AMSER Case of the Month
April 2026

49-year-old female with progressive abdominal pain and altered bowel habits

Dave Chen, MS-3, Drexel University College of Medicine

Matthew Hartman, MD, Alleghany Health Network

DREXEL UNIVERSITY College of Medicine

Allegheny Health Network

AMSER

Patient Presentation

- HPI: A 49-year-old woman presented to the emergency department with three days of progressively worsening diffuse lower abdominal pain associated with increased frequency of soft, non-watery stools. She denied any history of inflammatory bowel disease or prior bowel obstruction. Five days prior to presentation, she experienced urinary symptoms for which she received outpatient treatment on the third day, with partial improvement of her urinary complaints.
- CBC, Lactate, Lipase, and Urinalysis were all WNL
- Vitals WNL

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

Variant 4: **Acute nonlocalized abdominal pain. Not otherwise specified. Initial imaging.**

Procedure	Appropriateness Category	Relative Radiation Level
CT abdomen and pelvis with IV contrast	Usually Appropriate	☢☢☢
CT abdomen and pelvis without IV contrast	Usually Appropriate	☢☢☢
MRI abdomen and pelvis without and with IV contrast	Usually Appropriate	O
US abdomen	May Be Appropriate	O
MRI abdomen and pelvis without IV contrast	May Be Appropriate	O
CT abdomen and pelvis without and with IV contrast	May Be Appropriate	☢☢☢☢
Radiography abdomen	May Be Appropriate	☢☢
FDG-PET/CT skull base to mid-thigh	Usually Not Appropriate	☢☢☢☢
WBC scan abdomen and pelvis	Usually Not Appropriate	☢☢☢☢
Nuclear medicine scan gallbladder	Usually Not Appropriate	☢☢
Fluoroscopy upper GI series with small bowel follow-through	Usually Not Appropriate	☢☢☢
Fluoroscopy contrast enema	Usually Not Appropriate	☢☢☢

