School of Medicine Greenville

Retrograde Pyloro-gastric Intussusception Case Report and Literature Review

Worth S[1]; Morton Z[1]; Groot S[2]; Evert M[3]; Gates R[2]

[1]University of South Carolina School of Medicine Greenville; [2]Department of Pediatric Surgery, Prisma Health Upstate, Greenville, SC; [3]Department of Radiology, Prisma Health Upstate, Greenville, SC

PRISMA HEALTH℠

BACKGROUND

- Retrograde pyloro-gastric intussusception is an exceedingly rare condition in which the duodenum retracts through the pylorus and into the stomach.
- Two previous reports describe the condition in association with ballooned gastrostomy devices in infancy.
- Reports hypothesize that the ballooned gastrostomy tube acts as a lead point for the intussusception to occur during normal peristalsis

Table 1. *Previous reports of retrograde pyloro-gastric intussusception*

Case	Sex	Full-term?	Gastrostomy tube?	Age at presentation	Symptoms	Treatment
1	F	Y	Y; placed at 23 weeks	1 month	Feeding intolerance, bilious drainage from gastrostomy tube, bilious and nonbilious emesis	Heineke-Mikulicz pyloroplasty
2	M	Y	Y; placed at 4 months	8 months	Hematemesis	Hutchinson's manual reduction

OUR CASE

- Male infant at 28 weeks gestation delivered by emergency cesarean section, in utero drug exposure
- Spent five months in the neonatal intensive care unit due to prematurity
- A gastrostomy tube (14 Fr diameter and 1.5 cm tract length AMT balloon tube) was placed laparoscopically at four months of age due to feeding difficulties
- Prior to presentation, he had been tolerating oral feedings during the day and required low volume supplementation at night
- Admitted to the hospital at six months of age for acute onset of emesis and intolerance of oral and gastrostomy feeding

IMAGING

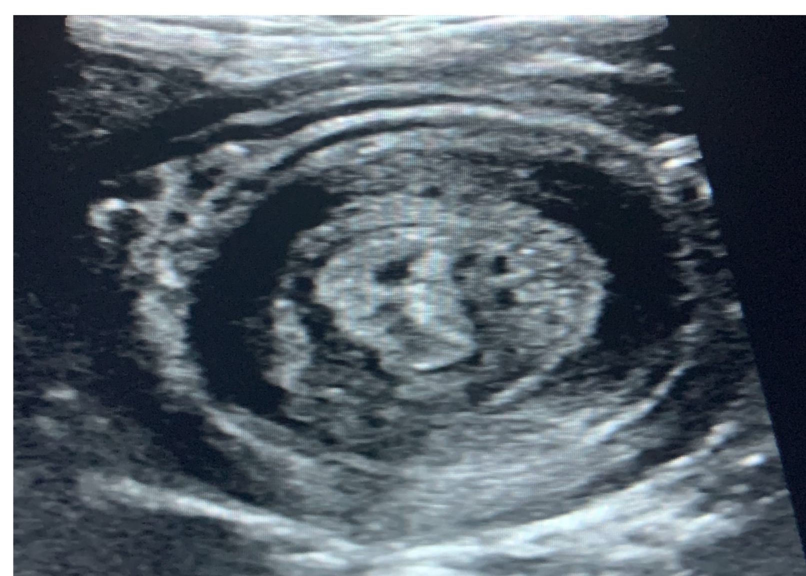

Figure 1. *Abdominal ultrasound with Grayscale and color Doppler sonographic imaging reveals a mass in the distal stomach immediately adjacent to the balloon portion of the gastrostomy tube. Color Doppler evaluation shows evidence of blood flow in the walls of the intussusceptum and intussuscipiens.*

