



Figure 1. CT of the abdomen and pelvis with oral contrast (coronal view), showing an air- and fluid-filled intragastric balloon in the proximal midstomach, measuring 12 cm and occluding much of the gastric lumen.



Figure 3. CT of the abdomen and pelvis with oral contrast (sagittal view), showing an air- and fluid-filled intragastric balloon in the proximal midstomach, measuring 12 cm and occluding much of the gastric lumen.



Figure 2. CT of the abdomen and pelvis with oral contrast (axial view), showing an air- and fluid-filled intragastric balloon in the proximal midstomach, measuring 12 cm and occluding much of the gastric lumen.



Figure 4. Upper endoscopy revealed the intragastric balloon in the proximal midstomach. The intragastric balloon was punctured with a Carr-Locke needle, with visualized deflation.

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A 53-year-old woman with obesity (body mass index 39 kg/m^2) presented to the emergency department with nausea, vomiting, and inability to tolerate oral intake for 5 days. She had had an intragastric balloon placed 1 week ago for weight loss. She was in mild distress but hemodynamically stable. Physical examination revealed mild epigastric tenderness. Laboratory studies showed normal WBC count, as well as normal liver enzyme, lipase, and lactate levels. Computed tomography (CT) of the abdomen was performed.

For the diagnosis and teaching points, see page 39.

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28. Austin PC, Wagner P, Merlo J. The median hazard ratio: a useful measure of variance and general contextual effects in multilevel survival analysis. *Stat Med*. 2017;36:928-938.
29. Daya MR, Schmicker RH, Zive DM, et al; Resuscitation Outcomes Consortium Investigators. Out-of-hospital cardiac arrest survival improving over time: results from the Resuscitation Outcomes Consortium (ROC). *Resuscitation*. 2015;91:108-115.
30. Girotra S, van Diepen S, Nallamothu BK, et al; HeartRescue Project. Regional variation in out-of-hospital cardiac arrest survival in the United States. *Circulation*. 2016;133:2159-2168.
31. Herridge MS, Moss M, Hough CL, et al. Recovery and outcomes after the acute respiratory distress syndrome (ARDS) in patients and their family caregivers. *Intensive Care Med*. 2016;42:725-738.
32. Maley JH, Mikkelsen ME. Short-term gains with long-term consequences: the evolving story of sepsis survivorship. *Clin Chest Med*. 2016;37:367-380.
33. Villeneuve PM, Clark EG, Sikora L, et al. Health-related quality-of-life among survivors of acute kidney injury in the intensive care unit: a systematic review. *Intensive Care Med*. 2016;42:137-146.
34. Cronberg T, Lilja G, Horn J, et al; Investigators T. M Trial Investigators. Neurologic function and health-related quality of life in patients following targeted temperature management at 33 degrees C vs 36 degrees C after out-of-hospital cardiac arrest: a randomized clinical trial. *JAMA Neurol*. 2015;72:634-641.
35. Raina KD, Rittenberger JC, Holm MB, et al. Functional outcomes: one year after a cardiac arrest. *Biomed Res Int*. 2015;2015:283608.
36. Riddersholm S, Kragholm K, Mortensen RN, et al. Organ support therapy in the intensive care unit and return to work in out-of-hospital cardiac arrest survivors—a nationwide cohort study. *Resuscitation*. 2018;125:126-134.
37. Elmer J, Callaway CW. The brain after cardiac arrest. *Semin Neurol*. 2017;37:19-24.

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DIAGNOSIS:

Gastric outlet obstruction caused by intragastric balloon. The CT revealed an air- and fluid-filled intragastric balloon in the proximal midstomach, measuring 12 cm and occluding much of the gastric lumen, with minimal passage of oral contrast into the small bowel (Figures 1 to 3). An upper endoscopy was performed. The balloon was punctured multiple times with a Carr-Locke needle and biopsy forceps (Figure 4). This caused deflation of the balloon and allowed its endoscopic extraction. The patient tolerated oral intake postprocedure, with resolution of her symptoms.

Gastric outlet obstruction after intragastric balloon placement occurs primarily because of spontaneous deflation and distal migration of the balloon. However, balloon overinflation may also cause obstructive gastrointestinal symptoms, as in our patient. These complications may occur in the first few days after placement. It is a diagnostic challenge because patients can have nonpathologic nausea and vomiting during the first week after balloon insertion.¹ Urgent CT of the abdomen on presentation is essential for early diagnosis. If left untreated, the obstruction may result in gastric wall ischemia, necrosis, and perforation, requiring emergency surgery. Early endoscopic balloon deflation by puncture and extraction is recommended to prevent further complications.^{2,3}

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REFERENCES

1. Saladich-Cubero M, Vilella JA, Pena YC, et al. Gastric occlusion due to intragastric balloon with gastric necrosis and portal pneumatosis. *ACG Case Rep J*. 2016;3:e184.
2. Koutelidakis I, Dragoumis D, Papaziogas B, et al. Gastric perforation and death after the insertion of an intragastric balloon. *Obes Surg*. 2009;19:393-396.
3. Vargas EJ, Pesta CM, Bali A, et al. Single fluid-filled intragastric balloon safe and effective for inducing weight loss in a real-world population. *Clin Gastroenterol Hepatol*. 2018;16:1073-1080.e1.