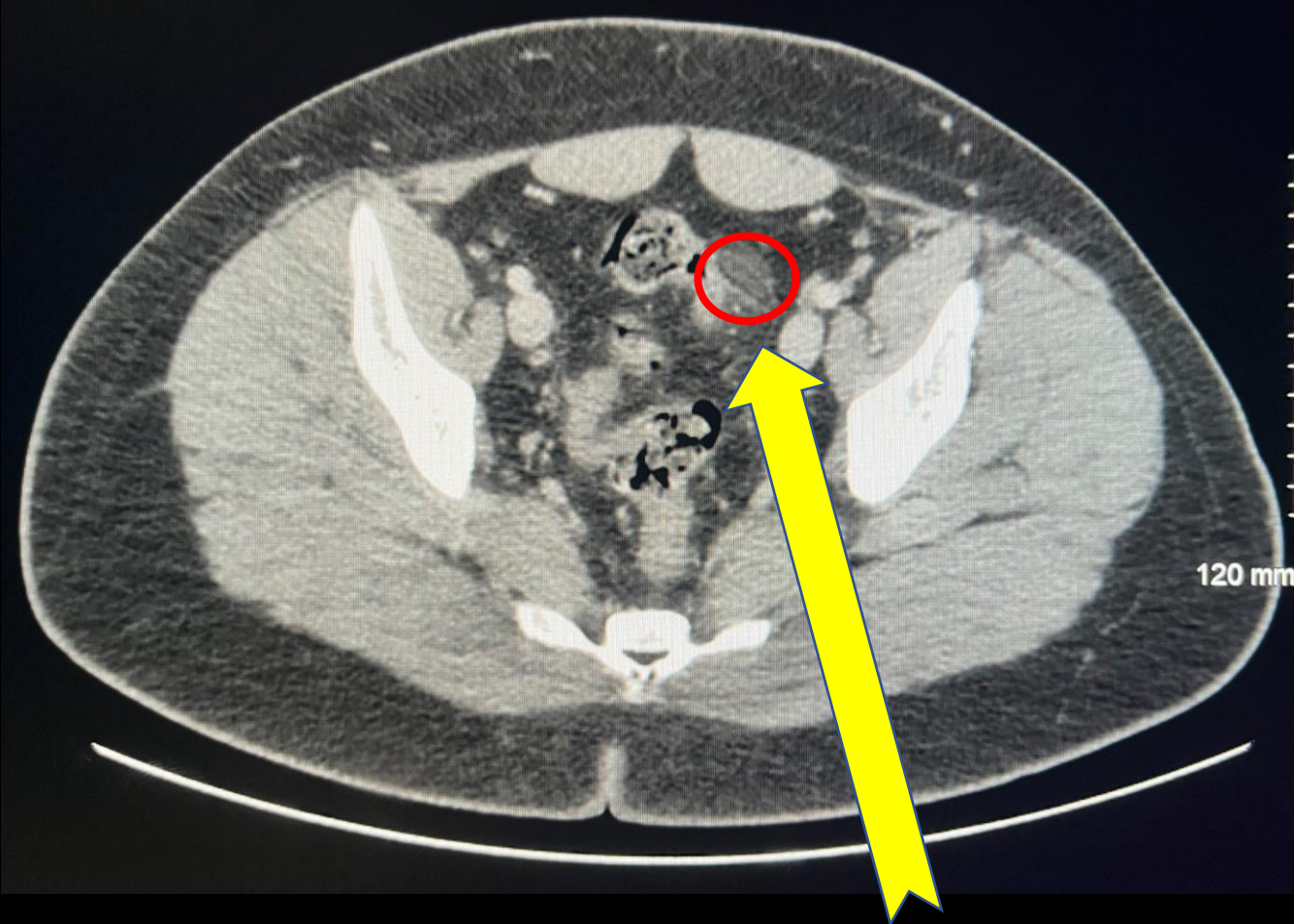
This imaging modality was ordered by the ED provider.

