AMSER Case of the Month: August 2025

1-day old male with distended abdomen

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Patient Presentation

- HPI: A 1-day-old male was evaluated for abdominal distension at birth. He was delivered via c-section at 34w3d due to preterm labor, suspected fetal anomaly, and polyhydramnios seen on third-trimester prenatal ultrasound. At birth, he had significant abdominal distension and respiratory distress with dusky skin. Over 250 cc of amniotic fluid was suctioned, resulting in partial abdominal decompression and improved respiratory status.
- Maternal history: G5P3 with uncomplicated pregnancy until third trimester prenatal ultrasound
- Family history: no family history of malformation or other fetal anomalies.

Pertinent Labs

- No pertinent labs
- All prenatal labs normal

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

Variant 1: **Vomiting within the first 2 days after birth. Poor feeding or no passage of meconium. Initial imaging.**

Procedure	Appropriateness Category	Relative Radiation Level
Radiography abdomen	Usually Appropriate	☢☢
US abdomen (UGI tract)	Usually Not Appropriate	O
Fluoroscopy contrast enema	Usually Not Appropriate	☢☢☢☢
Fluoroscopy upper GI series	Usually Not Appropriate	☢☢☢
Nuclear medicine gastroesophageal reflux scan	Usually Not Appropriate	☢☢☢

This imaging modality was ordered by the NICU attending

*Although this patient does not have vomiting, the large amount of fluid aspirated and symptoms for neonatal GI obstruction (polyhydramnios and respiratory distress) are directly relevant to this ACR Appropriateness Criteria.

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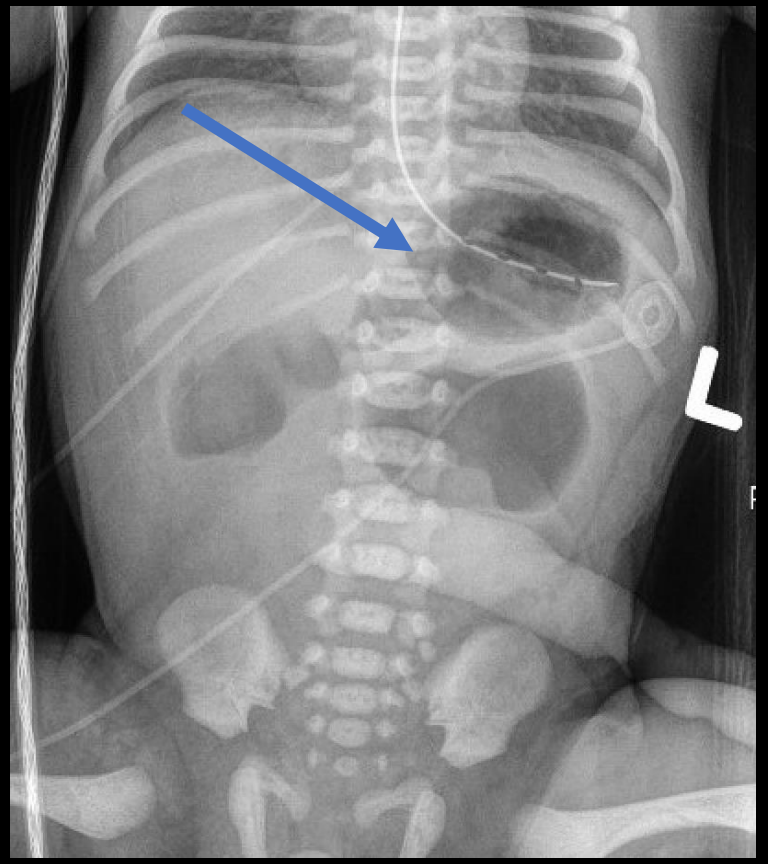
Findings (unlabeled)

