Patient with intractable nausea and vomiting

A chest x-ray—followed by further questioning about the patient's medical history—revealed the cause of this woman's symptoms.

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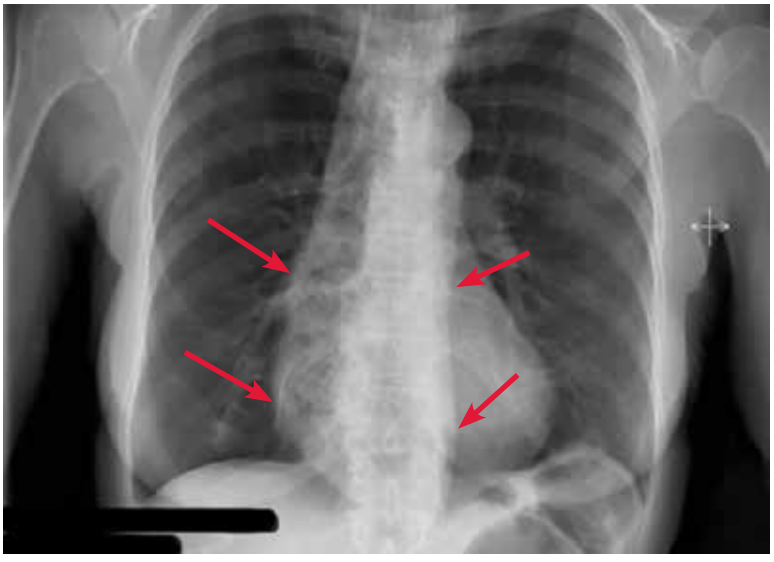
A 53-YEAR-OLD AFRICAN AMERICAN WOMAN was admitted to our hospital for intractable nausea and vomiting that she'd been experiencing for a month. She also reported dysphagia with solids and occasionally with liquids. She had no chest or abdominal pain, and no fever, bleeding, diarrhea, significant weight loss, or significant travel history. The patient was not taking any medication and her physical exam was normal. The patient's complete blood count and electrolytes were normal. We ordered a chest x-ray (**FIGURE 1**).

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

FIGURE 1
Patient had dysphagia with solids and occasionally with liquids



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A chest x-ray will show an absence of gastric air, and occasionally, as in this case, a tubular mass (the dilated esophagus) behind the heart and aorta.

Diagnosis: Achalasia

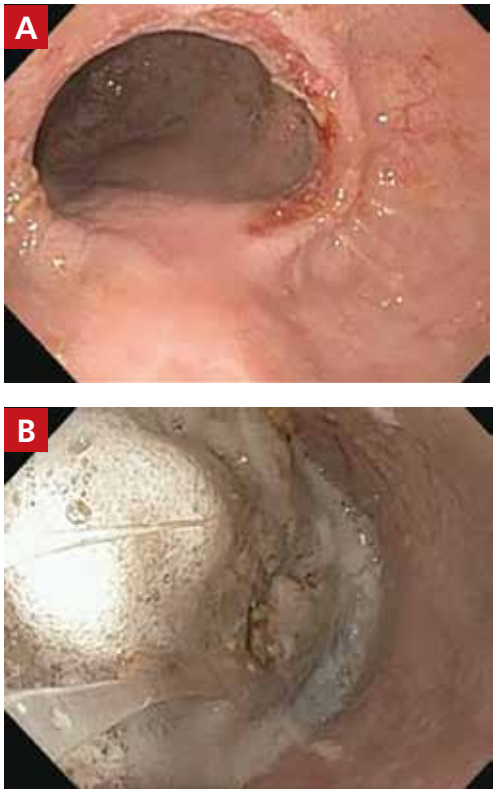
The radiologist who examined the x-ray noted a dilated esophagus (**FIGURE 1**, red arrows) with debris behind the heart shadow, which suggested achalasia. Upon further questioning, the patient reported a history of achalasia that had been treated with a myotomy 6 years ago. We performed an esophagogastroscopy, which showed a dilated esophagus with signs of the myotomy (**FIGURE 2A**), as well as food particles lodged in the esophagus (**FIGURE 2B**) that were causing the patient's intractable vomiting.

