



Figure 1

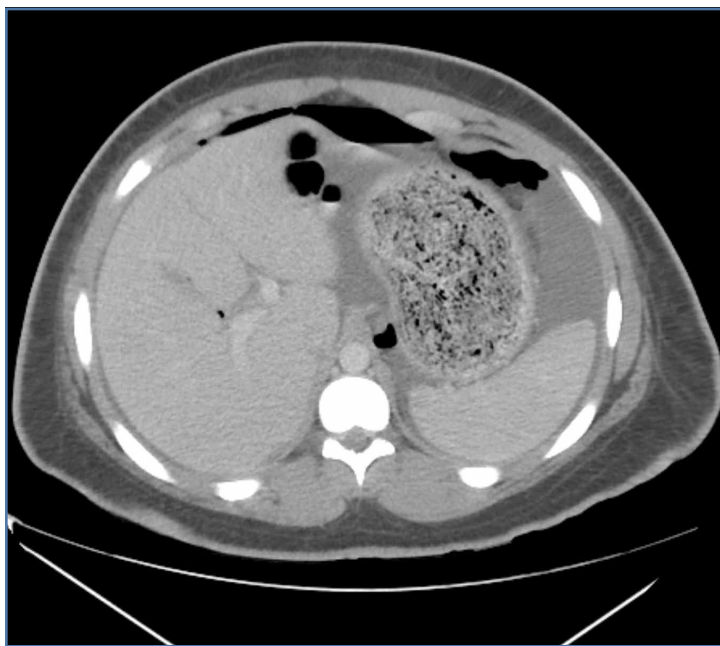


Figure 2

An otherwise healthy 20-year-old woman presented for evaluation of severe chronic abdominal pain.

A 20-year-old woman with no significant medical history presented to the ED with a several-month history of worsening abdominal pain. She reported that although she previously had been evaluated at multiple EDs, no cause of her abdominal pain had been identified. The patient further noted that the pain had significantly increased the day of this presentation.

Physical examination revealed guarding and rebound tenderness in the midabdomen. Computed tomography (CT) studies of the abdomen and pelvis were performed; representative scout and axial images of the upper abdomen are shown above (Figures 1 and 2).

What is the suspected diagnosis?

Dr Fisher is an assistant professor of radiology, Weill Cornell Medical College, New York, New York; and an assistant attending radiologist, New York-Presbyterian Hospital, New York. **Dr Hentel** is an associate professor of clinical radiology, Weill Cornell Medical College, New York, New York. He is executive vice chairman, department of radiology, New York-Presbyterian Hospital/Weill Cornell Medical Center; and associate editor, imaging, of EMERGENCY MEDICINE.

Authors' Disclosure Statement: The authors report no actual or potential conflict of interest in relation to this article.

DOI: 10.12788/emed.2017.0036

■ Answer

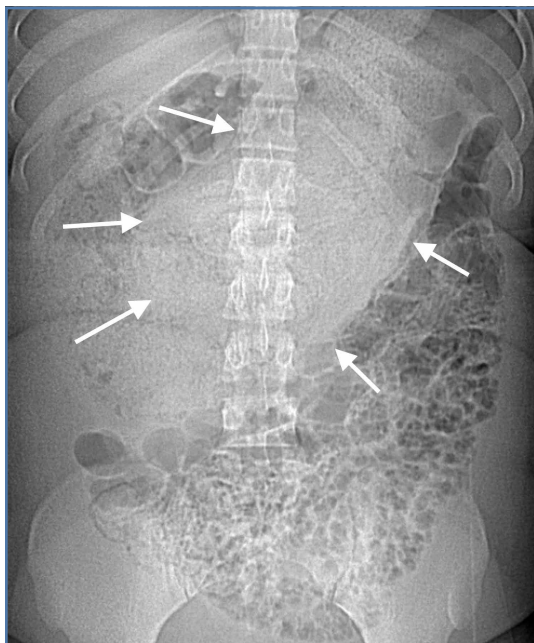


Figure 3



Figure 4

The scout image of the abdomen revealed a distended stomach (**white arrows, Figure 3**), which displaced multiple loops of small bowel into the lower abdomen. The axial image through the upper abdomen showed air and solid material within the distended stomach (**white arrows, Figure 4**). Multiple foci of extraluminal (free) air were seen anteriorly (**white asterisks, Figure 4**). A coronal reformat of the CT better demonstrated the distended stomach filled with debris (**white arrows, Figure 5**), extraluminal air (**white asterisk, Figure 5**), and pneumatosis (air within the walls of multiple small bowel loops; **red arrows, Figure 5**).