This imaging modality was ordered by the ER physician

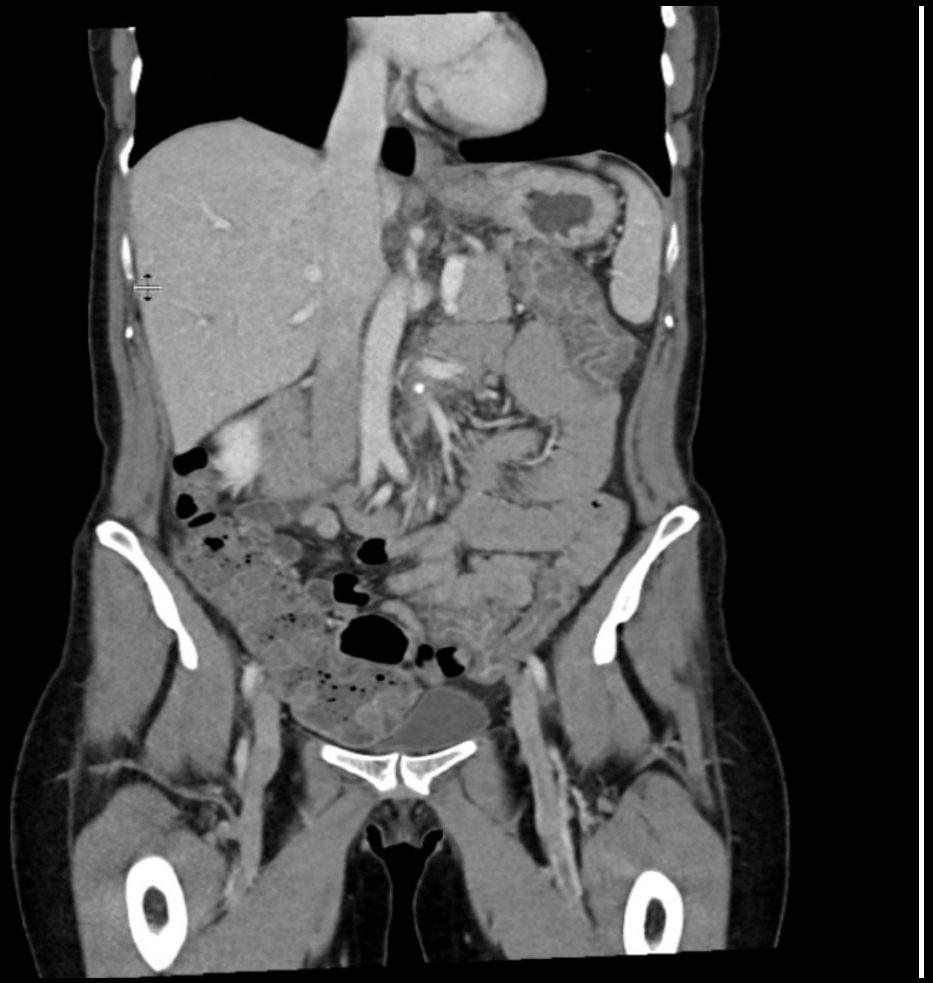
AMSER

Findings (unlabeled)

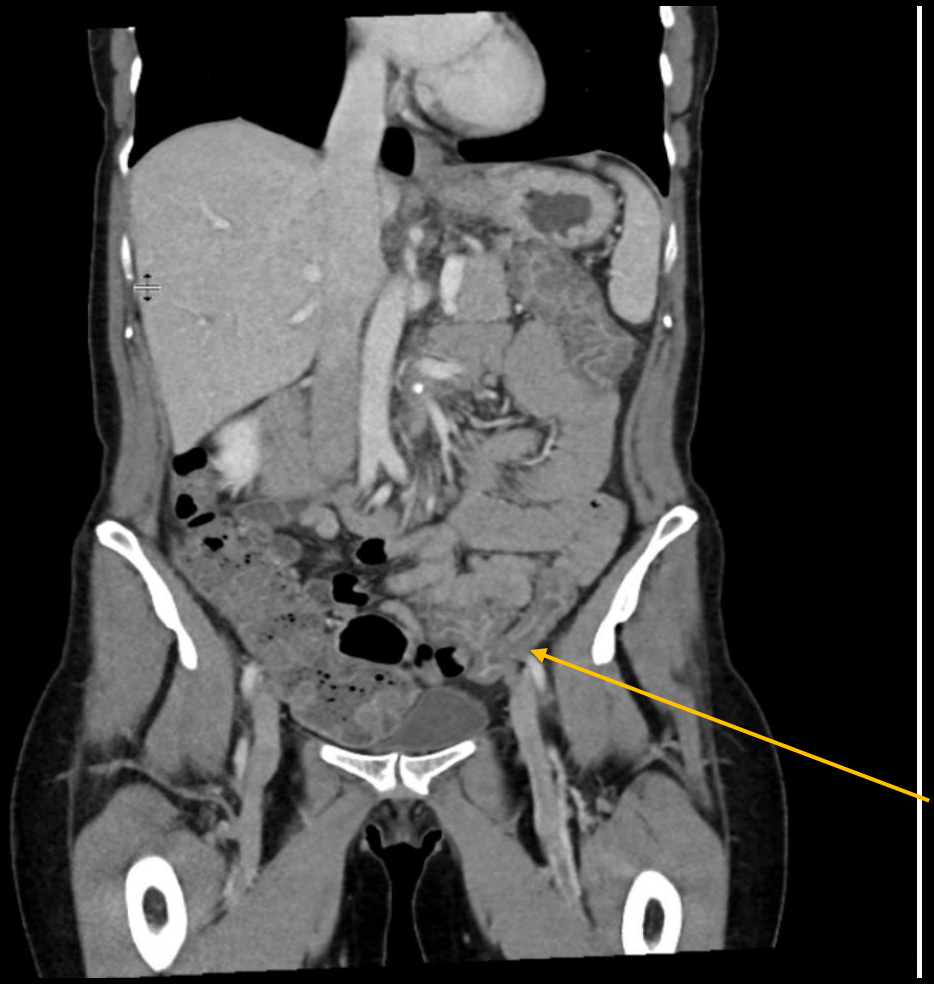
Findings (labeled)

