

ENTERIC DUPLICATION CYST IN A PATIENT WITH SUSPECTED MILK-PROTEIN ALLERGIC PROCTOCOLITIS

Adam Larsen, DO¹; Kelsey Baab, MS³²; Jessica McGhee, MD¹; Megan Woslager, MD, MPH¹

¹Department of Pediatrics, University of Oklahoma School of Community Medicine, Tulsa, OK

²University of Oklahoma School of Community Medicine, Tulsa, OK

INTRODUCTION

- Gastrointestinal duplication cysts are rare congenital malformations typically discovered by prenatal ultrasound¹
- Cysts most commonly occur in the small intestine
- Duplication cysts are a rare cause of GI bleed and an even rarer cause of severe anemia
- Most common symptom is abdominal pain

CASE PRESENTATION

8 month old female presented to children's hospital as a direct admission from her PCP due to severe microcytic anemia.

CASE DESCRIPTION

Age	Hemoglobin	Intervention
2 months	-	Dairy free maternal diet
6 months	8 g/dL	Supplemental iron
8 months	3.2 g/dL	Admission to hospital

PHYSICAL EXAM

- Exquisitely pale
- Well-developed
- No acute distress
- Tachycardic
- Abdomen soft, non-tender, non-distended
- No palpable masses or hepatomegaly

DIFFERENTIAL DIAGNOSES

- (severe anemia in an infant)
- Blood loss (GI bleed)
 - Vitamin/Mineral deficiency
 - Thalassemia
 - G6PD deficiency
 - Chronic renal failure
 - Microangiopathic hemolysis
 - Infection/inflammation

DIAGNOSIS AND TREATMENT

FINAL DIAGNOSIS

- Enteric Duplication Cysts
- Exploratory laparotomy: a 10 cm bilobed retroperitoneal cystic mass and 80 cm of mesenteric duplication at the distal jejunum closely adherent to native bowel with surrounding necrosis, ulceration, and hemorrhage

TREATMENT

- Resection and jejunostomy
- Hematochezia and anemia resolved after surgical recovery

DISCUSSION & REVIEW

- Typical presenting symptoms: vomiting, rectal bleeding, abdominal mass, abdominal pain, constipation, cough, respiratory distress²
- The cystic mass was discovered prenatally and lost to follow-up representing a case of avoidable medical error
- Prompt evaluation and earlier intervention could have prevented severe anemia³
- Persistent untreated infant anemia can have neurodevelopmental consequences: impaired psychomotor development and decreased cognitive function⁴

PAST MEDICAL HISTORY

PRE & PERINATAL

- Prenatal ultrasound revealed bilateral ovarian cysts
- No follow-up after repeat ultrasound at one month
- Cysts were considered to be benign

TWO MONTHS OLD

- Exclusively breastfed infant begins experiencing intermittent loose bloody stools and emesis
- Milk protein-induced proctocolitis suspected
- Dairy removed from maternal diet; symptoms improved

