

# AMSER Rad Path Case of the Month:

16-year-old with 3 weeks of  
abdominal pain and weight loss

Emily Nimri, MS4  
University of Washington School of Medicine

Julie Kaczmark, MD  
Radiologist, Inland Imaging

Zachary Dong, MD  
Pathologist, Incyte Diagnostics



# Patient Presentation

## Clinical history:

16 year, 11-month-old male presented with hematuria and decreased appetite with a reported weight loss of 15 lbs over the past 3 weeks. He was also noting intermittent pain in his left lower quadrant that resolved spontaneously after a few hours.

## Pertinent social history:

Prematurity, developmental delay, seizures, milk protein allergy.

## Physical exam and vitals:

Abdominal exam without significant findings, vitals notable for BMI of 17.94 kg/m<sup>2</sup>

Labs, including CBC, CMP, fecal calprotectin, and urinalysis were within normal range

# ACR Appropriateness Guidelines

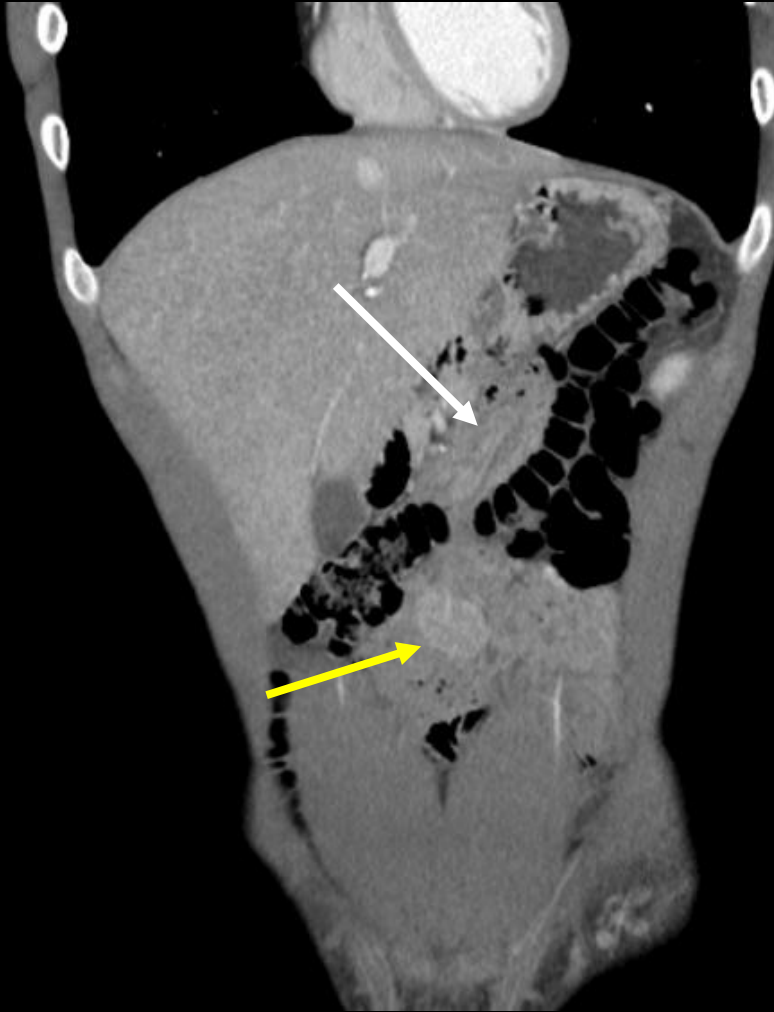
- Patient had CT abdomen and pelvis with contrast in ED
  - Revealed small bowel intussusception and ovoid mass in jejunum
- Pediatric surgery consulted and recommended abdominal ultrasound
  - Small bowel intussusception seen with polypoid mass as lead point of intussusception

