Large Bowel Obstruction in the Setting of Invasive Ovarian Cancer

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DII RAD 4001 elective

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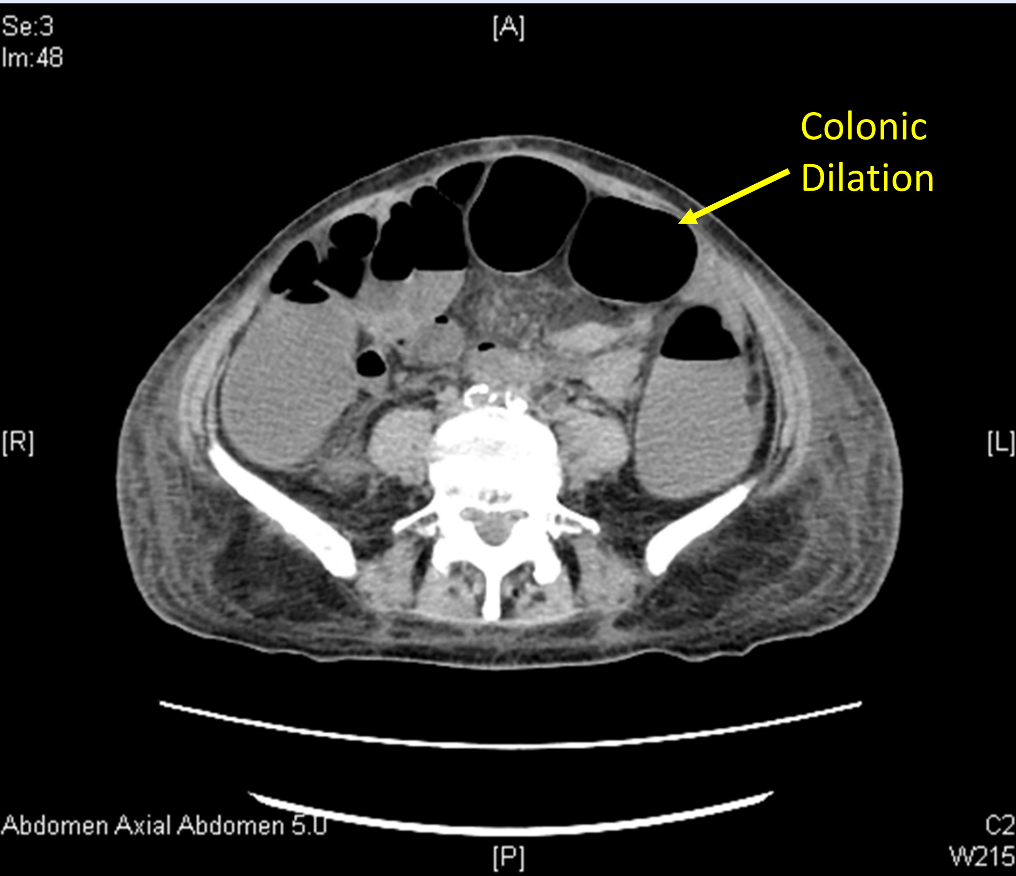
History

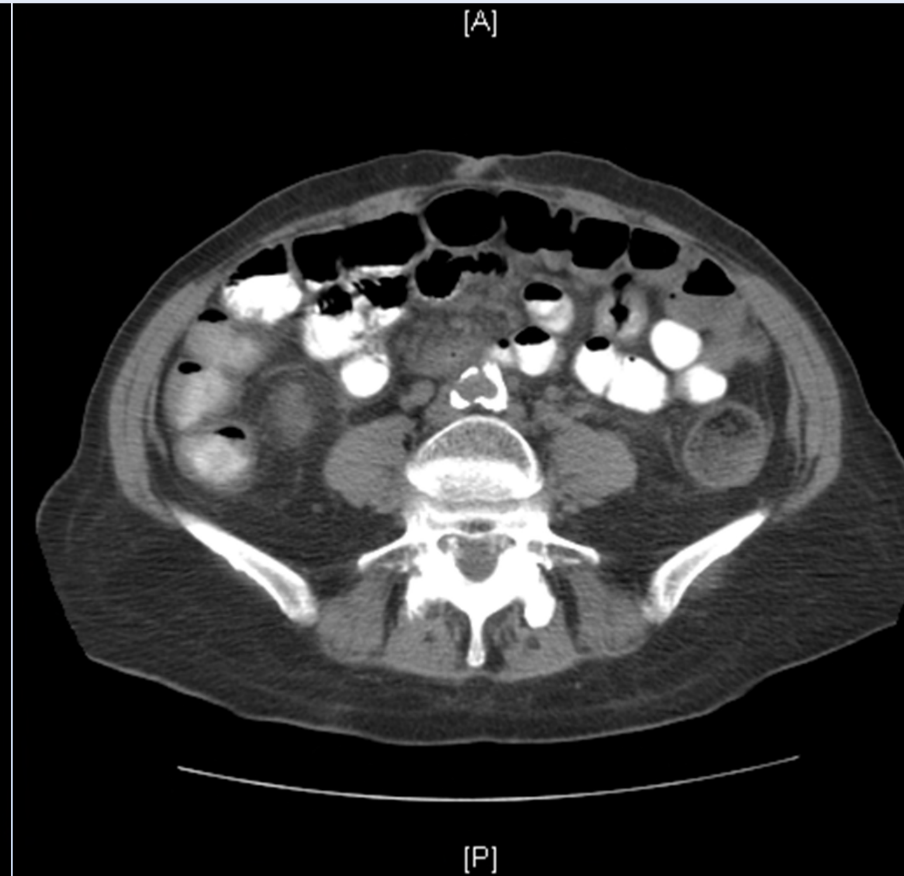
- 79 y/o F
- Severe aortic regurgitation, stage 4 ovarian cancer discovered December 2018, on chemo
- Admitted to MHH July 2019 to evaluate for possible TAVR to optimize condition for potential cancer resection

