

12-year-old female with a history of hydrocephalus s/p VP shunt placement, developmental delay, displaced anus s/p rectal dilations, and g-tube dependence admitted for feeding intolerance in the setting of influenza A infection

Sarah Hartmann, M3

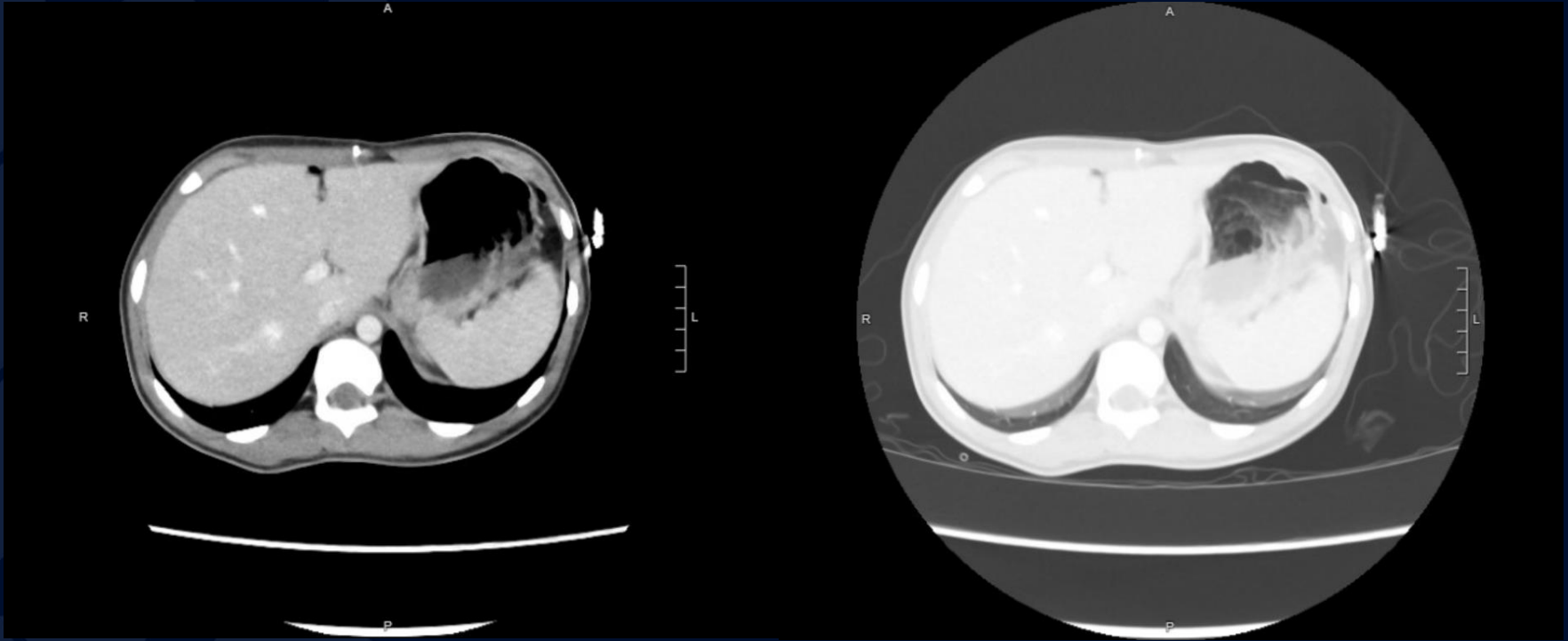
G to J conversion



Abdominal Radiograph

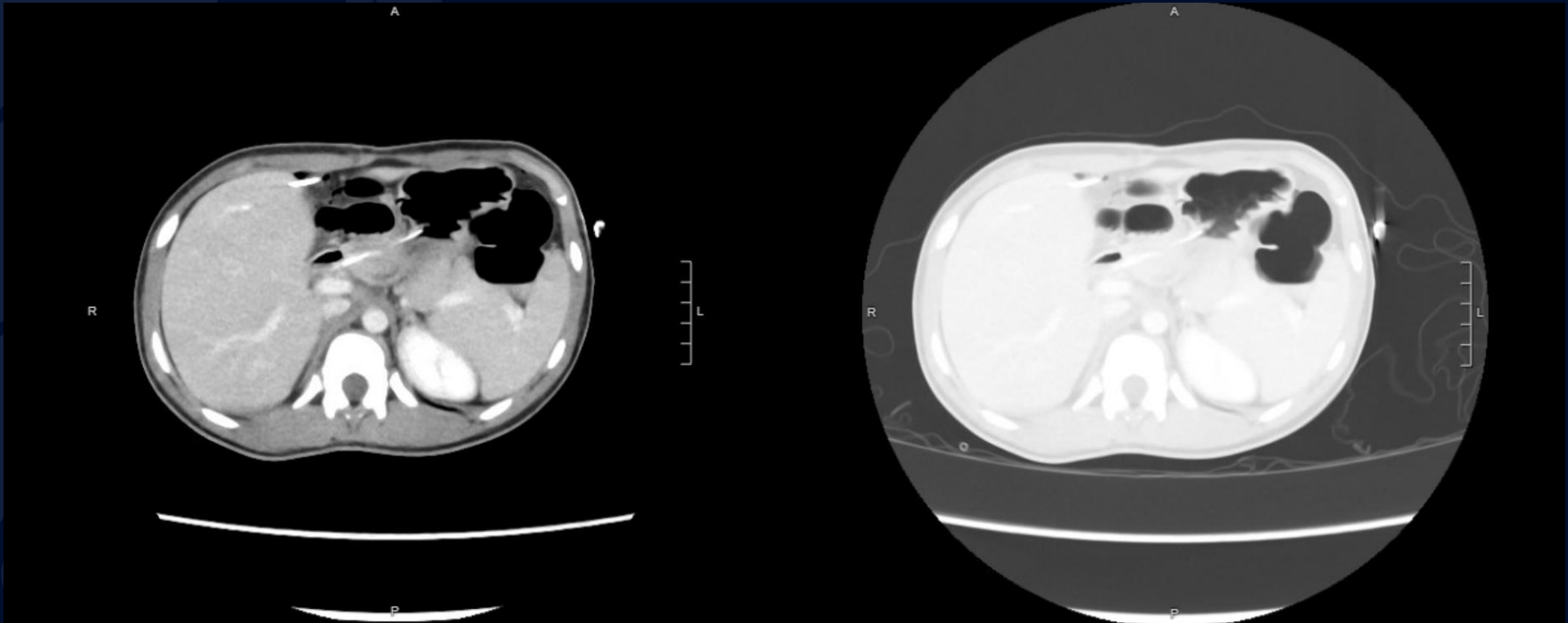