A small volume of dependent free intraperitoneal fluid within the rectovesical pouch

Findings (unlabeled)



Findings (labeled)



Findings (unlabeled)

Findings (labeled)

Final Dx:

Clostridioides difficile Colitis

Case Discussion

- Approximately 500,000 patients are diagnosed with *Clostridioides difficile* infection in the United States each year, with an estimated 30,000 attributable deaths annually [1].
- Major Risk Factor: antibiotic use, older age, longer hospital stay, immunosuppression [2].
- Pathophysiology: Disruption of normal gut flora leads to overgrowth of toxin-producing *C. difficile*, whose toxins A and B damage colonic epithelial cells and trigger inflammation, resulting in pseudomembranous colitis and diarrhea
- Typical Presentation: profuse watery diarrhea, fever, abdominal pain, leukocytosis, rising creatinine levels

Case Discussion

- Typical CT Imaging findings [3]:
  - Diffused or segmented colonic thickening that is most prominent in the rectum and sigmoid, but may involve the entire colon
  - Accordion sign due to oral contrast trapped between haustra folds
  - Target sign due to submucosal edema and mucosal hyperenhancement
  - Pancolitis pattern that is continuous from the rectum
  - Peri-colonic fat stranding
  - Ascites
  - Sparing of the small bowel
- Complication: toxic megacolon, perforation, septic shock, multi-organ failure, death [4]
- Management: Stop the inciting antibiotic if possible, and then administer either oral vancomycin or fidaxomicin

Case Discussion

- Our Case:
  - CT Impression: Infectious Colitis, possibly due to C. Difficile
  - Differential Diagnosis: Neutropenic Colitis, Ulcerative Colitis, Ischemic Colitis
  - Patient was discharge from ED with diagnosis of Viral Colitis and prescribed Bentyl
  - Symptoms did not improve, and patient followed up PCP who ordered a C. diff Stool testing and results returned positive
  - Patient was prescribed vancomycin and symptoms gradually improved
  - Imaging in our case demonstrated early features of *Clostridioides difficile* colitis, including pancolitis extending from the rectum to the hepatic flexure with associated ascites. In addition, a collapsed colonic segment was present, reflecting preserved muscular tone, whereas advanced cases typically demonstrate diffuse colonic dilation.
  - This case demonstrates the expanding role of CT pattern recognition in identifying early manifestations of *Clostridioides difficile* colitis that may be initially obscured by normal laboratory studies, underscoring the importance of correlating imaging with recent antibiotic exposure and maintaining diagnostic flexibility.

References:

1. Feuerstadt, P., Theriault, N., & Tillotson, G. (2023). The burden of CDI in the United States: A multifactorial challenge. *BMC Infectious Diseases*, *23*(1). https://doi.org/10.1186/s12879-023-08096-0
2. Mullish, B. H., & Williams, H. R. (2018). *Clostridium difficile* infection and antibiotic-associated diarrhoea. *Clinical medicine (London, England)*, *18*(3), 237–241. https://doi.org/10.7861/clinmedicine.18-3-237
3. Guerri S, Danti G, Frezzetti G, Lucarelli E, Pradella S, Miele V. Clostridium difficile colitis: CT findings and differential diagnosis. *Radiol Med*. 2019;124(12):1185-1198. doi:10.1007/s11547-019-01066-0
4. Czepiel, J., Dróżdż, M., Pituch, H., Kuijper, E. J., Perucki, W., Mielimonka, A., Goldman, S., Wultańska, D., Garlicki, A., & Biesiada, G. (2019). Clostridium difficile infection: review. *European journal of clinical microbiology & infectious diseases : official publication of the European Society of Clinical Microbiology*, *38*(7), 1211–1221. https://doi.org/10.1007/s10096-019-03539-6