

A 29-year-old man comes to the emergency department with persistent vomiting and abdominal pain for the last 24 hours. The pain is crampy, diffuse, and getting worse. He had a normal bowel movement 3 days ago and has no diarrhea. The emesis appears green without blood or coffee grounds. The patient has not eaten since the onset of the pain due to nausea. His temperature is 36.8 C (98.2 F), pulse is 91/min, and blood pressure is 116/75 mm Hg while sitting and 94/65 mm Hg while standing. His abdomen is distended with hyperactive bowel sounds. Percussion reveals tympany, and the patient is diffusely tender to palpation. There is no rebound tenderness or guarding. Laboratory results are as follows:

Hematocrit	45%
Leukocyte	9,600 cells/ μ L
Sodium	147 mEq/L
Potassium	3.1 mEq/L
Creatinine	1.0 mg/dL
Aspartate aminotransferase	20 U/L
Alanine aminotransferase	12 U/L
Bilirubin	0.8 mg/dL

Which of the following historical findings would most likely be seen in this patient?

- ☐ A. Appendectomy 6 months ago
- ☐ B. Fatty food intolerance
- ☐ C. High alcohol consumption
- ☐ D. Occasional black or tarry stool
- ☐ E. Recent fever and nonbloody diarrhea
- ☐ F. Recent weight loss

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Which of the following historical findings would most likely be seen in this patient?

- ☒ A. Appendectomy 6 months ago [64%]
- ☐ B. Fatty food intolerance [7%]
- ☐ C. High alcohol consumption [10%]
- ☐ D. Occasional black or tarry stool [4%]
- ☐ E. Recent fever and nonbloody diarrhea [8%]
- ☐ F. Recent weight loss [6%]

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Explanation:

User Id: [redacted]

This patient has a mechanical **small-bowel obstruction (SBO)**. Vomiting caused

Explanation:

User Id: [REDACTED]

This patient has a mechanical **small-bowel obstruction** (SBO). Vomiting caused hypokalemia and, along with decreased oral intake, resulted in dehydration and orthostasis in this patient. SBO is further categorized by anatomic location (ie, proximal versus mid/distal) or simple versus strangulated. Complete proximal obstructions are characterized by early vomiting, abdominal discomfort, and abnormal contrast filling on x-ray. Mid or distal obstructions typically present as colicky abdominal pain, delayed vomiting, prominent abdominal distension, constipation-obstipation, hyperactive bowel sounds, and dilated loops of bowel on abdominal x-ray. Simple obstruction refers to luminal occlusion; strangulation refers to loss of blood supply to the bowel wall. Patients with strangulated obstructions may have peritoneal signs (eg, rigidity, rebound) and signs of shock; fever, tachycardia, and leukocytosis are late findings. This patient most likely has a simple mid or distal SBO.

Adhesions are by far the most common cause of SBO. They may be congenital in children (eg, Ladd's bands), but typically result from abdominal operations or inflammatory processes. This adult patient with an SBO is likely to have had abdominal surgery, such as an appendectomy.

(Choice B) Ingestion of fatty foods precipitates biliary colic and acute cholecystitis, which usually cause right upper-quadrant abdominal pain. Acute cholecystitis is accompanied by fever, leukocytosis, and occasionally abnormal liver function tests.

(Choice C) High alcohol consumption can be associated with acute pancreatitis or alcoholic hepatitis. Pancreatitis can cause an ileus (decreased bowel sounds) and a tympanic abdominal examination. However, an aspartate aminotransferase/alanine aminotransferase ratio >2 is typically seen if the patient is a heavy drinker. In addition, abdominal pain in pancreatitis is usually epigastric, constant, and radiates to the back.

(Choice D) Occasional black or tarry stools (ie, melena) are suggestive of a gastrointestinal bleed originating above the ligament of Treitz. The most common causes of melena in a man of the patient's age are peptic ulcer disease, gastritis, esophagitis, and Mallory-Weiss tear. Peptic ulcer disease is a rare cause of proximal but not mid-distal SBO. The other etiologies are not associated with bowel obstruction.

(Choice E) Recent fever and nonbloody diarrhea would be concerning for Crohn disease in a man this age. Crohn disease can cause SBO; however, Crohn-related SBO usually results from chronic fibrosis late rather than early in the course of the disease. Moreover, postoperative SBO is much more common than SBO from an inflammatory bowel disorder.

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(Choice F) Recent weight loss can predispose patients to superior mesenteric artery syndrome or be a sign of neoplasm, endocrine disorder, or inflammatory condition. Although these conditions can cause SBO, they are much less common than postoperative adhesions, especially in younger patients.

Educational objective:

Complete small-bowel obstruction usually presents with nausea, vomiting, abdominal bloating, and dilated loops of bowel on abdominal x-ray. Adhesions, typically postoperative, are the most common etiology.

References:

1. [Burden of adhesions in abdominal and pelvic surgery: systematic review and met-analysis.](#)