

Pediatric Gastroenterology: Review Questions

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QUESTIONS

Choose the single best answer for each question.

- 1. A 2-month-old male infant is brought to his physician for vomiting, which began after his first morning feeding 2 days ago and has followed each subsequent feeding. The vomitus is described by his mother as white with the appearance of undigested formula; the vomiting has been increasing in amount and has become more forceful. The infant's last bowel movement yesterday was normal. The patient is afebrile, alert, and active. Physical examination is remarkable for dry lips with sticky mucus membranes. The patient's abdomen has positive bowel sounds and is soft and nontender. A firm, mobile 1 × 1-cm mass is palpable in the right epigastric area. Which of the following is the most likely diagnosis?**

 - Gastroesophageal reflux
 - Hirschsprung's disease
 - Intussusception
 - Malrotation with volvulus
 - Pyloric stenosis
- 2. A 6-month-old female infant is brought to her physician for vomiting, which began after her first morning feeding today and has continued unrelated to further feedings. The vomitus initially looked like undigested food but now appears to be mainly mucus, with the last episode having a green tinge. The infant has also become more irritable as the day has progressed. On examination, the patient is afebrile. She is initially crying but falls asleep several minutes into the interview. Physical examination is remarkable for dry lips and sticky mucus membranes. The abdomen has positive bowel sounds and is soft, and a mildly tender, ill-defined mass is palpable in the right upper quadrant extending inferiorly. Rectal examination reveals an empty vault except for a small amount of mucus, which is guaiac negative. Which of the following is the most appropriate next step in this patient's management?**

 - Air-contrast enema
 - Computed tomography (CT) scan of the abdomen
 - Exploratory laparotomy
 - Lower endoscopy
 - Prochlorperazine administration
- 3. A 7-year-old boy is brought to his physician for evaluation of abdominal pain. The pain is described as periumbilical and dull and has occurred daily for the past 3 months. The pain does not seem to be related to food intake. The patient has missed several days of school recently because of the pain. His growth and development have been normal, he is not vomiting, and bowel movements are normal. He is afebrile and is appropriately interactive for age. Physical examination is remarkable only for periumbilical tenderness; there is no rebound, and no masses are palpable. Stool is guaiac-negative. Which of the following is the most appropriate next step in this patient's management?**

 - Administer oral ranitidine
 - Ask the patient to keep a pain diary
 - Obtain an abdominal CT scan
 - Obtain an upper endoscopic evaluation
 - Put the patient on a lactose-free diet
- 4. A 5-month-old female infant is brought to her physician with a 1-day history of diarrhea. The diarrhea has become more watery since it began. The patient vomited once yesterday but has fed fairly well since that time. On examination, the patient has a temperature of 38.2°C (100.4°F) and is alert and active. Physical examination is remarkable for dry lips and sticky mucus membranes. Her abdomen has hyperactive bowel sounds and is soft and nontender. Rectal examination reveals watery, guaiac-negative stool. Capillary refill is less than 2 seconds. A stool sample has a pH of 5 and has less than 5 leukocytes per high-power field. Which of the following is the**

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most appropriate next step in this patient's management?

- (A) Administer intravenous bolus of isotonic fluid
- (B) Administer oral loperamide
- (C) Administer oral rehydration solution
- (D) Restrict diet to clear liquids only
- (E) Stool cultures

5. A 1-month-old male infant is brought to the physician because of jaundice. The infant was born at term without complications and has been well. He was initially noted to be jaundiced on the second day of life, but it subsided by the end of the first week. The mother notes that the jaundice returned again during the third week of life and has been increasing progressively. The infant is breastfed, feeds well, and has been growing normally. On examination, the patient is afebrile. Jaundice is evident on examination of the skin and conjunctiva. Bowel sounds are present, the abdomen is soft, and the liver is palpable 2 cm below the right costal margin and is firm. On rectal examination, pale stool is noted, which is guaiac negative. Total serum bilirubin is 11.5 mg/dL (normal, < 1.2 mg/dL), with a conjugated bilirubin result of 6.5 mg/dL (normal, < 0.2 mg/dL). Which of the following is this patient's most likely diagnosis?
- (A) ABO incompatibility
 - (B) Biliary atresia
 - (C) Breast milk jaundice
 - (D) Hepatitis
 - (E) Physiologic jaundice

ANSWERS AND EXPLANATIONS

1. (E) **Pyloric stenosis.** This patient has classic symptoms of pyloric stenosis: a generally well-appearing child aged 2 to 8 weeks with vomiting that increases steadily over time and becomes more forceful or "projectile." The finding of an "olive-sized" mass in the epigastric area is pathognomonic for this condition. Gastroesophageal reflux is common in infants but generally presents at an earlier age, tends to improve rather than worsen with time, and is not associated with an abdominal mass. Intussusception generally presents with colicky pain that tends to wax and wane along with bilious emesis. Volvulus is also associated with bilious vomiting and generally presents with sudden abdominal pain. While patients with Hirschsprung's disease may vomit, constipation is the more common presenting symptom.
2. (A) **Air-contrast enema.** This patient has an intussusception. Air-contrast enema is both diagnostic and

potentially therapeutic. CT scan results are not reliable in cases of intussusception nor is endoscopy of any value. While surgical intervention may become necessary, it is only a first step prior to air-contrast enema if perforation is likely to have already occurred. In this case, administration of an antiemetic (ie, prochlorperazine) would result in a delay in diagnosis and increased morbidity.

3. (B) **Ask the patient to keep a pain diary.** Functional abdominal pain is the most common cause of isolated chronic abdominal pain in children, and a detailed history, including a detailed psychosocial history, is critical to the diagnosis. A pain diary, including time of onset, duration, relation to food, and aggravating factors, is often a useful part of this history. Although a plain abdominal radiograph may be considered during an episode of pain, other diagnostic modalities are generally not helpful unless specifically suggested by additional history or physical examination findings. Acid reflux is generally not the underlying cause for this type of pain; thus, ranitidine would not be useful in this patient. Although dietary manipulation may be considered once further history is obtained, lactose restriction is generally reserved only for those with documented lactose malabsorption.
4. (C) **Administer oral rehydration solution.** In a child with diarrhea who is only mildly dehydrated and who is tolerating oral feedings, oral rehydration is the mainstay of therapy; intravenous fluid administration is not indicated. A stool pH of less than 5.5 with few leukocytes makes bacterial infection less likely, and stool cultures are not routinely indicated. Antimotility agents are not recommended for infants with diarrhea. Resuming a normal diet as quickly as possible leads to the most rapid recovery.
5. (B) **Biliary atresia.** The finding of conjugated hyperbilirubinemia in the first month of life, especially in a patient with acholic stools and a firm liver, should immediately prompt consideration of biliary atresia. Viral hepatitis does occur in newborns but generally presents with additional symptoms including poor feeding, vomiting, and irritability. Physiologic jaundice and ABO incompatibility generally occur in the first days of life and are characterized by an increase in unconjugated bilirubin. Breast milk jaundice does appear after the first week of life and can persist for several weeks but is also characterized by an increase in unconjugated bilirubin.

SUGGESTED READING

Behrman RE, Kliegman RM, Jenson HB, editors. Nelson textbook of pediatrics. 17th ed. Philadelphia: Saunders; 2004.