- ROS: constipation x 6 months, intermittent n/v
- Physical exam: soft, non-tender, no distention
- CT was ordered to r/o obstruction

CT Abd/Pelvis without Contrast - Axial



July 2019

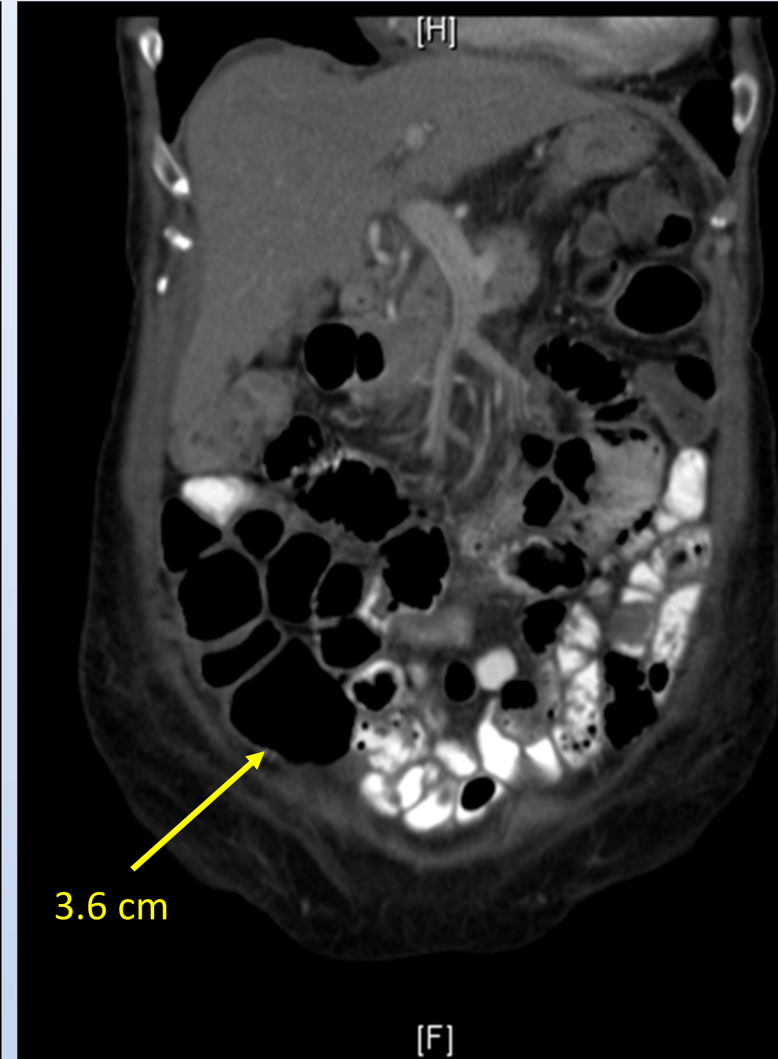


March
2019

CT Abd/Pelvis without Contrast - Coronal

Se:5
Im:22
[H]
[R]
[L]
86.83 mm
8.7 cm
Cecal
Dilation
Coronal Abdomen 3.000
[F]
C-10
W314

