PYLORIC STENOSIS

ALLEN YIU, MD MBA
UCI-CHOC PEDIATRICS, PGY1
MARCH 31, 2020

OBJECTIVES

- Recognize the classic presentation and lab findings
- Differentiate between other diagnoses
- Understand the management and treatment

ETIOLOGY

- Unclear, mostly multifactorial
  - Environmental: maternal smoking, bottle feeding
  - Genetic: susceptibility locus that contains APOA1 gene cluster
  - Antibiotics: Erythromycin and azithromycin, particularly to newborns less than 2 weeks of age

PRESENTATION

- Age: 3 to 6 weeks old, up to 5 months
- Nonbilious, forceful emesis
- Strong appetite with low urine output
  - “hungry vomiter,” seeks to be refed after emesis episode
- Olive-like mass in right upper quadrant
- Labs: hypokalemic, hypochloremic, metabolic alkalosis

DIFFERENTIAL

- Physiologic reflux (“happy spitter”): not associated with electrolyte abnormalities, chronic v progressive
- Cow milk protein allergy: blood-tinged stools
- Adrenal crisis: hypotension with hyperkalemic acidosis
- Obstruction (malrotation, Hirschsprung): bilious emesis, abdominal distention
- Liver disease
  - Acholic stool: biliary atresia
  - Conjugated hyperbilirubinemia: biliary atresia, biliary cysts, Gilbert syndrome

MANAGEMENT

- Definitive management: pyloromyotomy
  - Should only be performed when well hydrated
  - Recently, expert panel provided recommendations of cutoff electrolytes prior to procedure
  - Alkalosis prior to surgery has been associated with an increased risk of postoperative apnea
- If risk for general anesthesia, may perform balloon dilation but does not disrupt the seromuscular ring

REFERENCES

- Sørensen HT, Nørgård B, Pedersen L, Larsen H, Johnsen SP. Maternal smoking and risk of hypertrophic infantile pyloric stenosis: 10 year population based cohort study. BMJ. 2002;325(7371):1011.
- McAteer JP, Ledbetter DJ, Goldin AB. Role of bottle feeding in the etiology of hypertrophic pyloric stenosis. JAMA Pediatr. 2013 Dec;167(12):1143-9.
- Eberly MD, Eide MB, Thompson JL, Nylund CM. Azithromycin in early infancy and pyloric stenosis. Pediatrics. 2015 Mar;135(3):483-8. doi: 10.1542/peds.2014-2026.
- Feenstra B, Geller F, Carstensen L, Romitti PA, Körberg IB, Bedell B, Krogh C, Fan R, Svenningsson A, Caggana M, Nordenskjöld A, Mills JL, Murray JC, Melbye M. Plasma lipids, genetic variants near APOA1, and the risk of infantile hypertrophic pyloric stenosis. JAMA. 2013;310(7):714.
- van den Bunder FAIM, Hall NJ, van Heurn LWE, Derikx JPM. A Delphi Analysis to Reach Consensus on Preoperative Care in Infants with Hypertrophic Pyloric Stenosis. Eur J Pediatr Surg. 2020 Jan 20. doi: 10.1055/s-0039-3401987.
- Olive AP, Endom EE. Infantile hypertrophic pyloric stenosis. In: UpToDate, Hoppin, AG(Ed), UpToDate, Waltham, MA, 2020.