

A 58-year-old woman comes to the emergency department due to 2 days of nausea, vomiting, bloating, and mid-abdominal crampy pain. The vomitus initially contained ingested food particles but now is mostly yellow liquid. Her last bowel movement 24 hours ago was normal, and she has been passing flatus. The patient has not consumed anything out of the ordinary and has had no fever. She takes nonsteroidal anti-inflammatory drugs for osteoarthritic knee pain and had an abdominal hysterectomy 20 years ago due to dysfunctional uterine bleeding. The patient occasionally drinks alcohol but does not use tobacco or illicit drugs. Temperature is 37.0 C (98.6 F), blood pressure is 110/70 mm Hg, and pulse is 98/min. BMI is 33 kg/m². Physical examination shows a soft, distended, tympanitic abdomen with no succussion splash. There is mild, diffuse tenderness to palpation without guarding and rebound tenderness. Bowel sounds are increased and high-pitched. Rectal examination reveals an empty rectal vault and no masses. Laboratory results are as follows:

Leukocytes	11,000/mm ³
Total bilirubin	1.0 mg/dL
Serum amylase	160 U/L

Abdominal x-ray reveals distended loops of small bowel with air-fluid levels. There is air in the rectum. Which of the following is the most likely diagnosis for this patient?

- ☐ A. Acute cholecystitis
- ☐ B. Acute pancreatitis
- ☐ C. Acute viral gastroenteritis
- ☐ D. Colonic pseudo-obstruction
- ☐ E. Gastric outlet obstruction
- ☐ F. Perforated peptic ulcer
- ☐ G. Small-bowel obstruction

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- ☐ A. Acute cholecystitis [1%]
- ☐ B. Acute pancreatitis [3%]
- ☐ C. Acute viral gastroenteritis [2%]
- ☐ D. Colonic pseudo-obstruction [13%]
- ☐ E. Gastric outlet obstruction [2%]
- ☐ F. Perforated peptic ulcer [2%]
- ☒ G. Small-bowel obstruction [77%]

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Explanation:

User Id: [redacted]

Small-bowel obstruction

- Colicky abdominal pain, vomiting

Explanation:

Small-bowel obstruction	
Clinical presentation	<ul style="list-style-type: none"> • Colicky abdominal pain, vomiting • Inability to pass flatus or stool if complete (no obstipation if partial) • Hyperactive → absent bowel sounds • Distended & tympanitic abdomen
Diagnosis	<ul style="list-style-type: none"> • Dilated loops of bowel with air-fluid levels on plain film or CT scan • Partial: Air in colon • Complete: Transition point (abrupt cutoff), no air in colon
Complications	<ul style="list-style-type: none"> • Ischemia/necrosis (strangulation) • Bowel perforation
Management	<ul style="list-style-type: none"> • Bowel rest, nasogastric tube suction, intravenous fluids • Surgical exploration for signs of complications

This patient with a history of abdominal surgery has subacute nausea, vomiting, crampy mid-abdominal pain, high-pitched bowel sounds, and radiographic evidence of **distended small-bowel loops with air-fluid levels**, concerning for a **small-bowel obstruction (SBO)**. Given that this patient lacks obstipation and has **gas in the rectum** on plain film, she likely has a **partial SBO**. **High-pitched bowel sounds** suggest a narrowed intestinal lumen. A mildly elevated amylase can support the diagnosis but is neither sensitive nor specific for SBO. Diagnosis can be confirmed by plain film, as in this case; however, abdominal CT scan is more specific.

Surgical adhesions are among the most common causes of SBO. They can cause a fixed, partial obstruction at one location (resulting in chronic nausea, vomiting, and postprandial pain) or a recurrent, intermittent obstruction with episodic symptoms. Either condition may progress to complete obstruction.

(Choice A) Acute cholecystitis is inflammation of the gallbladder, usually due to obstruction of the cystic duct by a gallstone. It typically presents with fever, right upper quadrant pain, and leukocytosis with a positive Murphy sign on examination.

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(Choice B) Acute pancreatitis is most commonly caused by alcohol or gallstones and results in severe epigastric pain that radiates to the back. Amylase and lipase are elevated at least 3 times the normal upper limit.

(Choice C) Acute viral gastroenteritis is a common diarrheal illness associated with mild abdominal pain, significant diarrhea output, nausea, and vomiting.

(Choice D) Colonic pseudo-obstruction (Ogilvie syndrome) is defined by obstipation, abdominal pain and distension, and colonic dilation without anatomic obstruction on imaging. Distended loops of small bowel alone with air in the rectum would not be expected. Ogilvie syndrome is associated with certain surgical and nonoperative (eg, trauma, severe infection) conditions.

(Choice E) Gastric outlet obstruction usually leads to postprandial nausea, vomiting, epigastric pain, and succussion splash (heard with the stethoscope over the upper abdomen and the patient rocked back and forth at the hips). It is often caused by peptic ulcer disease, strictures, and malignancies.

(Choice F) Perforated peptic ulcers lead to acute, severe epigastric pain that soon becomes generalized as stomach and intestinal contents cause peritonitis. Plain films may detect free air under the diaphragm.

Educational objective:

Small-bowel obstruction (SBO) due to adhesions should be suspected in a patient with a history of abdominal surgery who has nausea, vomiting, and colicky mid-abdominal pain. In a partial SBO, obstipation may not be present. Abdominal plain films reveal dilated small-bowel loops with air-fluid levels, and gas may be seen in the colon if the SBO is partial.

References:

1. [Bologna guidelines for diagnosis and management of adhesive small bowel obstruction \(ASBO\): 2010 evidence-based guidelines of the World Society of Emergency Surgery.](#)

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