July 2019

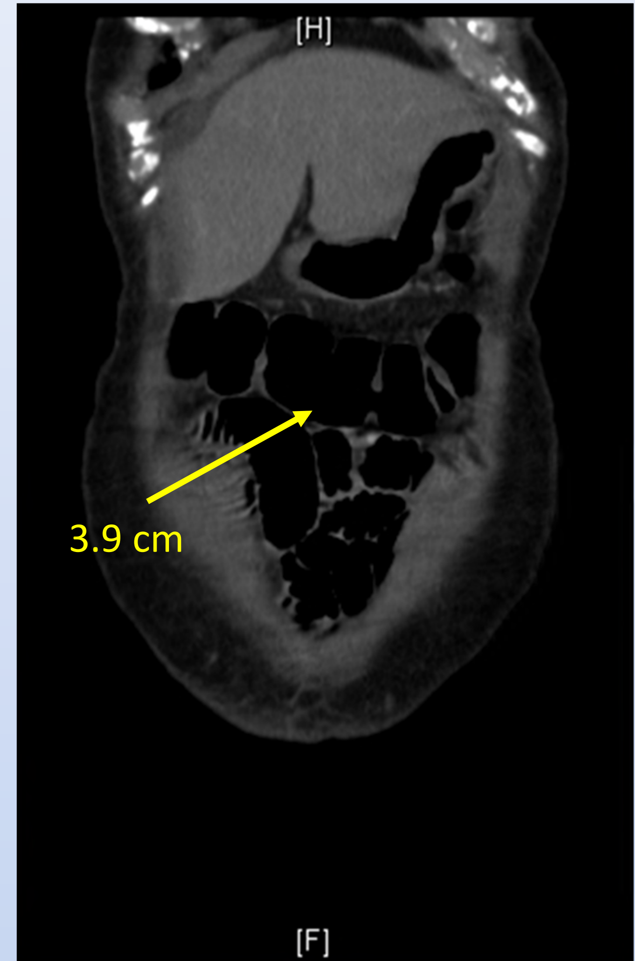


March
2019

CT Abd/Pelvis without Contrast - Coronal

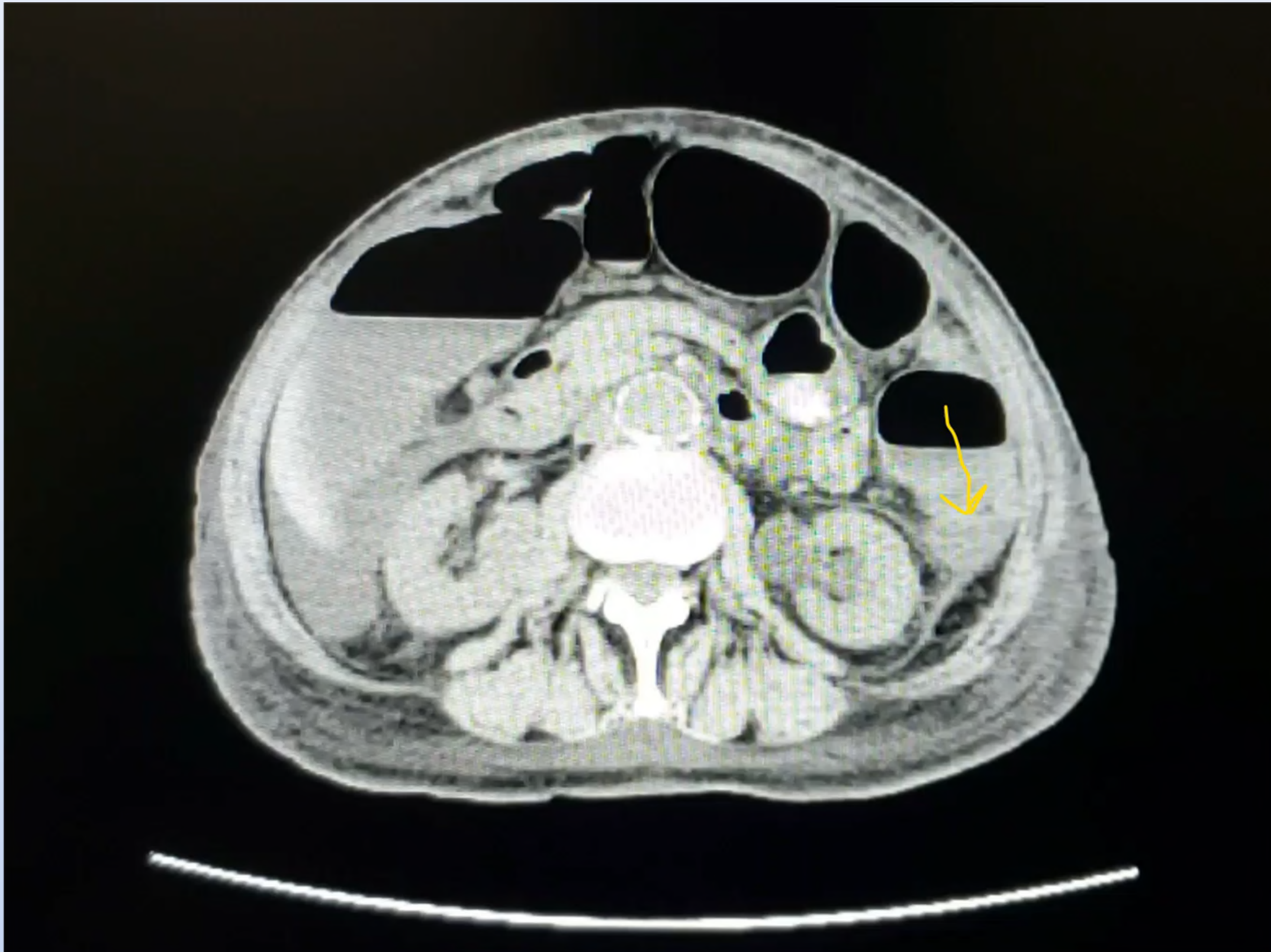
Se:5
Im:21
[H]
47.93 mm
4.8 cm
Transverse
Colon
Dilation
[R]
[L]
Coronal Abdomen 3.000
C-10
W314
[F]

