

AMSER Case of the Month

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49 y/o woman with abdominal pain and diarrhea for two weeks.

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Patient Presentation

- 49 y/o woman presents with 13 days of RLQ pain, subjective fevers, nausea and non-bloody loose stools.
- Initially presented to PCP with poorly localized upper abdominal pain and constipation.
- PMH: Prior complicated diverticulitis with abscess 12 years ago, treated non-operatively with drain and antibiotics.
- Physical Exam:
 - Abdominal: soft, mildly tender diffusely, focally tender in right lower quadrant; without guarding or rebound tenderness.

Pertinent Labs

CBC

- WBC: 20.75 (H)
- HGB: 12.2
- HCT: 36.5

BMP

- Na: 137
- K: 3.3
- Cl: 98
- CO2: 27
- BUN: 13
- Cr: 0.91
- Glucose:114

LFT

- Protein: 8.8
- Bilirubin: 1.1
- Alk Phos: 154
- AST: 21
- ALT: 27

Given right lower quadrant pain, nausea, and elevated WBC, what imaging should be requested at this time?

Select the applicable ACR Appropriateness Criteria

Variant 1:

Right lower quadrant pain. Initial imaging.

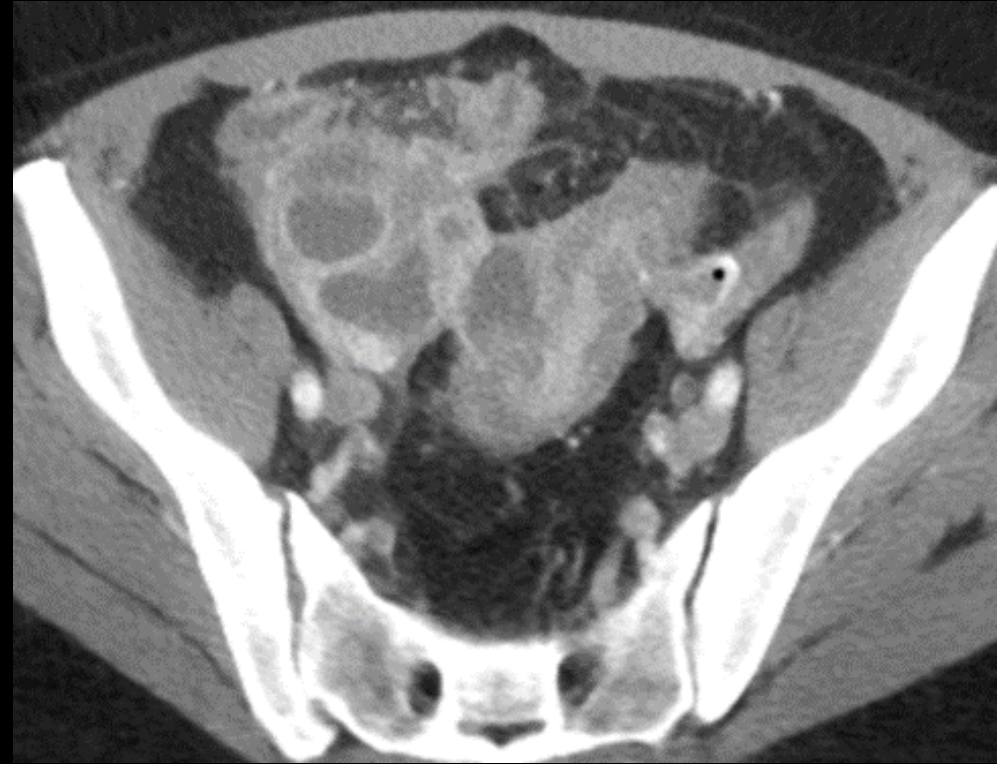
Procedure	Appropriateness Category	Relative Radiation Level
CT abdomen and pelvis with IV contrast	Usually Appropriate	⊗⊗⊗
US abdomen	May Be Appropriate	○
US pelvis	May Be Appropriate	○
MRI abdomen and pelvis without and with IV contrast	May Be Appropriate	○
MRI abdomen and pelvis without IV contrast	May Be Appropriate	○
CT abdomen and pelvis without IV contrast	May Be Appropriate	⊗⊗⊗
Radiography abdomen	Usually Not Appropriate	⊗⊗
Fluoroscopy contrast enema	Usually Not Appropriate	⊗⊗⊗
CT abdomen and pelvis without and with IV contrast	Usually Not Appropriate	⊗⊗⊗⊗
WBC scan abdomen and pelvis	Usually Not Appropriate	⊗⊗⊗⊗

This imaging modality was ordered by the physician

Finding (unlabeled)



Axial cranial image



Axial caudal image

Findings (labeled)



Multiloculated ring-enhancing collections within the right ovary



Communication of the right ovarian abscess with the sigmoid mural abscess

Mural abscess within the wall of the sigmoid colon

Findings (unlabeled)



Coronal anterior image



Coronal posterior image

Findings (labeled)



Multiloculated ring-enhancing collections within the right ovary



Mural abscess within the wall of the sigmoid colon

Abscess in the left ovary

Final Dx:

Sigmoid diverticulitis with mural abscess and fistulization to bilateral ovaries resulting in tubo-ovarian abscesses

Diverticulitis

- Diverticulitis is common in western countries and affects 30-50% of adults over the age of 60.¹
- Fistula formation is a complication estimated to occur in 17-27% of surgically treated cases, most commonly involving the bladder (65%), vagina (25%), small bowel (7%), or uterus (3%).²
- Adnexal involvement is rare and usually presents with unspecific symptoms which may include lower abdominal pain, variable fever, malaise and abnormal inflammatory markers.³
- In the setting of a fistula, typical symptoms of diverticulitis such as localized lower abdominal pain, increased flatulence and constipation or diarrhea may be absent.⁴

Findings on Imaging

- CT sensitivity and specificity for diverticulitis are 94% and 99% respectively.⁵
- On CT, diverticulitis is characterized by localized bowel wall thickening, increase in soft tissue density within pericolonic fat, and presence of diverticula.⁶
- Diverticulitis involving female genital organs may be difficult to interpret due to abundant pelvic inflammation.³
- Mural abscesses are identified by air, air-fluid levels, or hyperdense fluid suggesting necrotic debris.⁷
- The presence of gas within a tubo-ovarian abscess should prompt radiologists to suggest a possible diverticular fistula.³

Case Discussion

- Management of colo-ovarian fistulas with percutaneous drainage provides control of local infection and facilitate future elective primary anastomosis under favorable conditions.⁸
- Following the diagnosis of colo-ovarian fistulas, this patient was admitted to the surgical service, and a CT guided abscess drain was placed within the right ovary by interventional radiology.
- Patient was then managed with cefuroxime and metronidazole, and discharged after a 3 day hospitalization.
- At 3 month follow up, the patient was asymptomatic with CT revealing a right ovarian ring enhancing lesion that was decreased in size with a sinus tract from the sigmoid to the right ovary.

References:

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