US renal and scrotum also ordered by ED provider.

Findings (unlabeled)



Findings: (labeled)



Focal ovoid fat density lesion along the sigmoid colon with adjacent mesenteric fat stranding.

Other Imaging Findings

- **US Abdomen Limited:** No demonstrated focal abnormality to suggest appendicitis. Small umbilical hernia containing fat.
- **US Renal:** No hydronephrosis, stone, or mass. No abnormal fluid around the kidneys.
- **US Scrotal Contents & Vascular Flow:** No testicular mass or current evidence for torsion with color flow and vascular waveforms documented bilaterally.

Final Dx:

Epiplonic appendagitis

Epiplonic Appendagitis

- Benign and self-limiting condition that generally resolves in 3-14 days without surgical management. Rare complications include intussusception, bowel obstruction, or abscess.
- **Etiology:** Usually caused by ischemic infarction of an appendage resulting from either torsion of the appendage or thrombosis of a draining vein.
- **Clinical Presentation:** Acute/subacute lower abdominal pain that is constant and dull. Can be associated with postprandial fullness, early satiety, vomiting, bloating, and diarrhea. Generally afebrile with tenderness on exam and normal or mildly elevated WBC, ESR, and CRP.
- **Differential Diagnosis:** appendicitis, diverticulitis, pancreatitis, bowel obstruction, testicular torsion, nephrolithiasis

Epiploic Appendagitis (contd.)

- **Diagnosis:** Abdominal CT is diagnostic; classic findings include:
 - Fat-density ovoid lesion
 - Thin, high-density rim (“hyperdense ring”)
 - Thickened peritoneum and surrounding fat stranding
 - Central high-attenuation focus within fatty lesion (“central dot”)
 - Potential mild colonic wall thickening
- **Management:**
 - *Conservative:* oral anti-inflammatories (e.g. ibuprofen 600mg q4-6 hrs for 4-6 days) or short-course of opioids (4-7 days)
 - *Surgical:* ligation and resection of appendage; possible consideration for pts with symptoms that fail to improve with conservative management or new or worsening symptoms

Outcome & Significance

- Pt was discharged on ibuprofen 600mg q8 hours.
- No further workup/management (antibiotics, surgical intervention) was required.
- Epiploic appendagitis can **mimic more severe acute/subacute conditions** like appendicitis, cholecystitis, and diverticulitis.
- Nonspecific clinical presentation with largely unremarkable physical exam and labs that complicate diagnosis. **Abdominal imaging, especially CT, plays an essential role in diagnosis.**
- **If missed, can lead to low-value care** including inappropriate hospitalizations, surgeries, or other medical management (e.g. unnecessary antibiotic use).

References:

- American College of Radiology. ACR Appropriateness Criteria®. Available at <https://acsearch.acr.org/list> . Accessed May 27, 2022.
- Gaillard, F., Kusel, K. Epiploic appendagitis. Available at radiopaedia.org. Accessed May 27, 2022. <https://doi.org/10.53347/rID-1296>.
- Giannis, D., Matenoglou, E., Sidiropoulou, M.S., et al. Epiploic appendagitis: pathogenesis, clinical findings and imaging clues of a misdiagnosed mimicker. *Ann Transl Med* 7, 814 (2019). <https://doi.org/10.21037/atm.2019.12.74>.
- Schnedl, W.J., Krause, R., Tafeit, E., et al. Insights into epiploic appendagitis. *Nat Rev Gastroenterol Hepatol* 8, 45-49 (2011). <https://doi.org/10.1038/nrgastro.2010.189>.
- Suresh Kumar, V.C., Mani, K.K., Alwakkaa H., et al. Epiploic Appendagitis: An Often Misdiagnosed Cause of Acute Abdomen. *Case Rep Gastroenterol* 13, 364-368 (2019). <https://doi.org/10.1159/000502683>.