July 2019

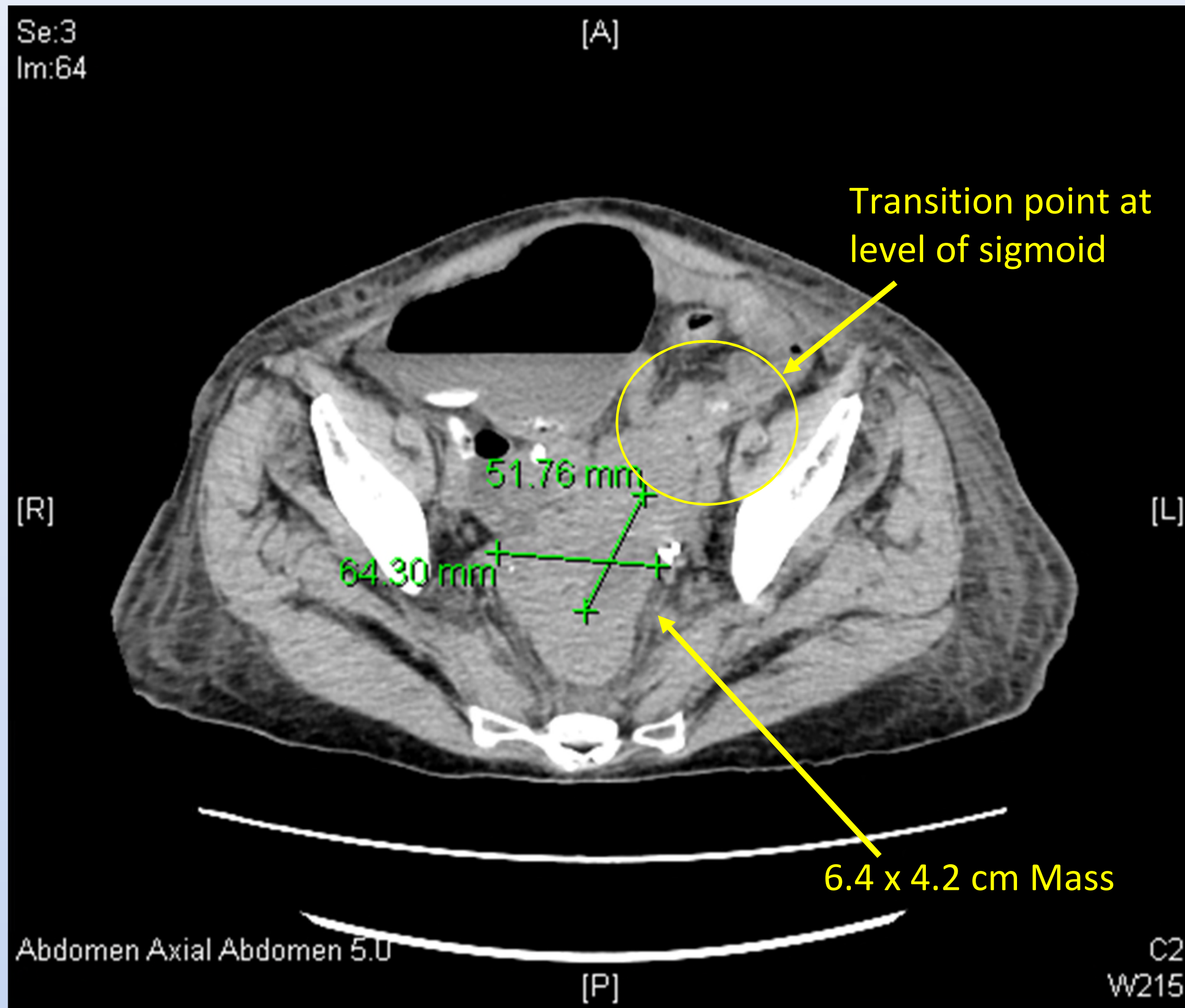


March
2019

CT Abd/Pelvis without Contrast - Axial



CT Abd/Pelvis without Contrast - Axial



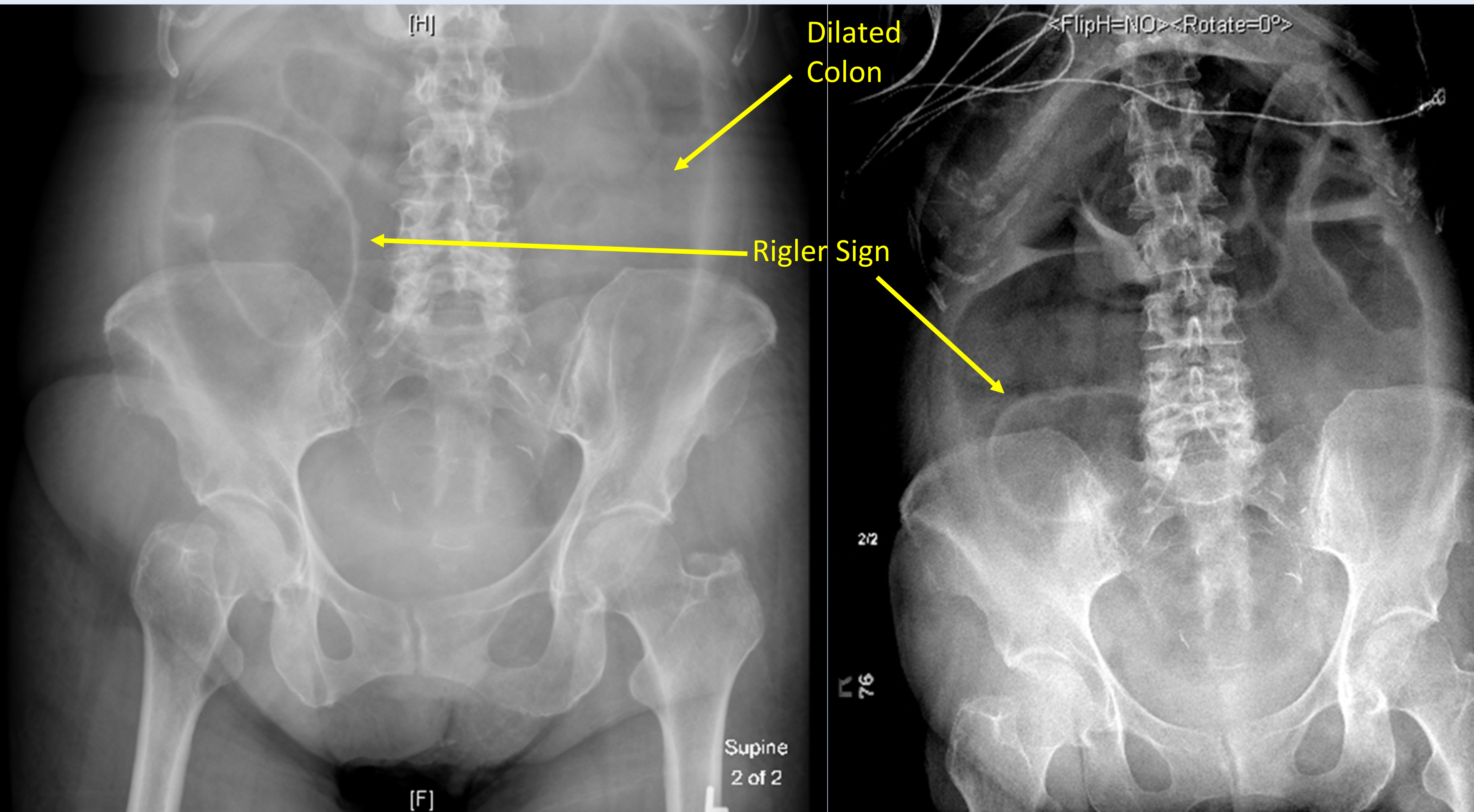
Findings

- Signs of obstruction, with transition point noted at level of sigmoid colon
- Diffuse colonic dilation; within normal limits by “3-6-9 rule,” but significantly more dilated than in March 2019
- Air-fluid levels throughout dilated segments
- Large pelvic mass, increased in size since prior study in March 2019

