Small Intestinal Obstruction Caused by a Bezoar in an Elderly Patient

Ching-Hsueh Tseng, Chung-Chi Chen, Wen-Han Chang

1Department of Emergency Medicine, Far Eastern Memorial Hospital, 2Department of Medical Imaging, Far Eastern Memorial Hospital, and 3Department of Emergency Medicine, Mackay Memorial Hospital, Taipei, Taiwan.

SUMMARY

Small bowel obstruction caused by phytobezoars is quite uncommon in patients suffering from acute abdomen. The most common causes of small bowel obstruction are adhesive bands, incarcerated hernia, and adjacent tumor. We present a rare case of phytobezoar-induced small bowel obstruction in a female elderly patient without a history of abdominal surgery. An 83-year-old female presented to our emergency department on 5 March 2008 with intermittent vomiting and abdominal pain. After failure of conservative treatment with nasogastric tube decompression and a prokinetic agent, abdominal computed tomography (CT) with contrast was arranged on March 9, 2008. The CT scan showed marked dilatation of the jejunum with fluid retention and possibly a large calcified bezoar (2.7 cm × 3.16 cm) causing obstruction at the ileum. Surgery was performed on March 13, 2008, and the pathologic report showed a fibrocalcified nodule. Based on this case, we have suggest that bezoar-induced small bowel obstruction remains possible even in patients with no history of gastric surgery, autonomic enteropathy, or recent intake of persimmons. Surgical intervention is the standard management for intestinal bezoars, and early diagnosis and intervention reduces morbidity and mortality. [International Journal of Gerontology 2010; 4(3): 154–156]

Key Words: bezoar, elderly, intestinal obstruction

Introduction

Since 1,000 BC, bezoars have been found in the digestive tracts of animals and humans. The first report of a human trichobezoar was credited to Baudamant in 1779. Bezoars are large conglomerates of vegetable fibers, hairs, or concretions of various substances located in the stomach or small intestine of humans and certain animals, mainly ruminants. The most common causes of small bowel obstruction are adhesive bands, incarcerated hernia, and adjacent tumor. Small bowel obstruction caused by phytobezoars, however, is uncommon in patients suffering from acute abdomen. We herein present a case of phytobezoar-induced small bowel obstruction in an elderly female patient without a history of abdominal surgery, and who was initially diagnosed as having a cecal tumor.

Case Report

An 83-year-old female with a history of ischemic heart disease with congestive heart failure presented to our emergency department. She complained of intermittent vomiting, abdominal pain, constipation, and poor appetite since March 5, 2008, and had visited the emergency department of Mackay Memorial Hospital for help twice. At the first visit, her symptoms improved after metoclopramide treatment and nasogastric tube decompression. On this occasion, she was discharged home on March 6, 2008. However, persistent vomiting led her to return to the emergency department again 2 days later. Physical examination showed an apparently
obeze abdomen, tenderness over the periumbilical area, but no peritoneal signs. Abnormal laboratory findings included hypokalemia (3.1 mg/dL); urine analysis was within normal levels. Abdominal radiography (Figure 1) showed a calcified mass in the right lower abdomen. Because of persistent abdominal distension in spite of nasogastric tube decompression and prokinetic agent use, an abdominal computed tomography (CT) scan with contrast was arranged immediately. The CT scan showed (1) a gallbladder stone and left renal cyst; and (2) marked dilatation of the jejunum with fluid retention and possibly a large calcified bezoar (2.7 cm × 3.16 cm) causing obstruction of the ileum with suspected small caliber of the ileum distal to the lesion (Figure 2). The patient was admitted to the gastrointestinal ward and a general surgeon was quickly consulted for persistent small bowel ileus. The patient underwent enterolysis for ileus which had adhered to the terminal ileum. Then, enterotomy was also performed to remove a mass in the cecal area (2 cm × 2 cm × 3 cm). The final pathologic report showed a fibrocalcified nodule and the patient was discharged in a stable condition on April 7, 2008.

Discussion

Bezoars have become relatively common since the introduction of truncal vagotomy in the treatment of gastroduodenal peptic ulcer. However, by far the most common cause of phytobezoar formation is the ingestion of persimmon. Historically, bezoars are classified according to the involved material and include phytobezoars (fruit, seeds, and vegetable fibers), trichobezoars (hair), and lactobezoars (milk curds). Predisposing factors include inadequate chewing, high-fiber diets, and previous gastric surgery. Chronic constipation, which is common in elderly patients with inadequate food intake as a result of blindness, was probably a trigger for bezoar formation. The majority of inhabitants in rural areas are older aborigines and children. Impaired mastication might contribute to bezoar formation in older patients. Clinical presentation depends on the location of the bezoar, and epigastric distress (84%) and weight loss (31%) are the most common complaints. Endoscopy is the main technique used for diagnosis, and intestinal obstruction is the most frequent presentation of a small intestinal bezoar. Small-bowel obstruction is the most frequent clinical presentation of phytobezoars, although they are responsible for only 0.4–4% of all intestinal obstruction. Diagnosis is made mainly on the basis of clinical data and simple abdominal radiographs.

In a retrospective study, the symptoms of a gastrointestinal bezoar were epigastric or generalized abdominal pain in all cases (100%), mild to severe nausea and vomiting in 33 cases (97.05%), and abdominal distention as a sign of intestinal obstruction in 16 cases (47.05%). Small bowel obstruction secondary to a phytobezoar can be diagnosed by CT, which reveals dilated...
intestinal loops and an intraluminal mass with air bubbles resulting in a mottled appearance\textsuperscript{10}. In small bowel obstruction, it is common to see fecal contents as a result of stasis, the “small bowel feces sign.” In contrast to this intraluminal fecal content, which may appear more amorphous and affects longer segments, the identification of a well-defined focal mass at the site of obstruction should raise suspicion of the possibility of an obstructing bezoar. The typical bezoar image, involving a mottled air pattern, is visible in only 18% of patients with small bowel obstruction in plain radiography\textsuperscript{11}. A previous study\textsuperscript{12} showed a small bowel obstruction diagnosed by CT, which demonstrated a transition zone with an ovoid intraluminal mass outlined by the bowel wall. The mass consisted of a mixture of soft tissue and internal gas bubbles like feces, suggesting a bezoar. For patients who have never undergone a gastrointestinal operation, the enteroliths rarely form within the intestinal lumen itself, except when there is a small bowel diverticulum\textsuperscript{12}. Bezoar-induced obstruction of the small bowel rarely improves with conservative treatment, and early surgery may be required to relieve obstruction\textsuperscript{13}. In addition to the underlying pathology causing the obstruction and the extent of the obstructed bowel, CT may detect an unexpected bezoar impacted in the stomach or bowel\textsuperscript{13–15}. A further study has shown that following vagotomy and drainage procedures for peptic ulcer disease, patients need dietary instructions to prevent this complication\textsuperscript{16}.

**Conclusions**

Based on this case, we suggest that bezoar-induced small bowel obstruction remains possible in patients with no history of gastric surgery or recent intake of persimmon. Surgical intervention is the standard management for an intestinal bezoar, and early diagnosis and intervention reduce morbidity and mortality. Patients with small bowel obstruction are often referred for CT study, which can help to confirm the diagnosis. Finally, a gastrointestinal phytobezoar is a preventable disease, and careful dietary instructions should be given to all patients following vagotomy and drainage procedures for peptic ulcer disease.

**References**