<b>Variant 1: Left lower quadrant pain. Initial imaging.</b>		
<b>Procedure</b>	<b>Appropriateness Category</b>	<b>Relative Radiation Level</b>
CT abdomen and pelvis with IV contrast	Usually Appropriate	☼☼☼
US abdomen transabdominal	May Be Appropriate	○
US pelvis transvaginal	May Be Appropriate	○
Radiography abdomen and pelvis	May Be Appropriate	☼☼☼
MRI abdomen and pelvis without and with IV contrast	May Be Appropriate	○
MRI abdomen and pelvis without IV contrast	May Be Appropriate	○
CT abdomen and pelvis without IV contrast	May Be Appropriate	☼☼☼
Fluoroscopy contrast enema	Usually Not Appropriate	☼☼☼
CT abdomen and pelvis without and with IV contrast	Usually Not Appropriate	☼☼☼☼

# Radiology Images (not labeled)



# Radiology Images (labeled)



Yellow arrows - 3 x 3 x 2 cm mass in proximal jejunum  
White arrows – small bowel intussusception proximal to the mass

# Radiology Images (not labeled)



LT UPPER ABDOMEN TRANS



# Radiology Images (labeled)



LT UPPER ABDOMEN TRANS

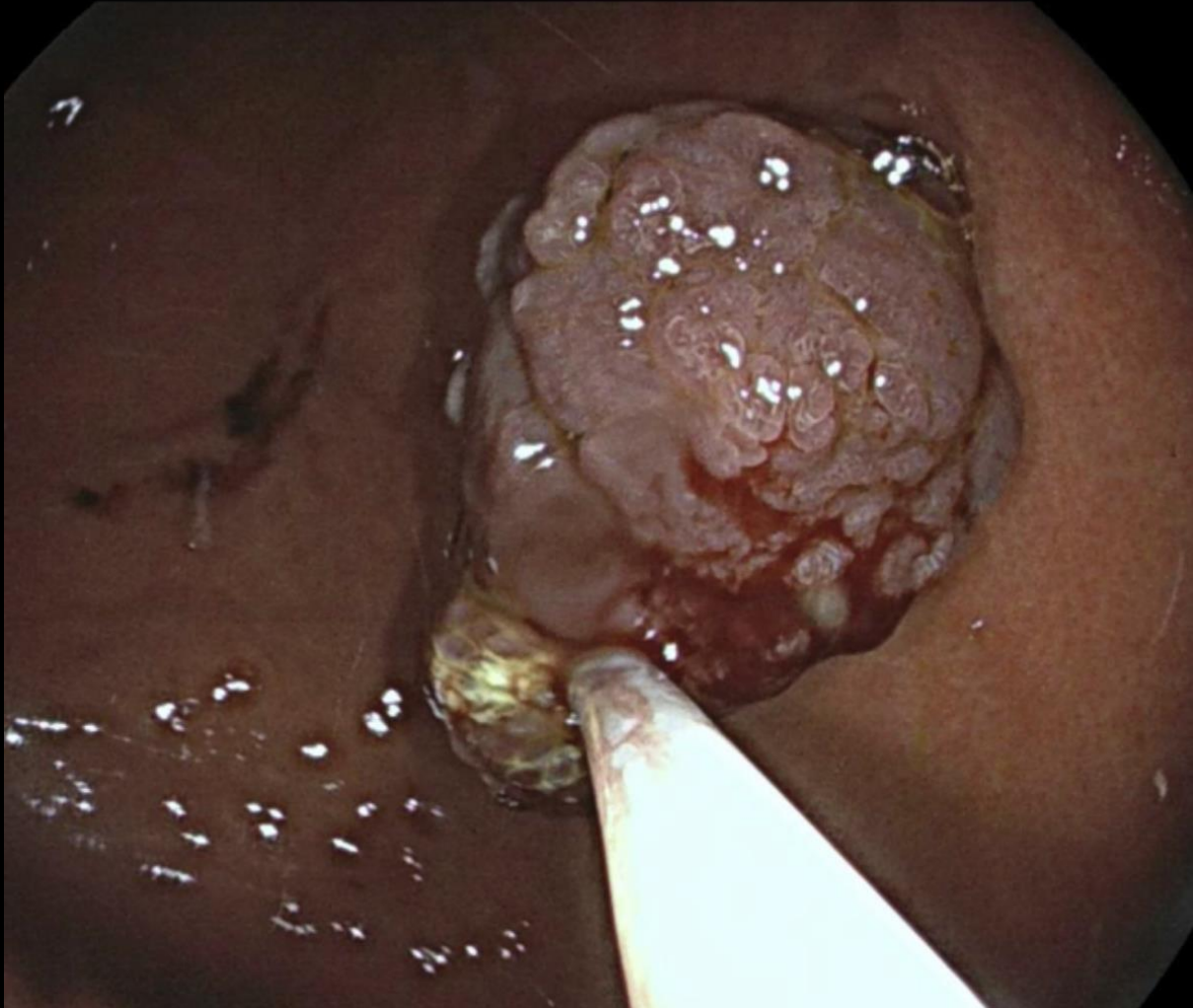


White arrow – small bowel-small bowel intussusception  
Yellow arrow – 3 cm polypoid mass in proximal jejunum