These findings indicated a bowel obstruction and perforation due to the presence of a gastric bezoar. Upon further questioning, the patient admitted to a stress-related habit of eating her own hair (trichophagia) over the past 3 to 4 months.

Bezoars

Gastric bezoars are aggregates of nondigestible material that collect within the gastrointestinal system, usually fruit/vegetable matter (phytobezoars) or hair (trichobezoars). Phytobezoars are most common in patients with

a history of reduced gastric motility and/or prior gastric surgery. Trichobezoars, similar to the one seen in this case, typically occur in young women and/or patients with psychiatric illness.¹

Gastric bezoars are typically located in the gastric body but may extend into the small bowel and cause bowel obstruction. Trichobezoars that extend into the small bowel are referred to as “Rapunzel syndrome” (based on the fairy tale of the princess with long hair).

Clinical Presentation

Patients with gastric bezoars often present to the ED with nonspecific complaints of abdominal pain, including early satiety, weight loss, signs of anemia, abdominal pain, bloating, and symptoms of small bowel obstruction (SBO).² Obtaining a thorough history is important to identify trichophagia, as only a small percentage of patients have evidence of alopecia on examination.

Workup

The workup for patients with gastric bezoars typically involves multiple imaging modalities. While abdominal radiography may demonstrate distention of the

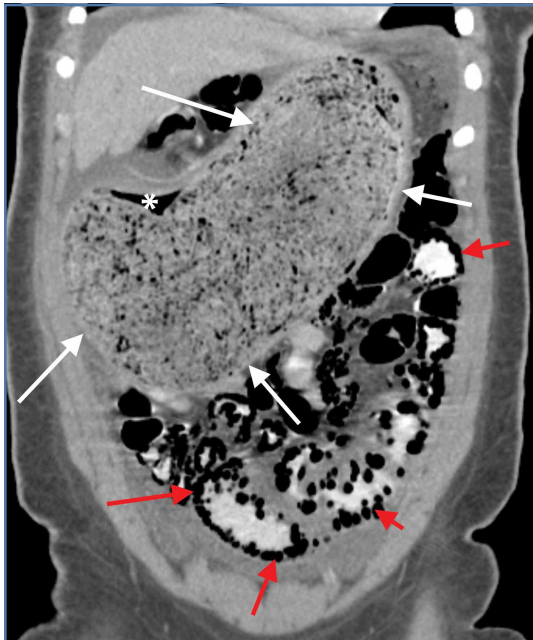


Figure 5

stomach, these findings are often nonspecific, and the characteristic feature of a mass with a diffusely mottled appearance is visualized in less than 20% of cases.

Computed tomography is the test of choice for detecting a bezoar, with a reported sensitivity of 97%.³ This modality is also useful for assessing the size of a bezoar and evaluating for complications such as SBO, perforation (free-air), or pneumatosis—all of which were revealed on this patient's CT studies.

Treatment

The treatment for patients with large or obstructing gastric bezoars is surgical resection; both open and laparoscopic techniques have been described in the lit-

erature.^{2,4} The patient in this case was admitted to the hospital, where she underwent surgical removal of the bezoar. She was discharged home on hospital day 6 with outpatient psychiatric follow-up.

References

1. Guniganti P, Bradenham CH, Raptis C, Menias CO, Mellnick VM. *Radiographics*. 2015;35(7):1909-1921. doi:10.1148/rg.2015150062.
2. Fallon SC, Slater BJ, Larimer EL, Brandt ML, Lopez ME. The surgical management of Rapunzel syndrome: a case series and literature review. *J Pediatr Surg*. 2013;48(4):830-834. doi:10.1016/j.jpedsurg.2012.07.046.
3. Ripollés T, García-Aguayo J, Martínez MJ, Gil P. Gastrointestinal Bezoars: Sonographic and CT Characteristics. *AJR Am J Roentgenol*. 2001;177(1):65-69. doi:10.2214/ajr.177.1.1770065.
4. Flaherty DC, Aguilar F, Pradhan B, Grewal H. Rapunzel syndrome due to ingested hair extensions: Surgical and psychiatric considerations. *Int J Surg Case Rep*. 2015;17:155-157. doi:10.1016/j.ijscr.2015.11.009.