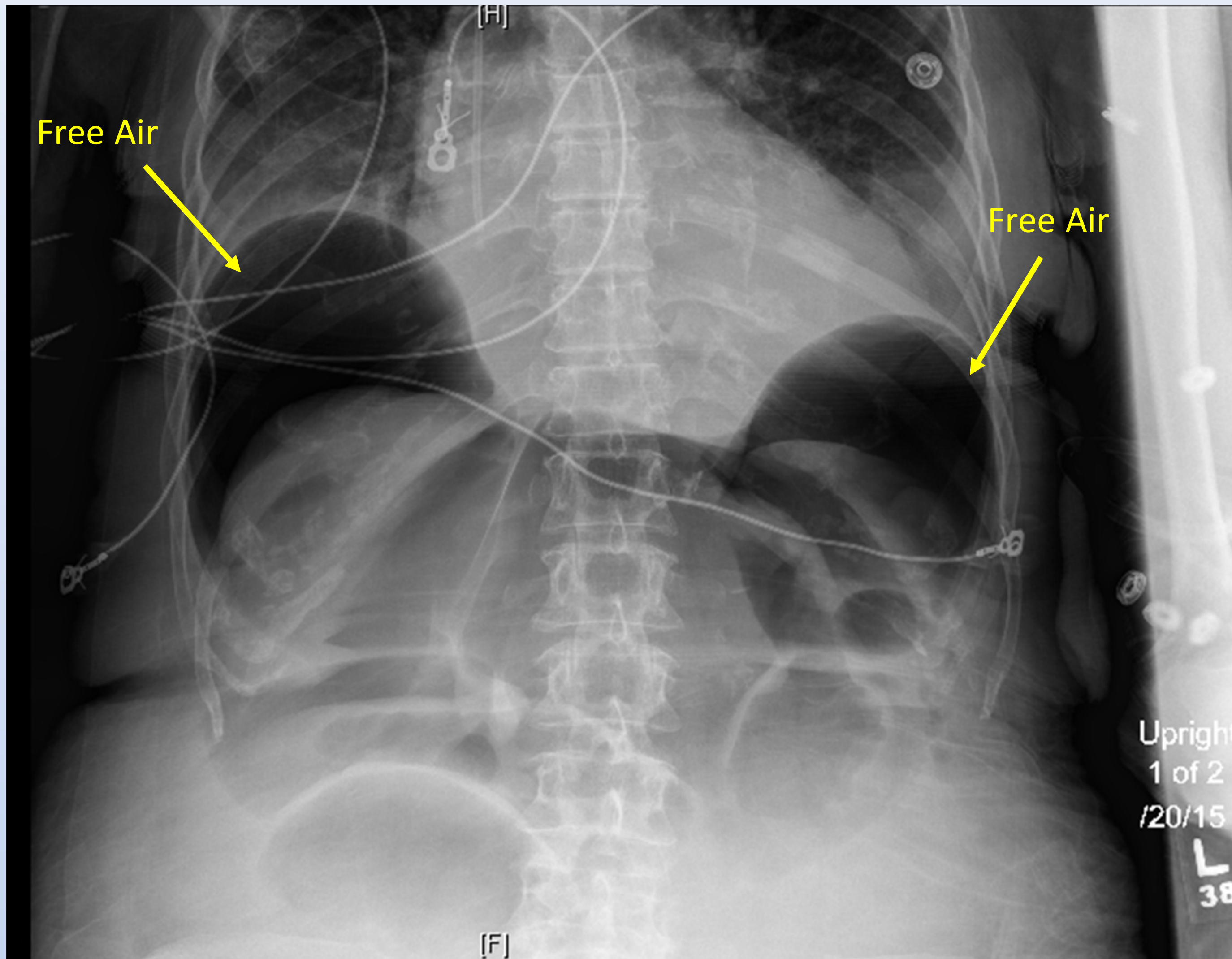
Findings

- Patient made NPO; NGT was offered but refused by patient
- New onset frequent, small BMs during hospital stay, so abdominal X-Ray was ordered 5 days s/p initial CT