SIX MONTHS OLD

- Hemoglobin concentration 8 g/dL
- Iron deficiency anemia suspected

IMAGING

Image 1: US Abdomen – long axis

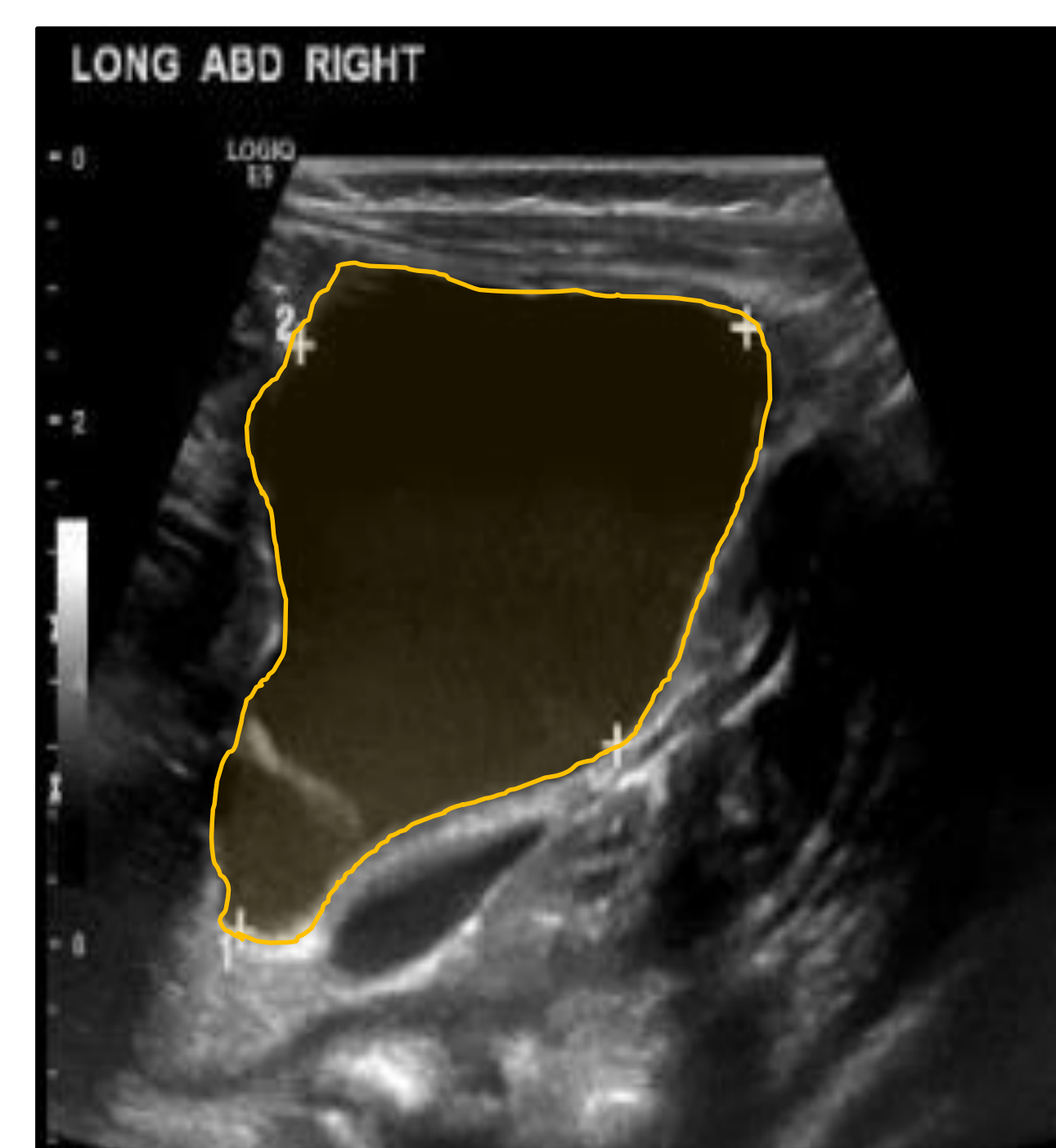


Image 3: CT Abdomen – sagittal view



Image 2: CT Abdomen – AP view



- Image 1 displays a well-demarcated, homogenous, anechoic mass consistent with simple cyst
- Images 2 & 3 are contrast CT studies of the abdomen that show low-attenuation cystic masses (9 HU) that represent fluid densities between water and blood

CONCLUSION

- Anatomic abnormalities discovered prenatally should be surveilled into infancy
- Gastrointestinal duplication cyst should be included in the differential for pediatric patients with unexplained or refractory hematochezia

REFERENCES

1. Sangüesa Nebot C, Llorens Salvador R, Carazo Palacios E, Picó Aliaga S, Ibañez Pradas V. Enteric duplication cysts in children: varied presentations, varied imaging findings. *Insights Imaging*. 2018;9(6):1097–1106.
2. Erginel B, Soysal FG, Ozbey H, Keskin E, Celik A, Karadag A, Salman T. Enteric duplication cysts in Children: A single-institution series with forty patients in twenty-six years. *World J Surg*. 2017;41(2):620–624.
3. Fahy AS, Pierro A. A systematic review of prenatally diagnosed intra-abdominal enteric duplication cysts. *Eur J Pediatr Surg*. 2019;29(1):68–74.
4. Pivina L, Semenova Y, Doşa MD, Dauletyarova M, Bjørklund G. Iron deficiency, cognitive functions, and neurobehavioral disorders in children. *J Mol Neurosci*. 2019;68(1):1–10.