CT abdomen pelvis with IV contrast



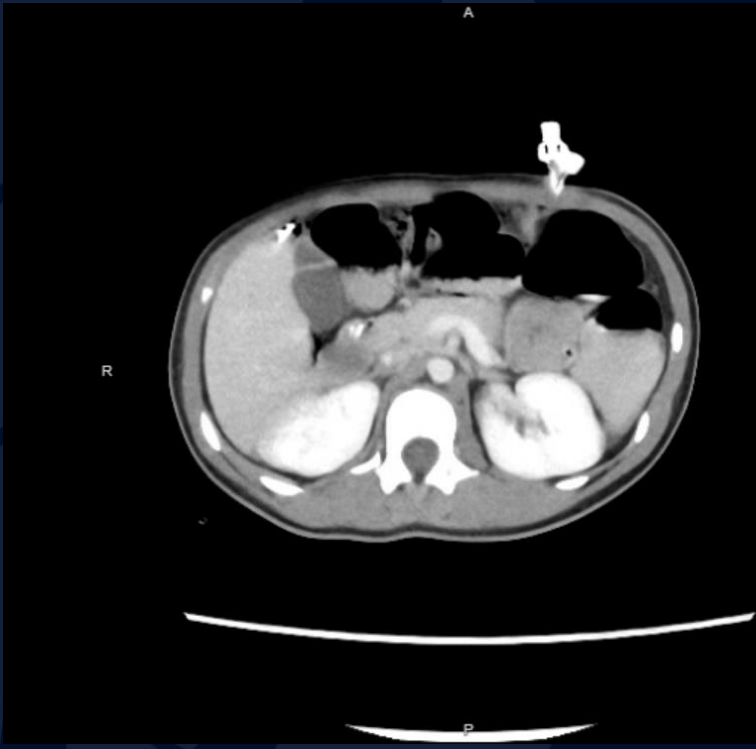
Soft tissue window

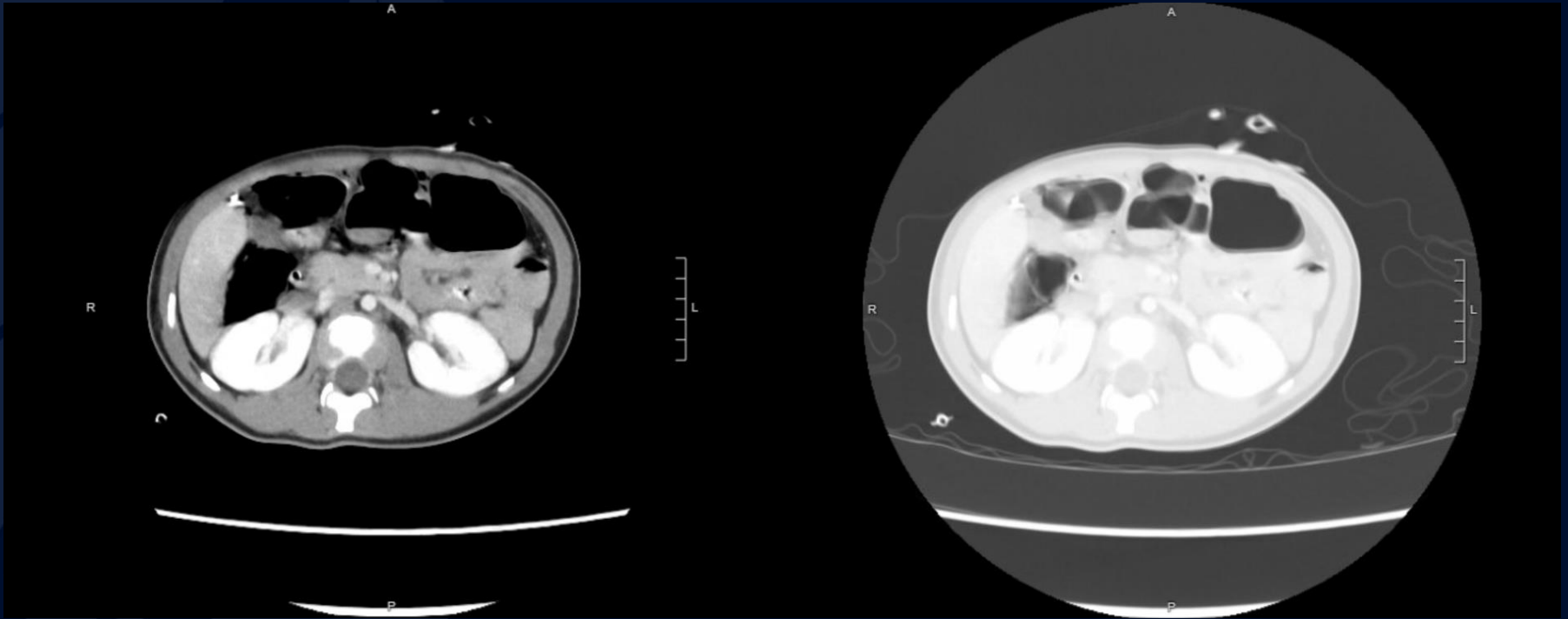
Lung window

