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# Phytobezoar-induced intestinal obstruction relieved via enteroscopy

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**Keywords:** Bezoar. Intestinal obstruction. Enteroscopy. Therapy.

*Dear Editor,*

A 54-year-old woman presented with abdominal symptoms and signs for 4 days, including periumbilical pain, paroxysmal colic, vomiting stomach contents, failure to pass stool or gas, and fever (38℃). Abdominal computed tomography (CT) and contrast-enhanced CT scans indicated an incomplete intestinal obstruction, with a suspicious cause of intestinal foreign body. Conservative treatments, like gastrointestinal decompression, anti-inflammation, and fluid rehydration, significantly relieved abdominal pain. An electronic gastroscopy visualized a stone (5 cm*6 cm) situated in the fundus of the stomach. Scattered food and stones of various sizes in the jejunum were detected by an enteroscope, with the largest one (5 cm*5 cm) wedged in the middle and upper jejunum. Gastric and intestinal stones were repeatedly cut into small pieces using a snare, and removed by a net basket, thus achieving a successful relief of intestinal obstruction. Considering her history of eating fresh hawthorns 200-250 g every day for nearly a year, the patient was diagnosed as phytobezoar-induced intestinal obstruction.

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## Discussion

Bezoar-induced small bowel obstruction is a rare condition, with a reported incidence of 3.2%[1]. Phytobezoars are gel-shaped intestinal contents consisting of indigestible plant fiber, fruits and vegetables rich in tannic acid or pectin, and gastric acid[2]. Bezoars, according to their inner ingredients, can be divided into trichobezoars, phytobezoars, lactobezoars and pharmacobezoars. Phytobezoars are the most common type of bezoars, and these cases show an incidence of intestinal obstruction at 0.4%-4.0%[3]. Decreased gastric acid secretion, delayed gastric emptying, or history of gastric surgery are high-risk factors of phytobezoars[3]. Gastric and intestinal bezoars usually cause vague symptoms that are easily missed in diagnosis. Medications (Coca-Cola combined with sodium bicarbonate), endoscopy and surgery are optional to treat bezoars. Small gastric bezoars can be extracted orally by endoscopic lithotripsy. However, laparoscopy is essential for treating bezoar-induced intestinal obstruction. Enteroscopy has been rarely reported in treating bezoar-induced intestinal obstruction, due to challenging procedures of mechanical lithotripsy. In this case, we repeated enteroscopic lithotripsy using a snare over 160 minutes. Compared with traditional laparoscopy, enteroscopy is less invasive and risky in treating bezoar-induced intestinal obstruction. In addition, the rare cause of stomach and intestinal bezoars should be considered in dealing with unexplained intestinal obstruction.

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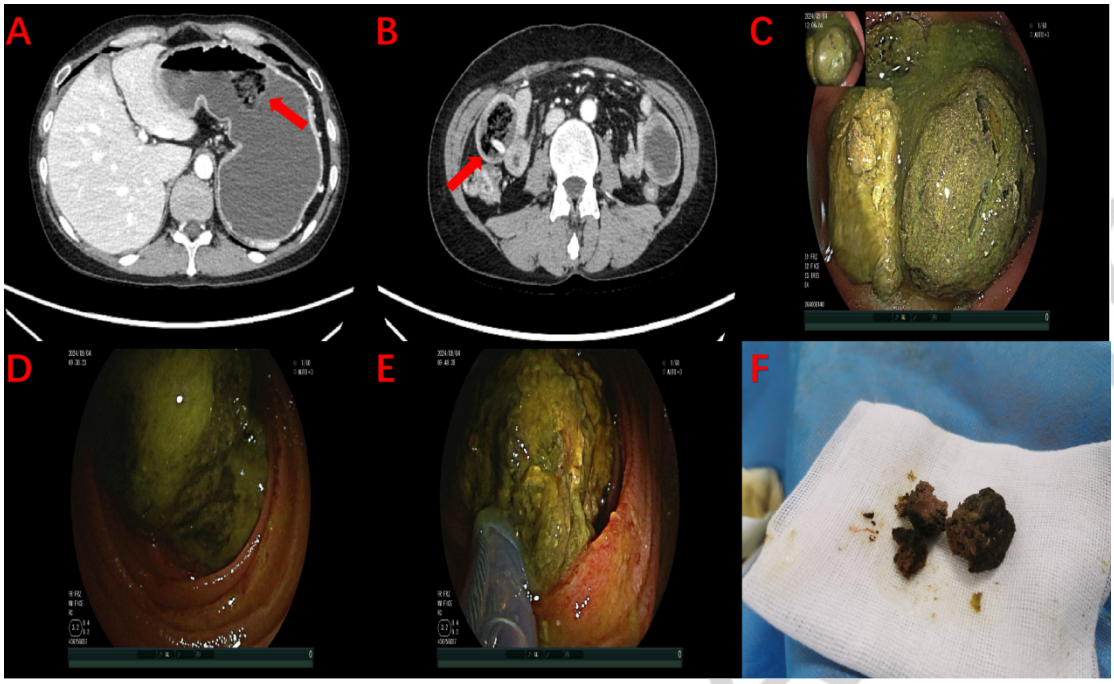


Figure 1. CT scans and enteroscopy of phytobezoar-induced intestinal obstruction. (A) A contrast-enhanced CT scan visualizing the distributions of gas, liquid and phytobezoars. (B) Intestinal dilation and thickening shown on the abdominal CT scan. (C) Gastroscopy visualizing a phytobezoar (5 cm*6 cm) situated in the fundus of the stomach. (D, E) An enteroscope advancing by 100 cm into the pyloric orifice and visualizing a large phytobezoar (5 cm*5 cm) embedded in the jejunum. (F) Removal of phytobezoars by enteroscopic lithotripsy.