Achalasia is a motor disorder of the esophagus smooth muscle in which the lower esophageal sphincter does not relax properly with swallowing, and the normal peristalsis of the esophagus body is replaced by abnormal contractions. Primary idiopathic achalasia is the most common form in the United States, but secondary forms caused by gastric carcinoma, lymphoma, or Chagas disease are also seen.[1] The prevalence of achalasia is 1.6 per 100,000 in some populations.[2] Symptoms can include dysphagia with solids and liquids, chest pain, and regurgitation.

A chest x-ray will show an absence of gastric air, and occasionally, as in this case, a tubular mass (the dilated esophagus) behind the heart and aorta. On fluoroscopy, the lower two-thirds of the esophagus does not have peristalsis and the terminal part has a bird beak appearance. Manometry will show normal or elevated pressure in the lower esophagus. Administration of cholinergic agonists will cause a marked increase in baseline pressure, as well as pain and regurgitation. Endoscopy can exclude secondary causes.

FIGURE 2

Esophagogastroscopy showed the cause of the vomiting



An esophagogastroscopy revealed a dilated esophagus with signs of the patient's previous myotomy (**A**). We also noted food particles stuck in the esophagus (**B**) that were causing the patient's vomiting.

Narrowing the causes of dysphagia

The differential diagnosis is broad because there are 2 types of dysphagia: mechanical and neuromuscular.

Mechanical dysphagia is caused by a food bolus or foreign body, by intrinsic narrowing of the esophagus (from inflammation, esophageal webs, benign and malignant strictures, and tumors) or by extrinsic compression (from bone or thyroid abscesses or vascular tightening).

Neuromuscular dysphagia is either a swallowing reflex problem, a disorder of the pharyngeal and striated esophagus muscles, or an esophageal smooth muscle disorder.[3] Close attention to the patient's history and physical exam is key to zeroing in on the proper diagnosis.

On the other hand, food impaction in the esophagus almost always indicates certain etiologies. Benign esophageal stenosis caused by Schatzki rings (B rings) or by peptic strictures is the most common cause of food impaction, followed by esophageal webs, extrinsic compression, surgical anastomosis, esophagitis (eg, eosinophilic esophagitis), and motor disorders, such as achalasia.

First-line therapy is surgery; pharmacologic Tx is least effective

Treatment should be individualized by age, gender, and patient preference; however, there is no definitive treatment for this condition.

First-line therapy includes graded pneumatic dilation or laparoscopic myotomy with a partial fundoplication.[4] Botulinum toxin injection in the lower esophageal sphincter is recommended for patients who are not good candidates for surgery or dilation.[5]

Pharmacologic therapy, the least effective treatment option, is recommended for patients who are unwilling or unable to undergo myotomy and/or dilation and do not respond to botulinum toxin.[6,7] Long-acting nitrates such as isosorbide, calcium channel blockers such as nifedipine, and phosphodiesterase-5 (PDE5) inhibitors such as sildenafil reduce lower esophageal sphincter tone and pressure.

Both nifedipine and isosorbide should be taken sublingually before meals (30 minutes and 10 minutes, respectively). The effects of nifedipine and isosorbide, however, are partial, and these agents do not provide complete relief from symptoms.[6] PDE5 use has been limited and results are inconclusive.

Our patient. The food particles in the patient's esophagus were removed during endoscopy, and she stopped vomiting completely. Based on the findings and clinical picture, the patient most likely suffered from mega-esophagus (an end-stage dilated malfunctioning esophagus). Our patient was discharged to follow-up with her gastroenterologist.

Because there is no definitive treatment for achalasia, the patient was counseled about the need for continuous monitoring and dietary precautions, including modification of food texture or change of fluid viscosity. Food may be chopped, minced, or pureed, and fluids may be thickened. JFP

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