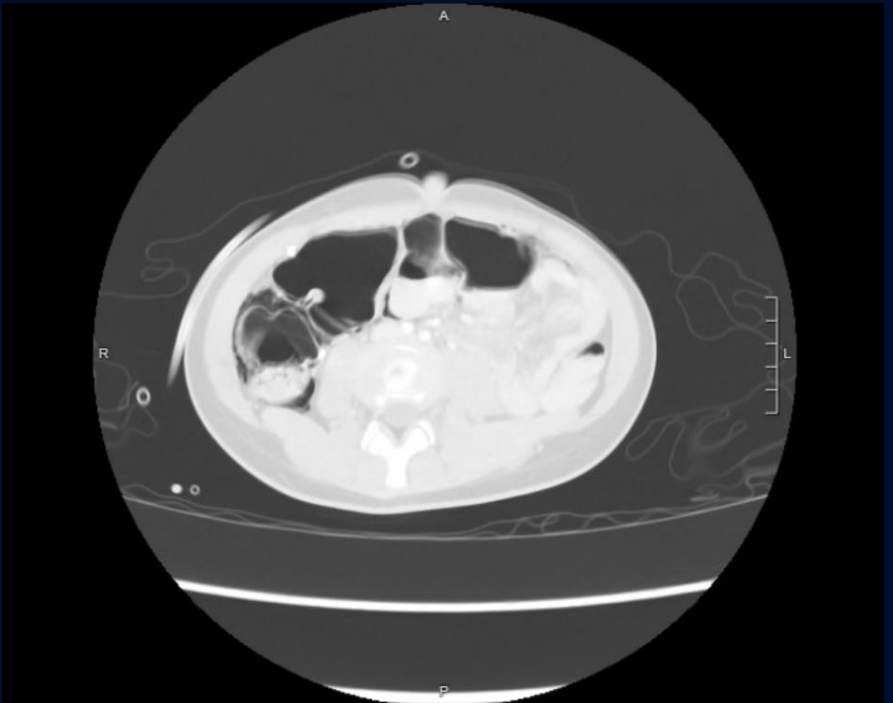


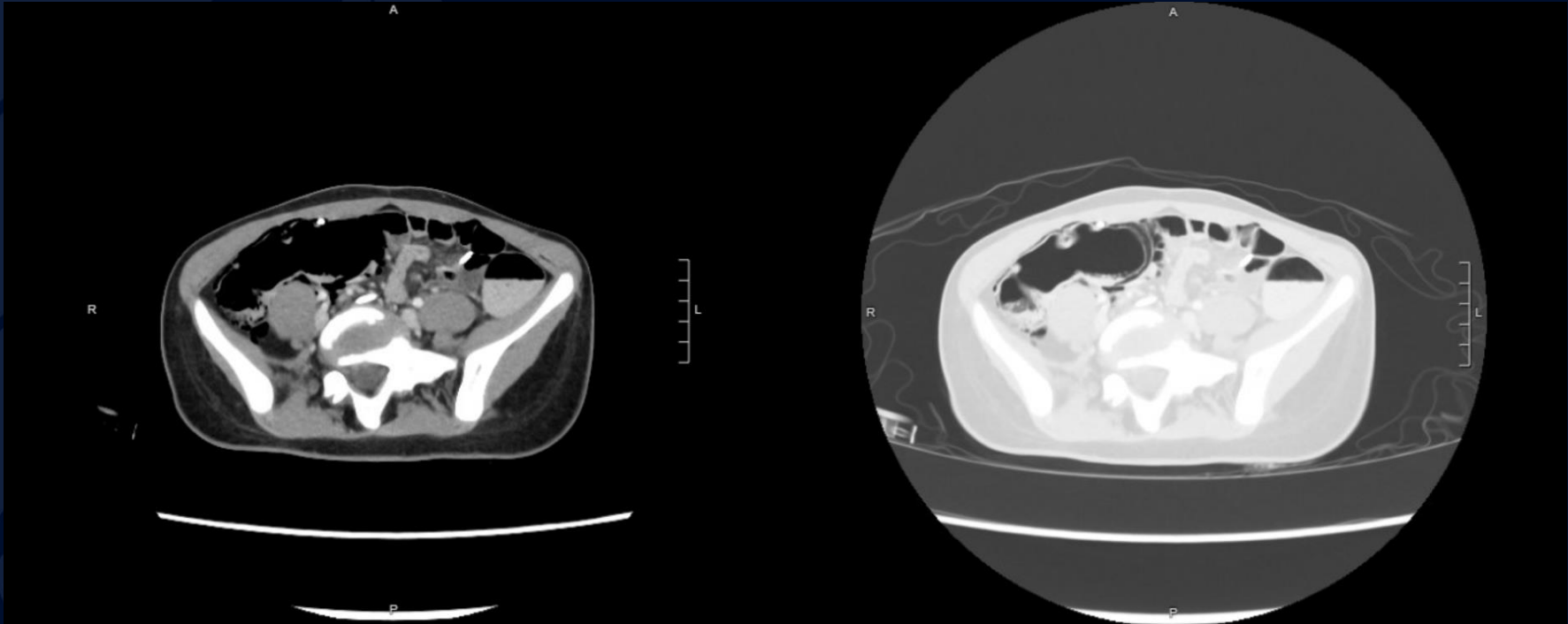
UConn
HEALTH

RADIOLOGY



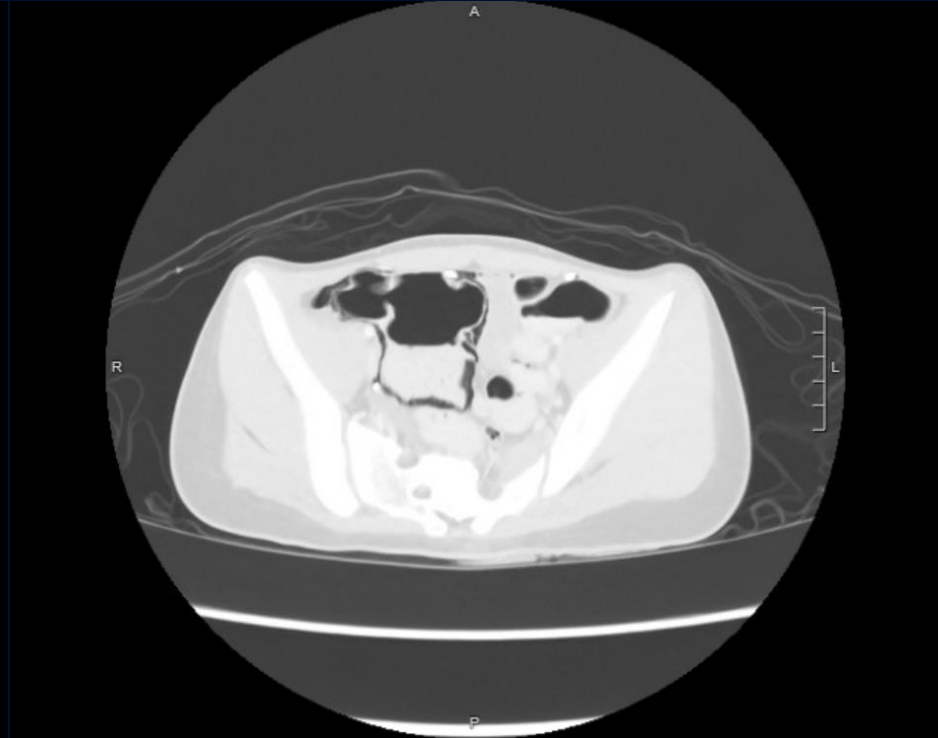


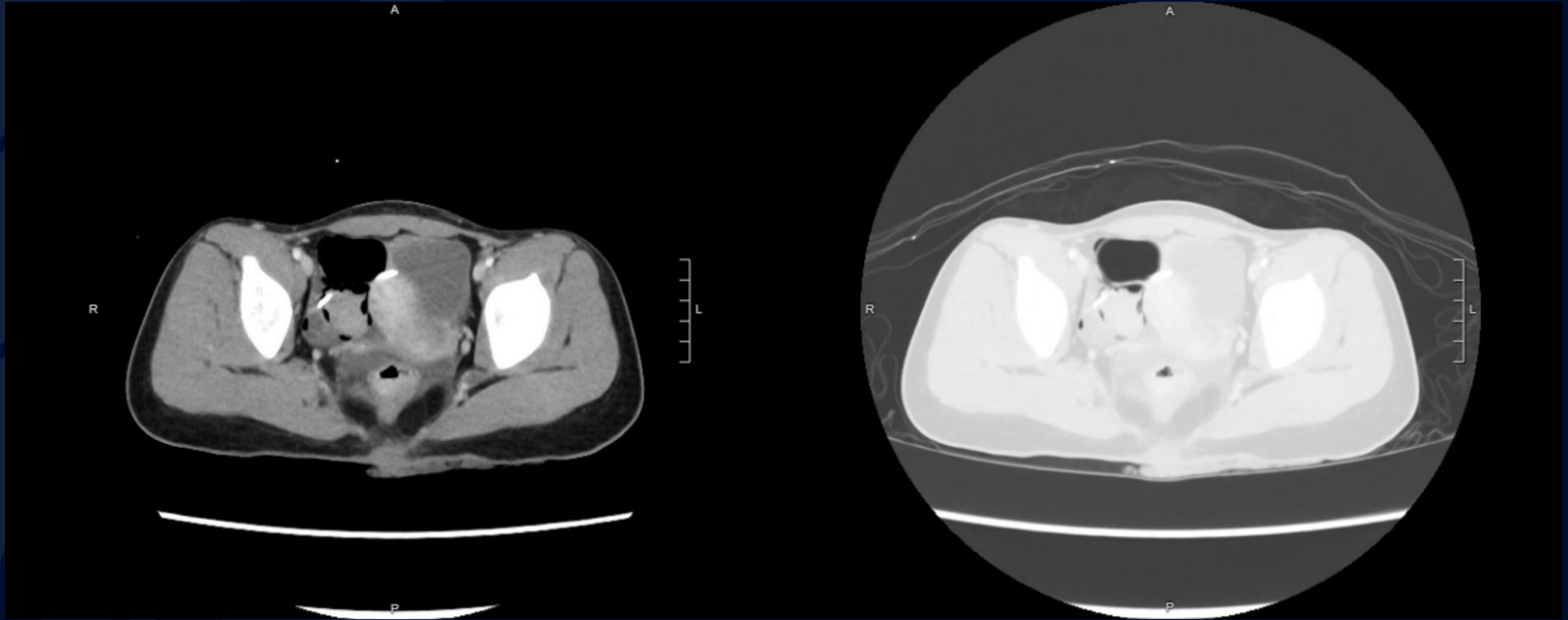