Abdominal X-Ray - Supine



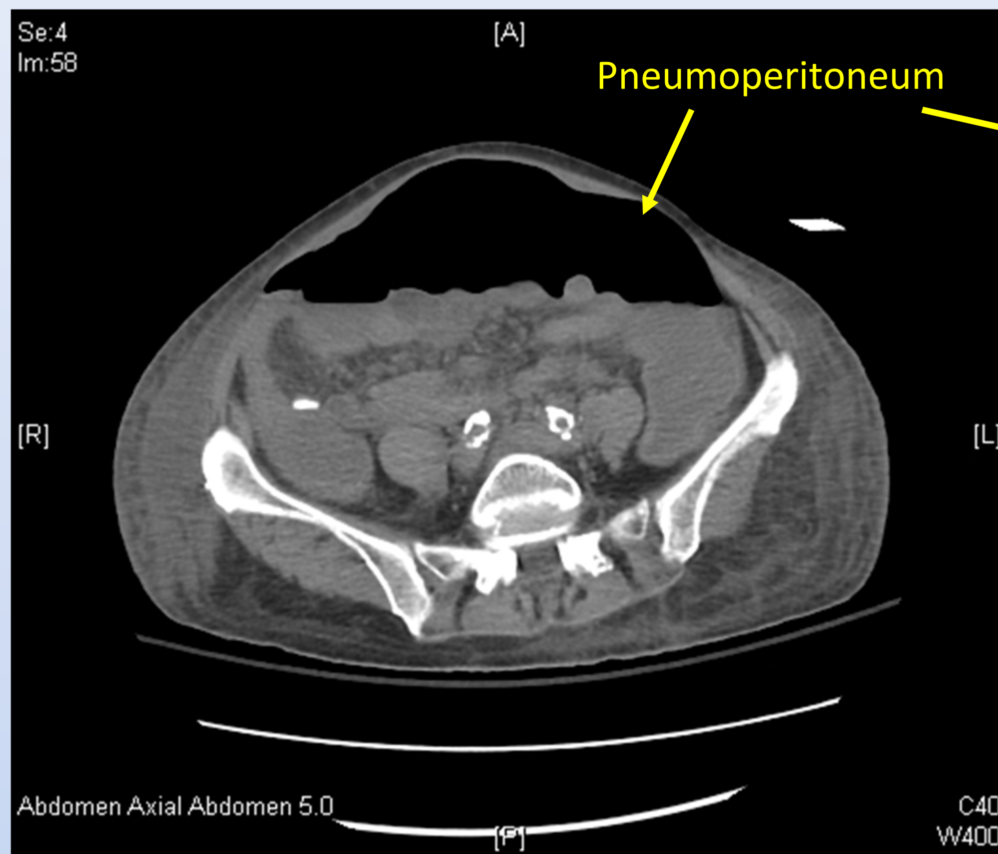
Abdominal X-Ray - Upright

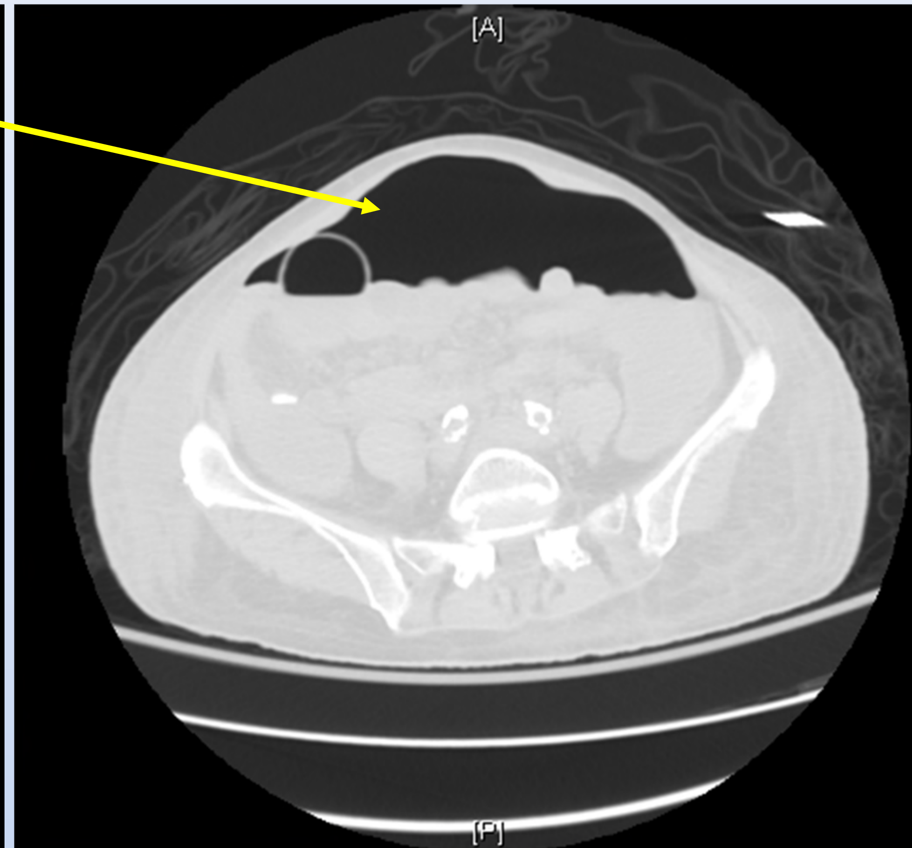


Findings

- Colonic dilation
- Rigler Sign noted on supine and decubitus films
  - Air present on both sides of bowel wall, suggests pneumoperitoneum vs overlying bowel; follow up with upright film
- Pneumoperitoneum noted on upright film, despite absence of peritoneal signs
  - CT Abd/Pelvis without contrast ordered to follow up