IMAGING

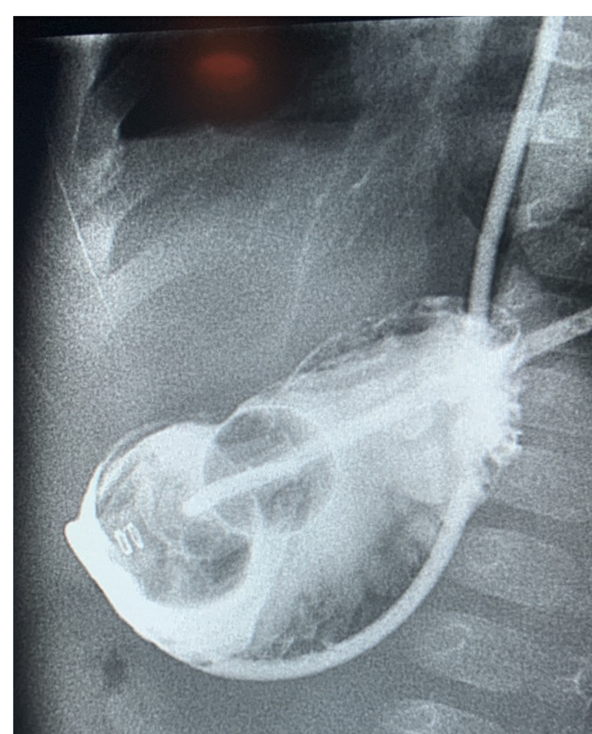

Figure 2. *A single contrast fluoroscopic upper gastrointestinal series shows persistence of the mass in the distal stomach, appearing to obstruct the pylorus after deflation of the gastrostomy balloon.*

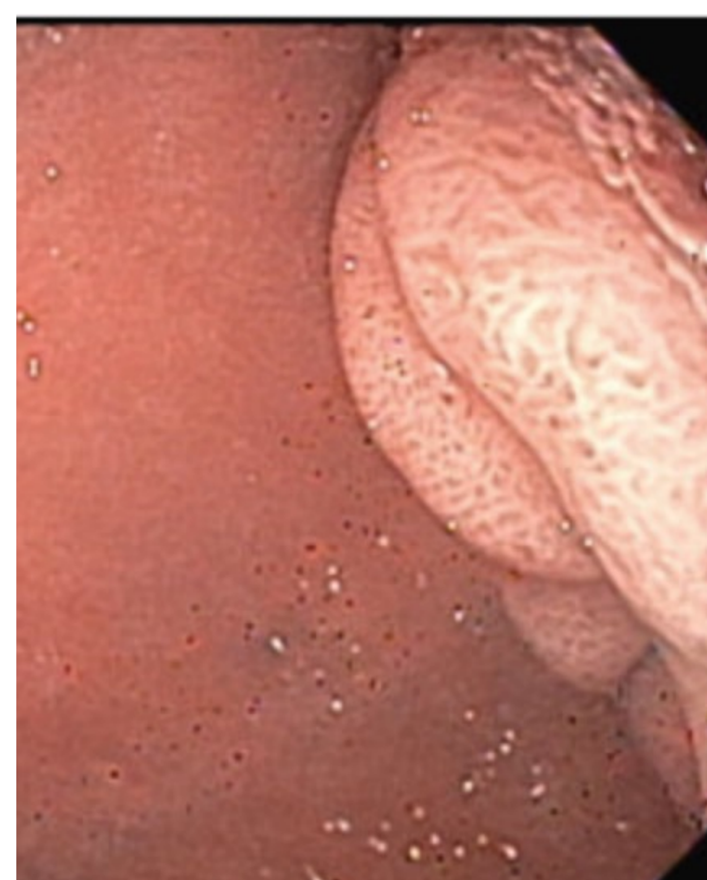

Figure 3. *Esophagogastroduodenoscopy demonstrates intussusception of the duodenum into the antrum of the stomach.*