UCONN
HEALTH

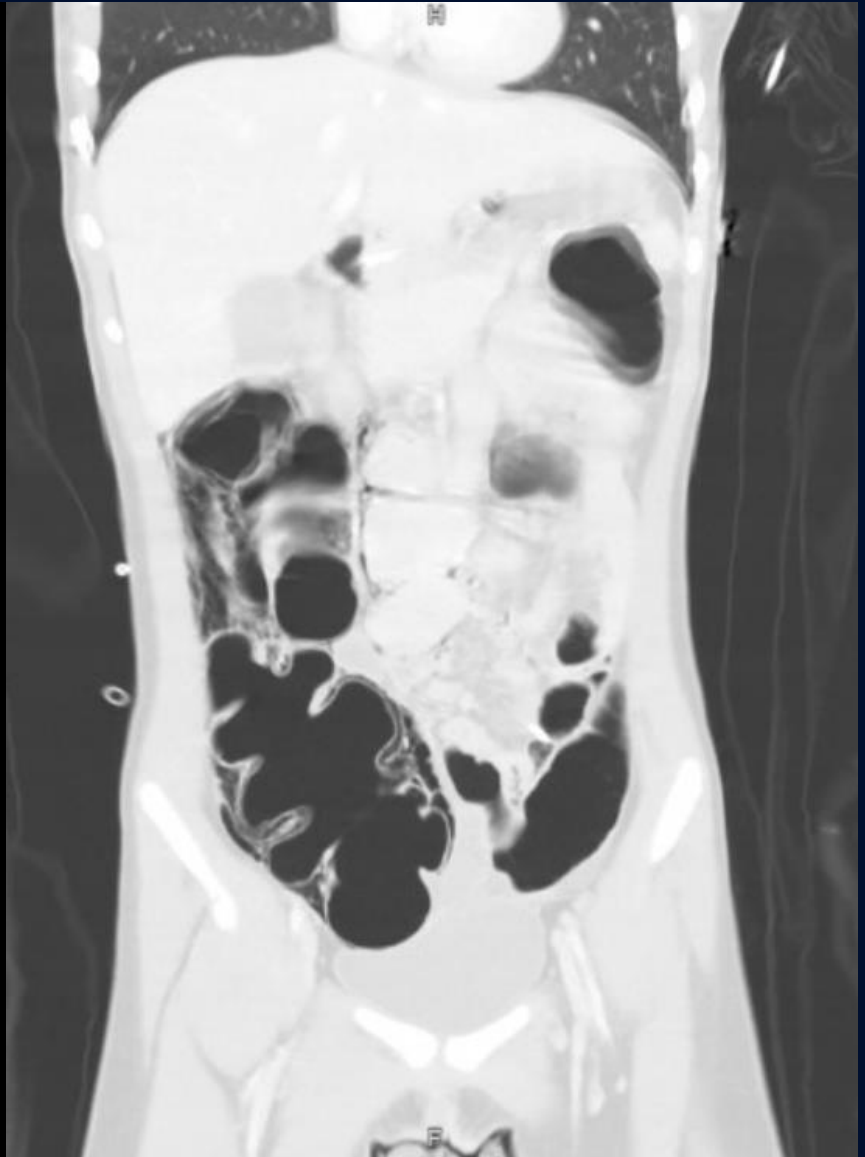
RADIOLOGY

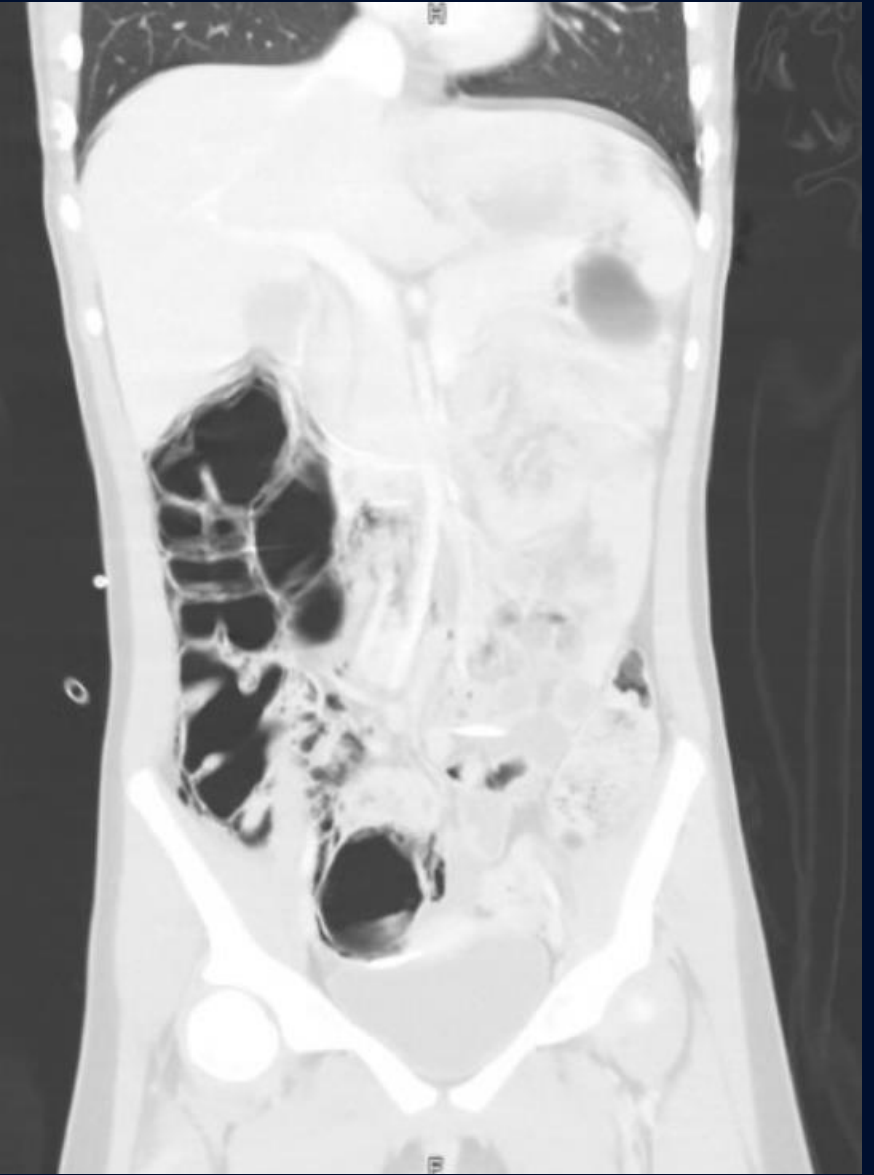








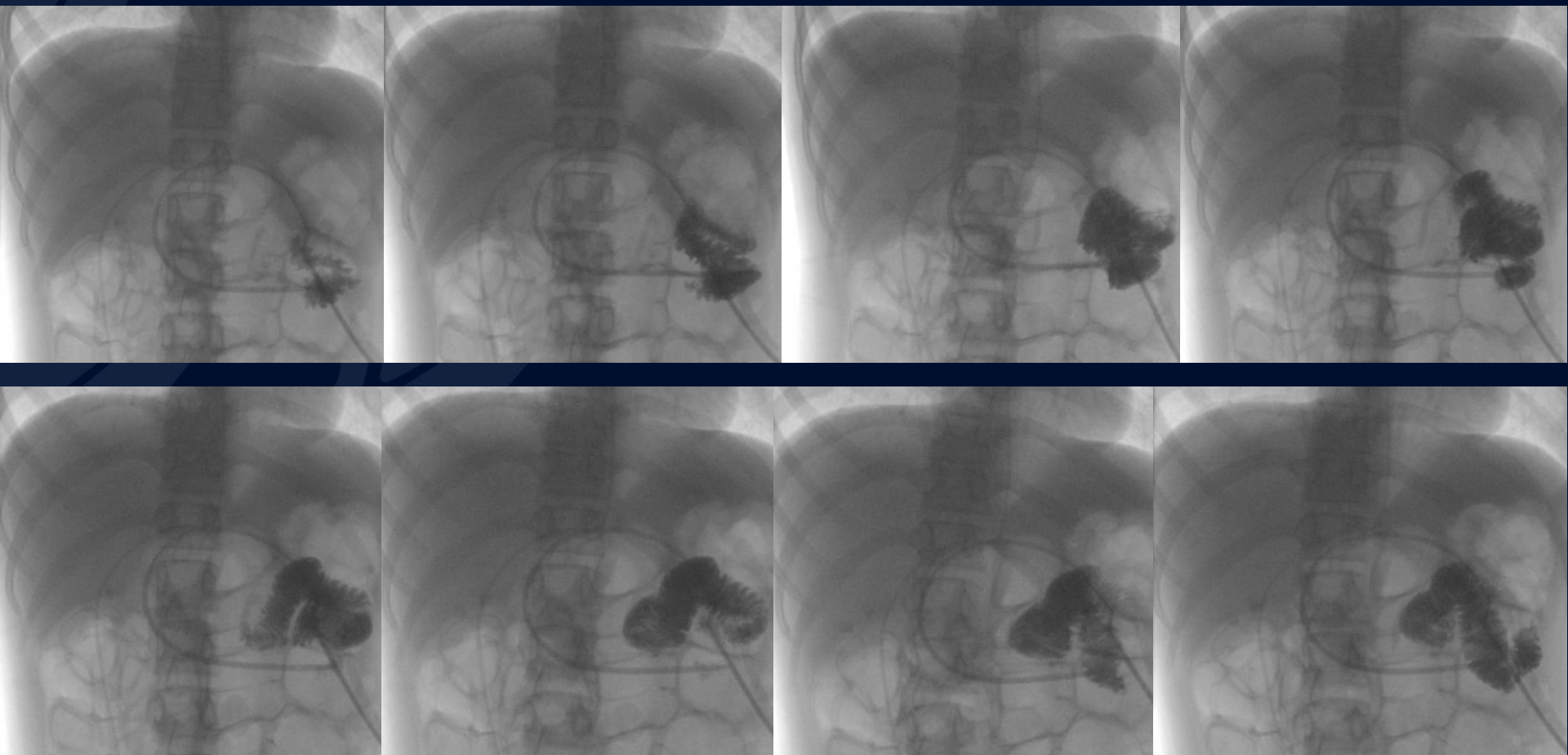