CT Abd/Pelvis without Contrast - Axial



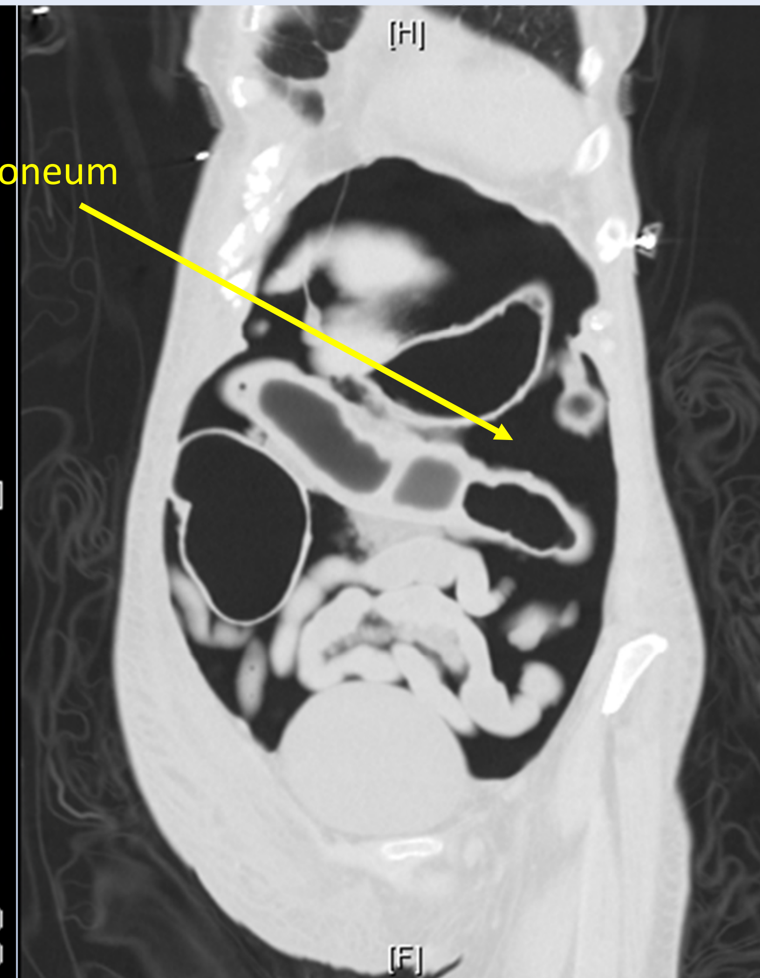


Lung Window

CT Abd/Pelvis without Contrast - Coronal

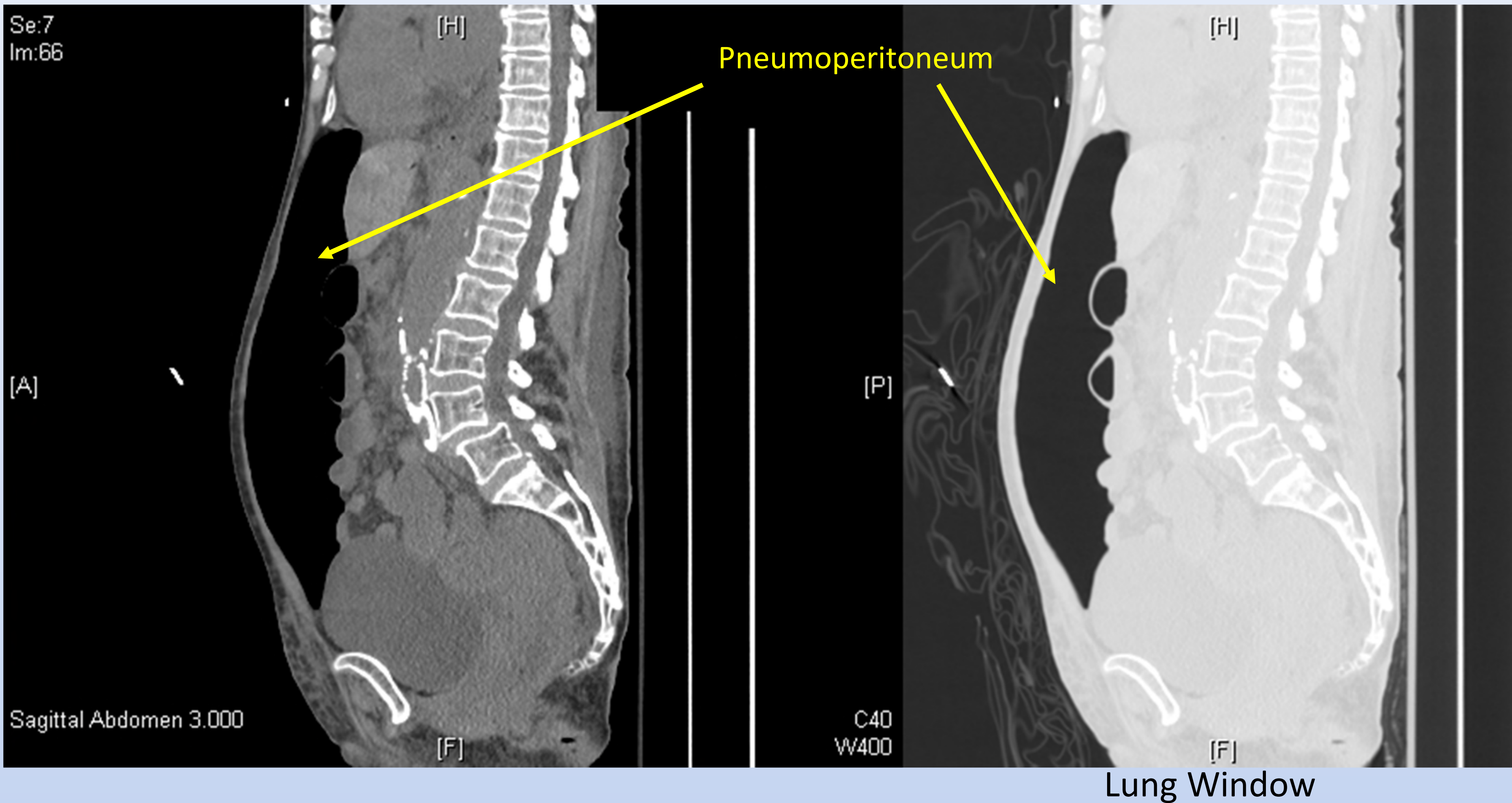
Se:6
Im:21
[H]
[R]
[L]
Coronal Abdomen 3.000
[F]
C40
W400

Pneumoperitoneum



Lung Window

CT Abd/Pelvis without Contrast - Sagittal



Lung Window

Findings

- Evidence of pneumoperitoneum in the setting of previous sigmoid obstruction with colonic dilation

Differential Diagnosis of Bowel Perforation

1. Obstruction secondary to tumor invasion
2. Diverticular disease
3. Bowel ischemia
4. Medication use (NSAIDs, corticosteroids)
5. Peptic ulcer disease
6. Iatrogenic perforation (e.g. colonoscopy)

Discussion

- Patient with hx of ovarian cancer, treated in 2017 with TAH and BSO
  - Apparent recurrence of disease, noticed in December 2018, with progression to bowel obstruction and perforation
- Symptoms were vague and unrelated to admission to cardiology service, diagnosis may have gone unnoticed otherwise

Final diagnosis

- Bowel perforation secondary to sigmoid obstruction due to invasion of ovarian cancer
- Unfortunately, patient was a poor surgical candidate with declining quality of life, so decision was made ultimately to discharge patient home for hospice care

ACR Appropriateness Criteria Were the appropriate exams ordered?

- Memorial Hermann Hospital estimated costs w/o insurance:
  - CT Abdomen/Pelvis w/o Contrast: $3921 x 2 = $7842
  - Abdominal X-Ray 1 View: $670
  - Abdominal X-Ray 3 View: $849

- Initial history of constipation and intermittent n/v is vague but in setting of known ovarian cancer may have tipped off team to suspect possible bowel obstruction; addition of contrast to CT generally more supported by evidence but non-contrast CT may also be appropriate

- Addition of KUB in setting of new onset frequent BMs in setting of known obstruction appears to have little evidence, and its acquisition does not add to or change management in stable patient

Take home points

- Bowel obstruction can present with vague, nonspecific symptoms in some patients and can otherwise go unnoticed
- Physicians and patients should be cognizant of changes in bowel habits in the setting of known or suspected intra-abdominal pathology
- Keep ACR Appropriateness Criteria and clinical situation in mind when assessing patients

References

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