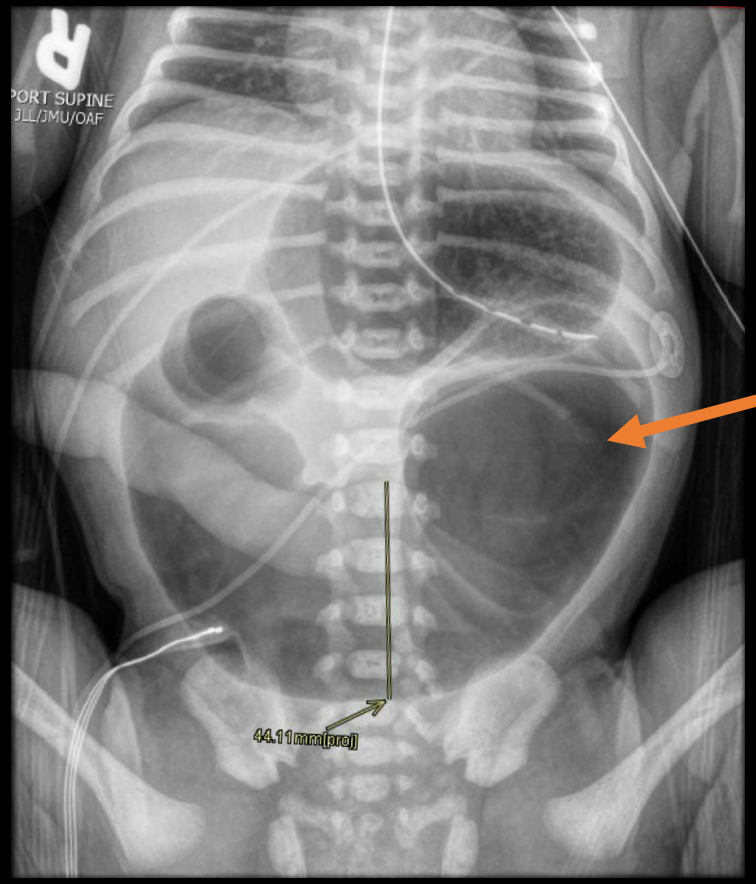
Abdominal radiograph obtained
1 hour after birth

Abdominal radiograph obtained
4 hour after birth

Findings: (labeled)



Few distended gas-filled loops of bowel in the upper abdomen (triple bubble sign)



Prominent loop of dilated bowel measuring up to 4.5 cm with absence of distal bowel gas

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Final Dx:

Jejunal Atresia

Case Discussion

- Background:
  - Jejunal atresia is the second most common type of intestinal atresia after duodenal atresia.[1]
  - Jejunal atresia is ischemic in origin and often associated with mesenteric defects due to in utero vascular insult.[2]
  - Frequently occurs in preterm infants, with prenatal ultrasound findings of polyhydramnios and dilated bowel loops.[3,4]
    - Substantial portion of cases are not identified until after birth.
    - It can be associated with congenital anomalies (e.g. gastroschisis or cardiac anomalies).
  - Imaging typically shows multiple dilated bowel loops with air-fluid levels proximal to the level of obstruction.[5]
    - The lower the level of atresia, the greater number of loops.

Case Discussion

- Clinical Presentation
  - Infants will present with abdominal distension, feeding intolerance, failure to pass meconium, and bilious vomiting.[2]
    - Vomiting may be absent if not yet fed.
    - Small amounts of meconium may pass if atresia is incomplete or involves a short segment.
  - Most typically presents in the immediate neonatal period (within the first 24-48hrs after birth).[4]
- Management[2]
  - Initial stabilization is through nasogastric or orogastric decompression and other resuscitation measures as needed.
  - Definitive treatment would be through surgery, with resection of the atretic segment and primary to end anastomosis.

Case Discussion

- Patient Outcome
  - Patient underwent exploratory laparotomy and small bowel resection with primary anastomosis on day of life 2.
  - Postoperatively, he was managed with NG decompression and TPN with gradually advanced feeds to oral feeds over a course of 1 month.
  - At 2 month follow up, patient was tolerating feeds well, had regular bowel movements, and normal exams.

Imaging prior to discharge

References:

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2. Osuchukwu OO. Ileal atresia. StatPearls. Updated April 10, 2023. Accessed June 19, 2025. https://www.ncbi.nlm.nih.gov/books/NBK557400/
3. Wax JR, Hamilton T, Cartin A, Dudley J, Pinette MG, Blackstone J. Congenital jejunal and ileal atresia: natural prenatal sonographic history and association with neonatal outcome. J Ultrasound Med. 2006;25(3):337-342. doi:10.7863/jum.2006.25.3.337
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5. Shalkow JM. Small intestinal atresia and stenosis workup. In: Antenatal Ultrasonography, Radiography, Endoscopy. Medscape. Updated October 2, 2023. Accessed June 19, 2025. https://emedicine.medscape.com/article/939258-workup

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