Fluoroscopy-guided Gastrojejunostomy Tube Injection



Fluoroscopy-guided Gastrojejunostomy Tube Injection

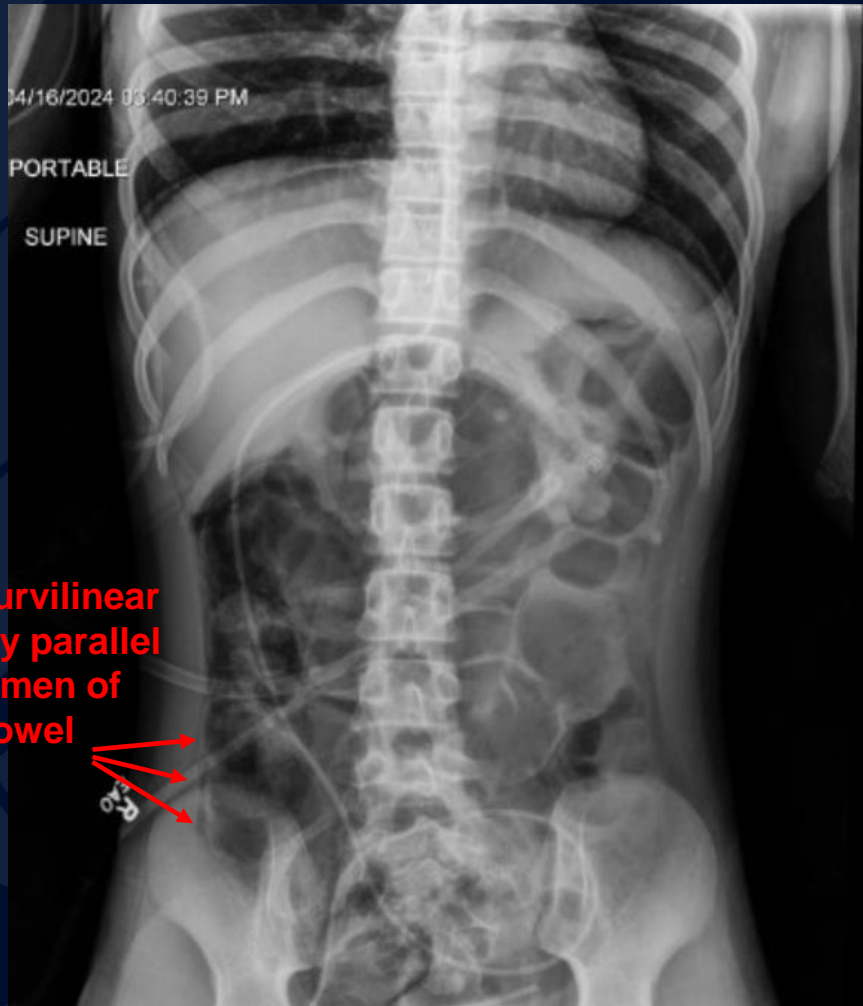




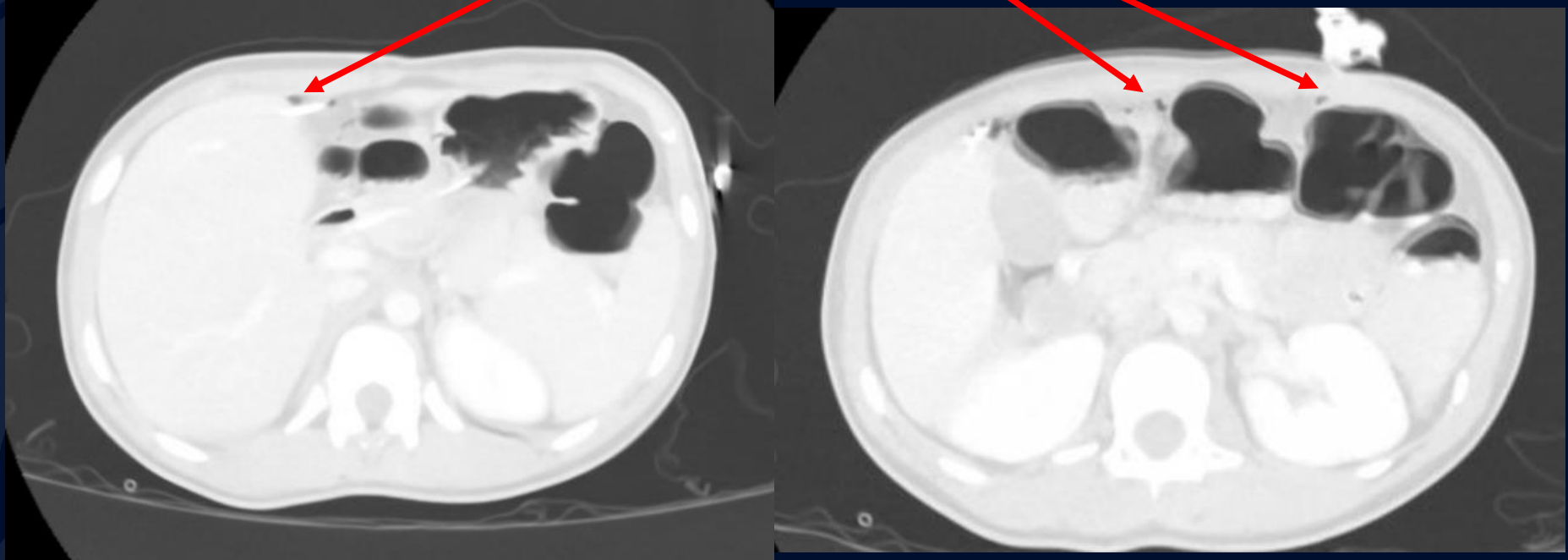
?

