Intestinal Obstruction due to the Migration of a Phytobezoar during Cola-Lysis in a Patient Who Had Previously Undergone Partial Gastrectomy

Gastric surgeries may predispose patients to the formation of gastric phytobezoars. Cola-lysis through nasogastric lavage, endoscopic infusion and/or the oral intake of cola are recently introduced techniques for the dissolution of phytobezoars. However, their complications have rarely been reported. Herein, we report a 56-year-old woman, who had previously undergone partial gastrectomy, severe intestinal obstruction due to the migration of a phytobezoar during cola-lysis and was successfully managed with surgical intervention. (The Korean Journal of Helicobacter and Upper Gastrointestinal Research 2011;11:68-70)

Key Words: Bezoars; Cola

INTRODUCTION

Gastric surgeries, such as partial gastrectomy, vagotomy, or pyloroplasty, result in an alteration of gastric motility with delayed gastric emptying and predispose patients to the formation of gastric phytobezoars. The available treatment options for gastric phytobezoars include dissolution with proteolytic or cellulase enzymes, endoscopic fragmentation and extraction, and surgery. Nasogastric lavage, endoscopic infusion and/or the oral intake of cola have been recently introduced as techniques for the dissolution of phytobezoars wherein their efficacies have been encouraging, however, their complications have rarely been reported. Herein, we report a case of intestinal obstruction due to the migration of a phytobezoar during cola-lysis in a patient who had undergone partial gastrectomy.

CASE REPORT

A 56-year-old woman presented with symptoms of epigstric pain and indigestion. She confessed that she had ingested a significant number of persimmons over the past several weeks. Her past medical history included oral medications for type II diabetes mellitus for seven years in a good controlled condition.
and a Billroth-II partial gastrectomy due to gastric ulcer bleeding 23 years ago. On initial esophagogastroduodenoscopy (EGD), a huge gastric bezoar was found (Fig. 1). She was ordered to drink at least 1.8 L/day of Cola and follow up examination was scheduled for two months later. Prokinetics were not prescribed.

Six weeks later, she came to the emergency department with suddenly developing colicky abdominal pain and vomiting. Simple abdominal radiography revealed small bowel ileus (Fig. 2) and the previously observed bezoar had disappeared on follow up EGD (Fig. 3). Abdominopelvic CT showed a marked dilatation of the small intestine and an intraluminal obstructive mass lesion in the proximal ileum (Fig. 4). Ileal obstruction by a migrated bezoar was highly suspected and the patient agreed to exploratory laparotomy. On exploration, the phytobezoar was impacted 30 cm beyond the ileocecal valve, and segmentectomy of the ileum and removal of the bezoar were performed. The patient had an uneventful recovery and was discharged one
week after surgery. She was asked to not eat persimmons in the future.

**DISCUSSION**

Phytobezoars, and specifically diospyrobezoars, infrequently develop after the ingestion of persimmons and are often found in patients with altered gastric emptying, such as in diabetics and patients after gastric surgery. Most bezoars reside in the stomach, but they may be encountered elsewhere in the gastrointestinal tract, including the rectum and even the esophagus. 6

Cola-lysis is a recently developed strategy for treatment of phytobezoar and is performed in many medical centers in Korea because of frequency of diospyrobezoars among Koreans. The phytobezoar dissolution mechanism via cola involves the mucolytic effect of the NaHCO₃ in the cola. More specifically, CO₂ bubbles penetrate into the surface of the bezoar and are thought to digest the fibers of the concretion. 7

It is advisory that oral administration of cola should be continued at least one month since three weeks are not enough in one report. 8 Follow up EGD can be performed one or two months after starting cola lysis.

The occurrence of a small intestinal obstruction by a bezoar is usually due to the migration of a gastric bezoar, which can even occur after the endoscopic fragmentation of a gastric bezoar. 9 Fragmented gastric bezoars can easily traverse the pylorus and migrate into the small intestine, wherein they impact at the narrowest point. Previous gastric surgery is one of the most important risk factors for the development of a small intestinal obstruction by a bezoar. 10 It is plausible that the orifice of the anastomosis site is much bigger than the pylorus such that the anastomosis site may allow larger bezoar fragments to pass into the small intestine. In our case, the gastric bezoar might not have been completely dissolved, but instead, became smaller after drinking the cola, wherein it passed through the anastomosis site and finally occluded the small bowel.

In conclusion, cola-lysis is a rapid, safe, and effective method for treating gastric phytobezoar such that patients can avoid endoscopic or surgical treatment; however, this method should be carefully considered in patients who have undergone previous gastric surgery because a partially dissolved phytobezoar can easily migrate into the small intestine and cause obstruction.

**REFERENCES**