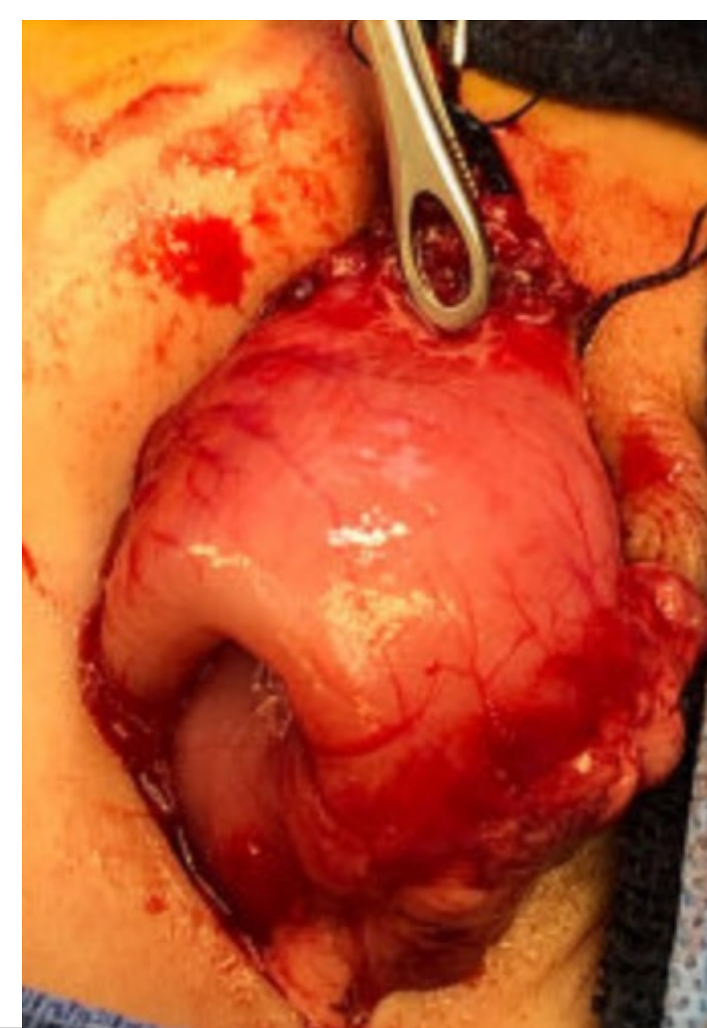

Figure 4. *Gross image shows the duodenum retracting through the pylorus and into the stomach,*

SURGERY

- Patient was taken to the operating room for endoscopy which confirmed the diagnosis
- Gastrostomy balloon was visualized in the appropriate location but in close proximity to the pylorus
- Endoscope could not be advanced into the pylorus due to the intussusception
- Converted to open laparotomy and gastrostomy tube was removed
- Using Hutchinson's maneuver, the intussusception was reduced back into the duodenum
- Intussusception recurred despite removal of gastrostomy tube
- Therefore, pyloromytomy was used to relax the muscle which was unsuccessful
- A Heineke-Mikulicz pyloroplasty successfully reduced the intussusception and gastrostomy was closed

POST-OPERATIVE COURSE

- Post-operative course was uncomplicated
- Nasogastric tube decompression was continued for 7 days postoperatively
- Total parenteral nutrition was administered for ten days postoperatively until he was passing flatus at which point oral feeds were started
- Discharged two weeks after surgery
- One month after discharge, patient was receiving nutrition exclusively by mouth with consistent weight gain

REFERENCES

[1] E. Evinadev, H.P. Poran Feldman, E. Zifman, Y. Lakovsky, E.N. Freud**.** Retrograde pylorogastric intussusception-Case report and review. J Pediatr Surg Case Rep, 10 (2016), pp. 47-50, 10.1016/jepsc.2016.04.017.

[2] S. Yoshimura, T. Nozaki, H. Matsufuji, K. Yata, M. Migita. Retrograde pylorogastric intussusception: A rare complication of ballooned gastrostomy device. J Pediatr Surg Case Rep, 78 (2022), 10.1016/j.epsc.2022.102205

Contact: sworth@email.sc.edu