

A 59-year-old man comes to the office for a postoperative follow-up. He underwent a partial (distal) gastrectomy for a perforated peptic ulcer 3 weeks ago. The patient also received an extended course of antibiotics with the last dose given 2 weeks ago. For the last 10 days, he has had intermittent abdominal cramps and diarrhea. Symptoms begin 25-30 minutes after eating and are associated with nausea, weakness, palpitations, light-headedness, and diaphoresis. The patient has no symptoms overnight, and there is no associated fever or weight loss. Medical history is notable for hypertension. He has a 20-pack-year smoking history but quit after the recent hospitalization. His temperature is 36.7 C (98 F), blood pressure is 130/65 mm Hg, pulse is 80/min, and respirations are 18/min. BMI is 26 kg/m². On examination, the abdomen is soft and nontender with normal bowel sounds. The surgical wound is healing well without erythema or discharge. Cardiopulmonary examination is normal. Complete blood count is normal. Which of the following is the most appropriate next step in management of this patient?

- ☐ A. Dietary modification
- ☐ B. Endoscopy
- ☐ C. Reconstructive operation
- ☐ D. Stool polymerase chain reaction for *Clostridium difficile*
- ☐ E. Trial of octreotide
- ☐ F. Upper gastrointestinal contrast x-ray study

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- ☒ A. Dietary modification [53%]
- ☐ B. Endoscopy [7%]
- ☐ C. Reconstructive operation [1%]
- ☐ D. Stool polymerase chain reaction for *Clostridium difficile* [21%]
- ☐ E. Trial of octreotide [11%]
- ☐ F. Upper gastrointestinal contrast x-ray study [6%]

Proceed to Next Item

Explanation:

User Id: [REDACTED]

Dumping syndrome	
Symptoms	<ul style="list-style-type: none"> Abdominal pain, diarrhea, nausea Hypotension/tachycardia Dizziness/confusion, fatigue, diaphoresis
Timing	<ul style="list-style-type: none"> 15-30 minutes after meals
Pathogenesis	<ul style="list-style-type: none"> Rapid emptying of hypertonic gastric contents

- ☐ E. Trial of octreotide [11%]
- ☐ F. Upper gastrointestinal contrast x-ray study [6%]

[Proceed to Next Item](#)

Explanation:

User Id: XXXXXXXXXX

Dumping syndrome	
Symptoms	<ul style="list-style-type: none">Abdominal pain, diarrhea, nauseaHypotension/tachycardiaDizziness/confusion, fatigue, diaphoresis
Timing	<ul style="list-style-type: none">15-30 minutes after meals
Pathogenesis	<ul style="list-style-type: none">Rapid emptying of hypertonic gastric contents
Initial management	<ul style="list-style-type: none">Small/frequent mealsReplace simple sugars with complex carbohydratesIncorporate high-fiber & protein-rich foods

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This patient has clinical features typical of early **dumping syndrome (DS)**, including gastrointestinal (eg, nausea, diarrhea, abdominal cramps) and vasomotor (eg, palpitations, diaphoresis) symptoms. DS is a common **postgastrectomy** complication occurring in up to 50% of patients. It is caused by loss of the normal action of the pyloric sphincter due to injury or surgical bypass and leads to rapid emptying of hypertonic gastric contents into the duodenum and small intestine. This causes fluid shifts from the intravascular space to the small intestine, leading to hypotension, stimulation of autonomic reflexes, and release of intestinal vasoactive polypeptides.

The diagnosis of DS is primarily based on clinical features, although an upper gastrointestinal x-ray series or gastric emptying studies may be helpful if the diagnosis is unclear (**Choice F**). Most patients can be managed with dietary modification:

- Consume frequent, small meals and eat slowly
- Avoid simple sugars
- Increase fiber and protein

Pathogenesis	<ul style="list-style-type: none">• Rapid emptying of hypertonic gastric contents
Initial management	<ul style="list-style-type: none">• Small/frequent meals• Replace simple sugars with complex carbohydrates• Incorporate high-fiber & protein-rich foods

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This patient has clinical features typical of early **dumping syndrome (DS)**, including gastrointestinal (eg, nausea, diarrhea, abdominal cramps) and vasomotor (eg, palpitations, diaphoresis) symptoms. DS is a common **postgastrectomy** complication occurring in up to 50% of patients. It is caused by loss of the normal action of the pyloric sphincter due to injury or surgical bypass and leads to rapid emptying of hypertonic gastric contents into the duodenum and small intestine. This causes fluid shifts from the intravascular space to the small intestine, leading to hypotension, stimulation of autonomic reflexes, and release of intestinal vasoactive polypeptides.

The diagnosis of DS is primarily based on clinical features, although an upper gastrointestinal x-ray series or gastric emptying studies may be helpful if the diagnosis is unclear (**Choice F**). Most patients can be managed with dietary modification:

- Consume frequent, small meals and eat slowly
- Avoid simple sugars
- Increase fiber and protein
- Drink fluids between rather than during meals

Symptoms of DS usually diminish over time. A minority of patients with refractory symptoms may benefit from a trial of octreotide or require reconstructive surgery, but this is not usually needed (**Choices C and E**).

(**Choice B**) Endoscopy would confirm the postsurgical anatomy but would not otherwise contribute to the diagnosis of DS.

(**Choice D**) This patient has no fever or leukocytosis to suggest antibiotic-associated colitis. The postprandial onset with resolution of symptoms overnight is more consistent with DS.

Educational objective:

Dumping syndrome is a common postgastrectomy complication characterized by gastrointestinal (eg, nausea, diarrhea, abdominal cramps) and vasomotor (eg, palpitations, diaphoresis) symptoms. The symptoms can be controlled with dietary modification and usually diminish over time.