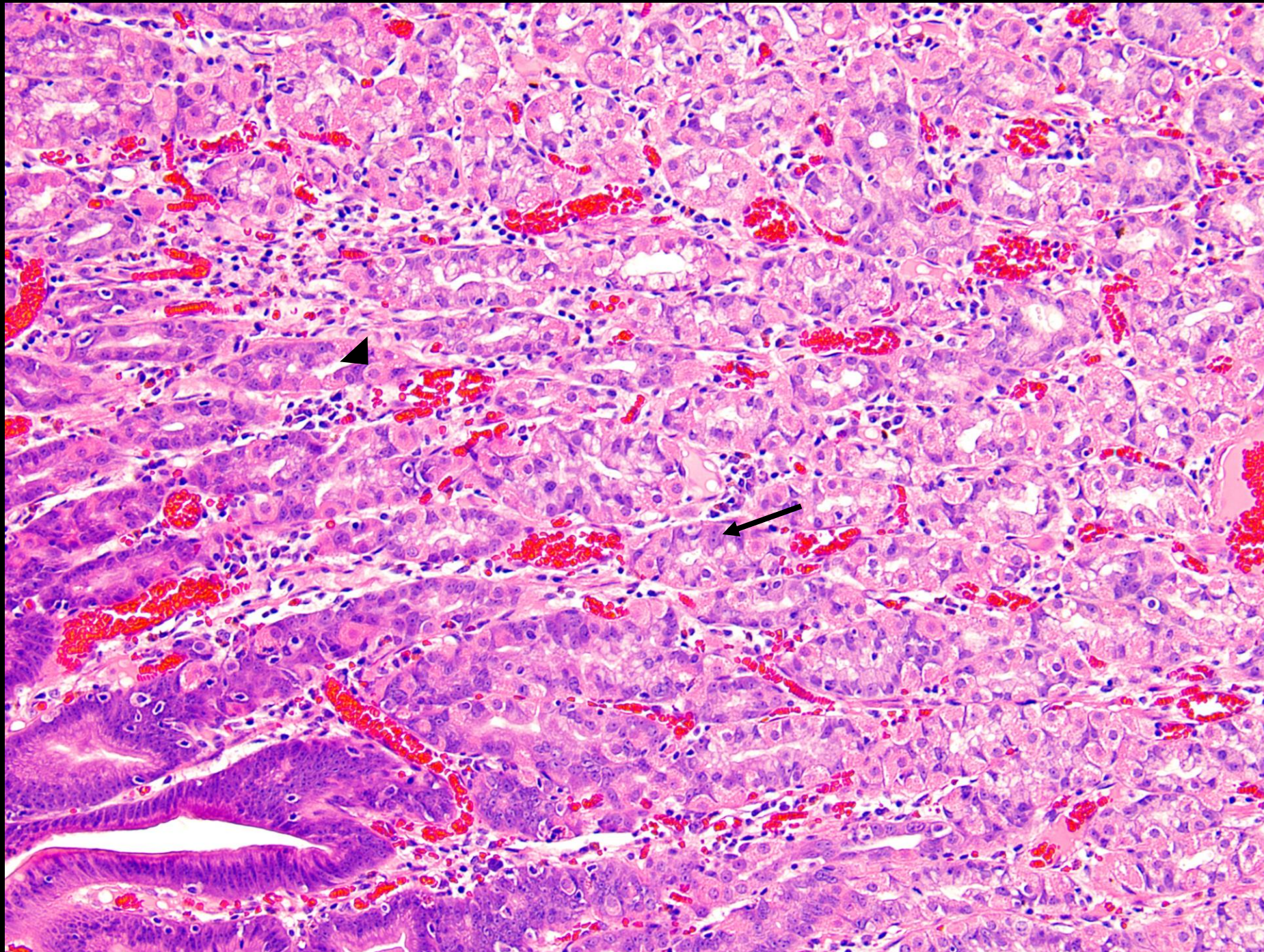
# DDX – Juvenile polyp

- Meckel's Diverticulum
- Inflammatory bowel disease
- Bacterial gastroenteritis
- Peutz-Jeghers hamartomatous polyp
- Henoch-Schönlein purpura
- Malignancy





Gross specimen of jejunal polyp removed via small bowel double balloon enteroscopy



Arrow: Parietal cells  
Arrowhead: Chief cells

Final Dx:

Heterotopic gastric mucosa (HGM) with small  
bowel intussusception

# Case Discussion

- Heterotopia is defined as the presence of normal physiologic tissue in an anatomic location where it is not typically found
- An error in cell differentiation could lead to gastric mucosa being present anywhere throughout the GI tract
- Gastric heterotopia beyond the duodenum is rare except for its frequent association with Meckel's diverticulum in the ileum
- Heterotopia in the small intestine can be asymptomatic or present with symptoms of obstruction, bleeding, perforation, or intussusception as in this case

# Case Discussion

- HGM may be congenital in the case of Meckel's diverticulum or acquired metaplasia like Barrett's esophagus
- It's important to differentiate heterotopias from metaplasia, which is the change of one fully developed cell type to another differentiated tissue in the setting of sustained inflammation
- Acquired gastric heterotopia is more common in the jejunum and ileum in areas of mucosal regeneration following inflammatory lesions
- If HGM consists of gastric fundus mucosa (ie, parietal and chief cells) the abnormality is considered developmental or congenital in origin

# Case Discussion

- Intussusceptions may be ileocolic or small bowel-small bowel
- Ileocolic: most common type of intussusception, likely secondary to lymphoid tissue in the terminal ileum; contrast or air enema can be utilized for intussusception reduction
