

AMSER Case of the Month

February 2018

73 year old female with abdominal pain

Jenna Van Dusen, MS3

Lake Erie College of Osteopathic Medicine



Dr. Matthew Hartman

Medical Student Coordinator; AHN Health System



Allegheny
Health Network



HPI and Medical History

- CC/HPI: 73 yr old female presents with constant lower abdominal pain and aching (1 week), with decreased flatulence.
- Past Medical Hx: diabetes
- Past Surgical Hx: bilateral below the knee amputations
- Vitals: BP: 182/78, HR: 95, Temp: 99.2 F (oral), RR: 18, SpO2: 100%, Height: 5'2, BMI: 53.81 kg/m²

Physical Exam

- Abdomen: Moderately distended and diffusely tender; no rebounding or guarding
- Otherwise physical exam is non-contributory

What radiologic study should we order?

ACR Appropriateness criteria for Acute Abdominal Pain and Fever

Clinical Condition: Acute (Nonlocalized) Abdominal Pain and Fever or Suspected Abdominal Abscess

Variant 3: Patient presenting with fever and no recent operation.

This imaging modality was ordered by the ER physician



Radiologic Procedure	Rating	Comments	RRL*
CT abdomen and pelvis with IV contrast	8		☆☆☆☆
CT abdomen and pelvis without IV contrast	6		☆☆☆☆
US abdomen	6		0
X-ray abdomen	6	To evaluate for bowel perforation.	☆☆
MRI abdomen and pelvis without IV contrast	5		0
MRI abdomen and pelvis without and with IV contrast	5		0
X-ray upper GI series with small bowel follow-through	4		☆☆☆
X-ray contrast enema	4		☆☆☆
CT abdomen and pelvis without and with IV contrast	3	May be helpful in select cases but should be used with caution because of increased radiation dose.	☆☆☆☆
Ga-67 scan abdomen	3		☆☆☆☆
Tc-99m WBC scan abdomen and pelvis	3		☆☆☆☆
In-111 WBC scan abdomen and pelvis	3		☆☆☆☆

Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate

*Relative Radiation Level

Scout Tomogram from the CT Scan



Hint:



Coffee Bean sign
(cleft points toward LUQ)

Pearl: CT scout view is an essential part of the study

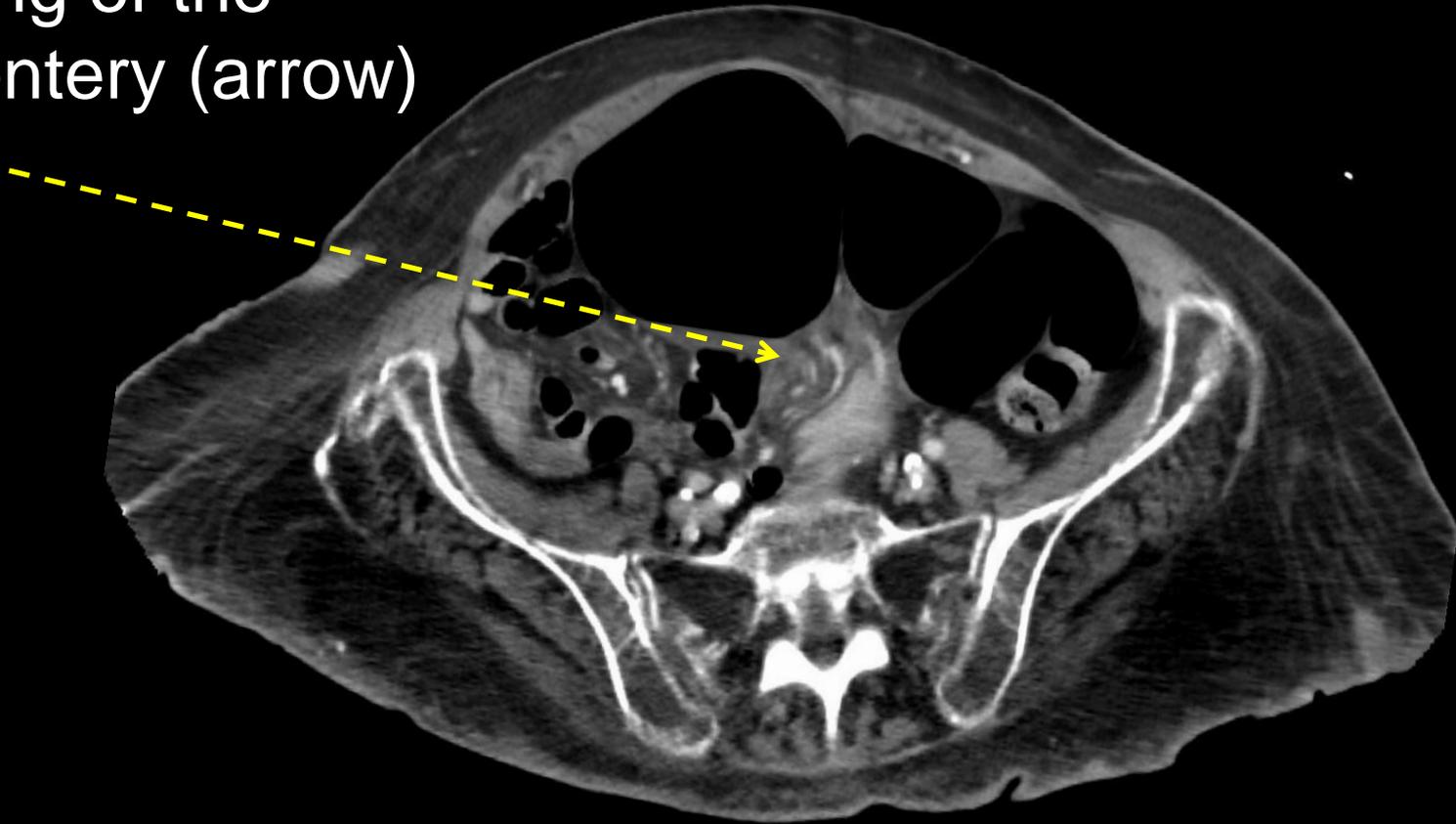
Additional Images:



Coronal CT demonstrates birds beak narrowing (arrow) of the sigmoid colon with swirling of the mesentery

Additional Images:

Axial CT shows
swirling of the
mesentery (arrow)



Additional Images:

Sagittal CT demonstrates birds beak narrowing (arrow) of the sigmoid colon with upstream colonic dilation



Diagnosis:

Sigmoid Volvulus

Differential diagnosis:

- Cecal volvulus
- Colon cancer with obstruction
- Ogilvie syndrome

Sigmoid Volvulus

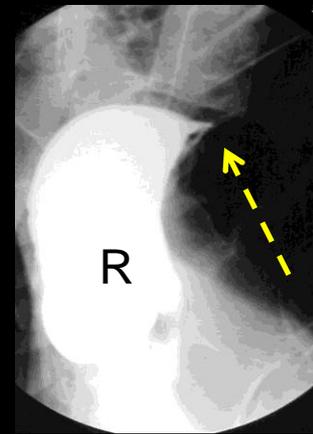
- Definition
 - sigmoid colon twists around the sigmoid mesentery
 - causes large bowel obstruction (torsion exceeds 180 degrees)
 - causes impairment of vascular perfusion (torsion > 360 degrees)
- Symptoms:
 - constipation
 - abdominal bloating/pain (continuous and severe)
 - nausea/vomiting
- Complications:
 - ischemia
 - perforation
- Causes:
 - old age/TMB--too many birthdays (mean age of 70 years old)
 - chronic constipation (may cause elongation of sigmoid)
- Treatment and prognosis
 - Rectal tube insertion successfully treats 90% cases
 - Mortality rate 20-25%, usually related to ischemia

Sigmoid Volvulus vs Cecal Volvulus

Can be a challenging diagnosis on plain film

CT and or gastrografenema can be performed to better define the level of the volvulus

Companion case: Gastrografenema showed filling of the rectum (R) and distal sigmoid colon to the level of the volvulus/bird beak narrowing (arrow)



References

- UP- TO-DATE:
 - Hodin, R. A., MD. (2016, January 25). Sigmoid Volvulus (J. T. Lamont MD & S. Grover MD, MPH, AGAF, Eds.). Retrieved November 4, 2017, from https://www-uptodate-com.lecomlrc.lecom.edu/contents/sigmoid-volvulus?source=search_result&search=sigmoid%20volvulus&selectedTitle=1~13#H1
- RADIOPEDIA:
 - Brion, M. A., & Jones, J. (n.d.). Sigmoid Volvulus . Retrieved November 4, 2017, from <https://radiopaedia.org/articles/sigmoid-volvulus>
- ACR:
 - American College of Radiology ACR Appropriateness Criteria. (1996). Retrieved November 4, 2017, from <https://acsearch.acr.org/docs/69467/Narrative/>
- MD SAVE:
 - (n.d.). Retrieved November 6, 2017, from <https://www.mdsave.com/procedure>