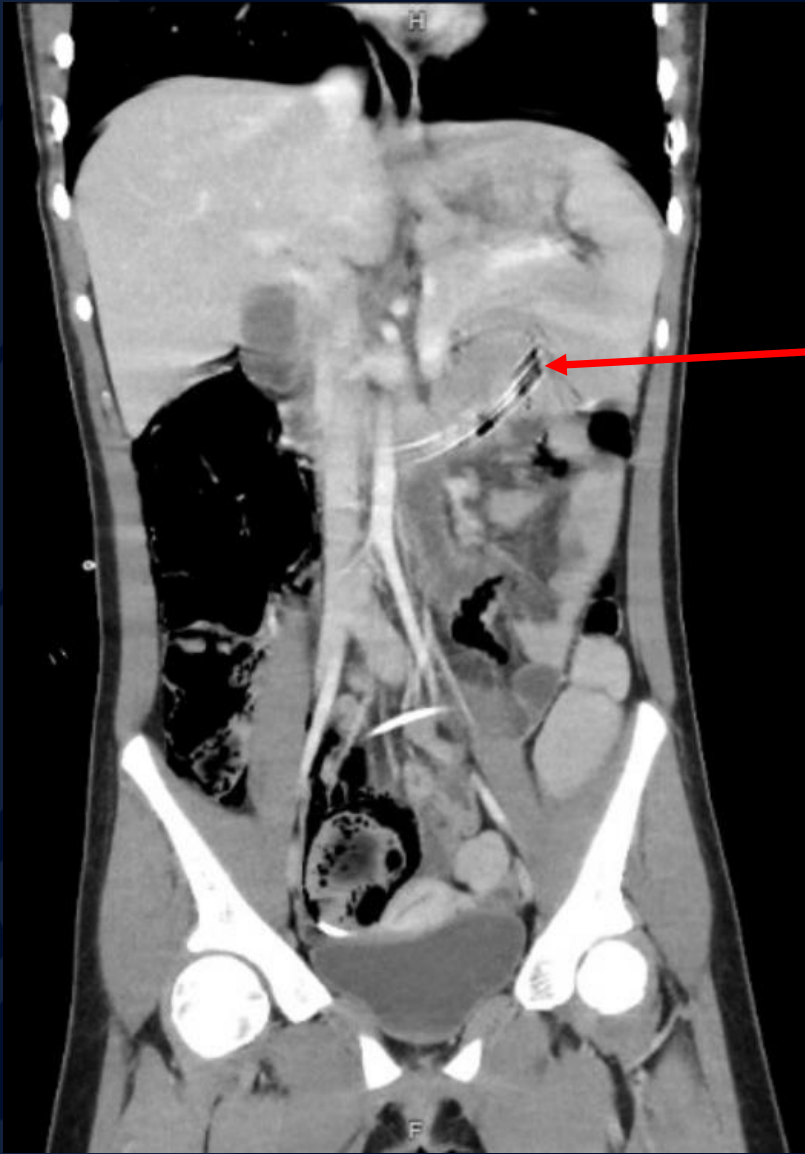
Pneumatosis Intestinalis

Pneumatosis intestinalis



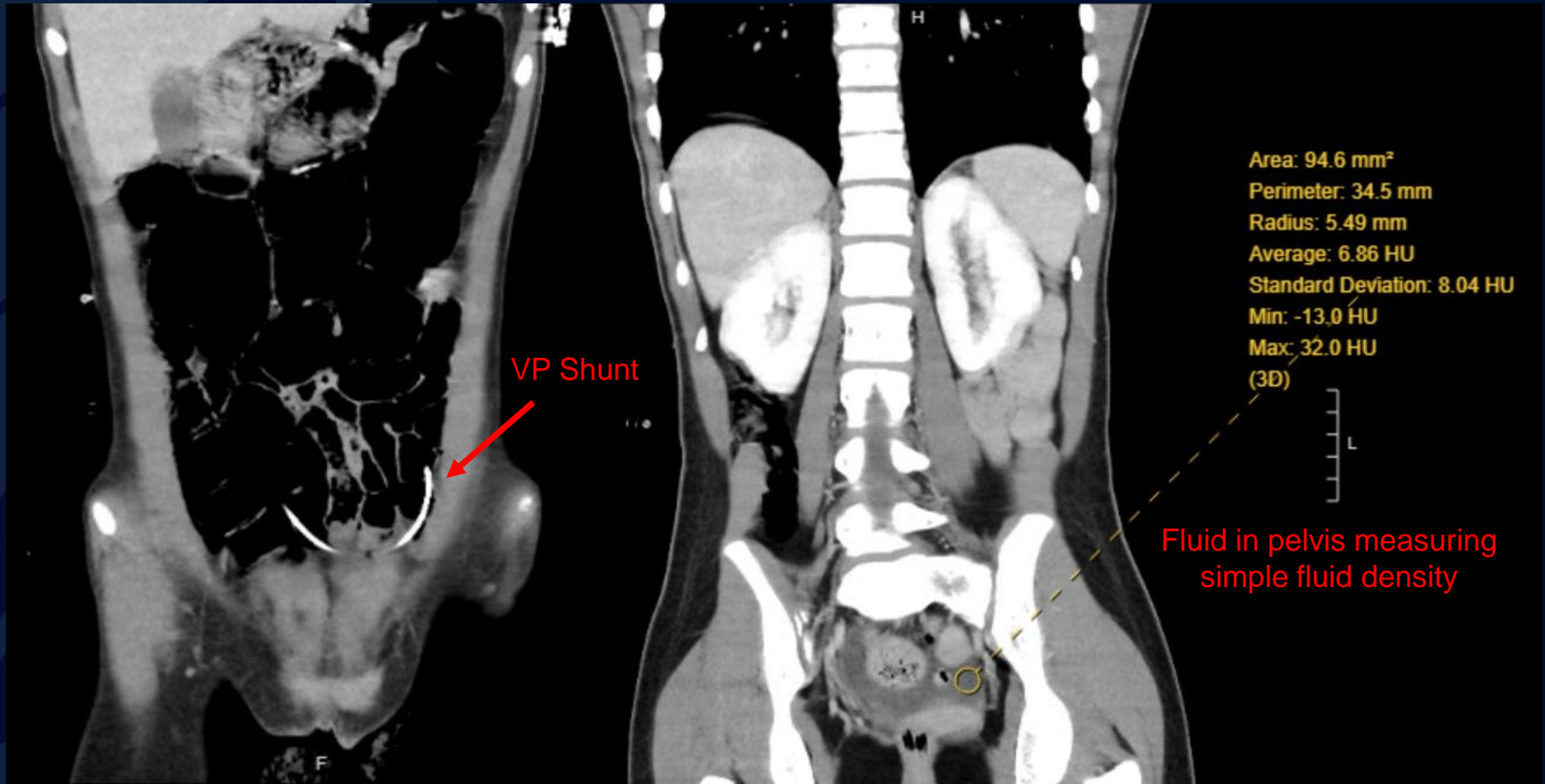
Scattered foci of free air





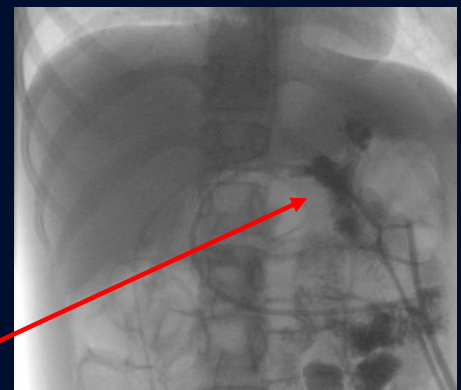
Tip of J tube is at the
duodenal-jejunal junction

VP shunt present with tip in left pelvis
along with small volume of free fluid



No extravasation of contrast to suggest perforation of stomach or duodenum

Contrast remains within bowel lumen



Pneumatosis Intestinalis

Presentation

- Symptoms range from none to abdominal pain, distention, melena, fever, vomiting, cough (depending on etiology)
- Pneumatosis coli: asymptomatic; insignificant

Demographics

- Primary pneumatosis intestinalis – adults
- Secondary pneumatosis intestinalis – any age
- Occurs in 0.3% of the population
- Males = females

Pneumatosis Intestinalis

Etiology

- 15% of cases are idiopathic
- 85% are secondary to another illness

Pathogenesis

- Mechanical theory: Gas dissects wall of bowel from luminal surface or breaks through mucosa and then travel along mesentery
- Bacterial theory: Gas forming bacteria infiltrate the submucosa
- Biochemical theory: Normal luminal bacteria producing excess hydrogen from carbohydrate fermentation causes gas to be forced directly through mucosa and gets trapped in submucosa

Pneumatosis Intestinalis

Imaging

- Radiography
 - Mottled, bubbly, or linear collections of gas in bowel wall; feces-like appearance.
 - Dilated bowel loops +/- thumbprinting
- CT
 - Bands or linear distribution of gas in affected bowel wall
 - Linear or curvilinear shape
 - +/- portal venous gas in cases of intestinal ischemia

Treatment

- Management is based on symptoms and targets the underlying cause
 - If asymptomatic, no intervention is usually needed
 - Emergency exploratory laparotomy if:
 - Peritoneal signs on abdominal exam
 - Metabolic acidosis
 - Elevated lactate
 - Portal venous gas seen on imaging

References

Goldberg, E., & Lamont, T. (2023, February 1). *Pneumatosis Intestinalis*. UpToDate.

Herring , William. “Recognizing Extraluminal Air in the Abdomen.” *Learning Radiology* , 5th ed., Elsevier , Philadelphia , PA, 2020, pp. 166–169.