- Small bowel-small bowel: less common type of intussusception, usually transient in nature and without a lead point
- Small bowel-small bowel intussusceptions with a lead point are more often fixed rather than transient and often require surgical excision of the mass (lead point)
- In this case, the polypoid mass of HGM was the lead point and resection of the mass was required to resolve the intussusception

# Follow Up

- Patient had jejunal polyp removed via small bowel double balloon enteroscopy using pill cam and hot snare technique
- Pediatric gastroenterology consulted and provided cyproheptadine to increase appetite
- Presenting complaint of hematuria thought to be unrelated to intussusception
  - Hematuria resolved spontaneously during hospitalization
  - Normal ANCA and complement levels
- Patient discharged in stable condition with outpatient gastroenterology and nephrology follow up

# References:

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2. Anand P, Singh S, Sarin N. Intussusception caused by heterotopic gastric mucosa in small intestine: a case report. *J Med Case Rep.* 2017;11(1):258. Published 2017 Sep 12. doi:10.1186/s13256-017-1425-x
3. Bhattacharya B, Jakate S, Saclarides TJ, Keshavarzian A. Gastric heterotopia presenting as a mass in jejunum. *Arch Pathol Lab Med.* 2003;127(4):506-507. doi:10.5858/2003-127-0506-GHPAAM
4. Lee W, Jee YS. Jejunal gastric heterotopia presenting as perforation peritonitis in a middle-aged adult: A case report. *Int J Surg Case Rep.* 2021;80:105625. doi:10.1016/j.ijscr.2021.02.011
5. Muneeb A, Nguyen NN, Iqbal F, Bhargava P. Meckel's diverticulum leading to ileo-ileal intussusception. *Radiol Case Rep.* 2022;17(5):1579-1582. Published 2022 Mar 10. doi:10.1016/j.radcr.2022.02.039
6. Amini B, Niknejad M, Chieng R, et al. Intussusception. Reference article, Radiopaedia.org (Accessed on 08 May 2024) <https://doi.org/10.53347/rID-1526>