

The radiology corner*

"Giant Colonic Bezoar:" A Medication Bezoar Due to Psyllium Seed Husks

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A case of massive phytobezoar in the right colon due to psyllium seed husks causing complete gastric outlet obstruction by extrinsic compression is reported. The diagnostic dilemma of unusually large size of the bezoar and nonsurgical removal are unique features of this case.

INTRODUCTION

Primary colonic bezoars are extremely rare. Although the literature is replete with reports of gastrointestinal bezoar formation from a wide variety of foreign substances (1-3), a colon bezoar made up of psyllium seed husks has not been reported previously. The vast majority of bezoars is found in the stomach (2-5) and decrease in frequency as one goes more distally in the gastrointestinal tract (5-8). Unusual locations for bezoar have been the esophagus (9-12), gastrointestinal diverticula (10, 13), and bile ducts (14, 15). The composition of most bezoars is either vegetable/fruit pulp or hair. We report a case of a giant right-sided colonic bezoar that caused complete gastric outlet obstruction. The composition of this bezoar was entirely psyllium seed husks. This represents the first case of a bezoar secondary to psyllium seeds which are commonly used bulk laxatives.

CASE REPORT

A 23-year-old white woman was admitted to the University Hospital, Ann Arbor within a 2 wk history of increasing midabdominal pain accompanied by nausea and vomiting, which had began 2 days before admission. She denied any bowel movements for the last week. She did have two gum-like dark brown bowel movements on the day of admission. The patient had a 6-year history of constipation which was treated with laxatives. Recently, the patient had been taking unrefined psyllium seed husks as a bulk laxative.

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Physical exam on admission revealed moderate abdominal distension predominantly above the umbilicus. There was marked tenderness to palpation and decreased bowel sounds in the right lower quadrant. The remaining physical exam and laboratory data were normal.

An abdominal radiograph (Fig. 1A) revealed a large collection of material with curvilinear lucencies and a somewhat "whorled" appearance occupying the upper abdomen and extending into the right iliac fossa. No free intraperitoneal air was seen. Minimal air was seen in the transverse and left colon. A diagnosis of a gastric or duodenal bezoar was entertained. An upper gastrointestinal examination using 4 oz of Hypaque revealed a distended stomach with complete outlet obstruction secondary to extrinsic compression (Fig. 1B). Because of the marked tenderness and the gastric outlet obstruction, the patient was taken to the operating room where a right colonic bezoar was found to be displacing and compressing the gastric antrum. Since the bowel was viable, the bezoar was broken up by hand and milked into the left colon. Postoperative cleansing enemas eventually cleared the colon. The patient was advised to avoid all laxatives and particularly bulk laxatives. At 6 months follow-up the patient is doing well with 2-3 stools per week and has no palpable abdominal masses.

DISCUSSION

The word bezoar is derived from the Arabic word *badzehr*, the Persian word *padzahr*, and the Turkish word *panzehir*, all meaning antipoison or antidote. The bezoars are concretions or masses of foreign material in the gastrointestinal tract. They are relatively frequent in ruminants, particularly goats and antelopes. Historically the use of animal bezoars for their supposed medicinal properties dates back to 12th century BC. In an extensive review of bezoars by DeBakey and Ochser, they classified bezoars into three types: 1) phytobezoar, 2) trichobezoar, and 3) hard concretions. The

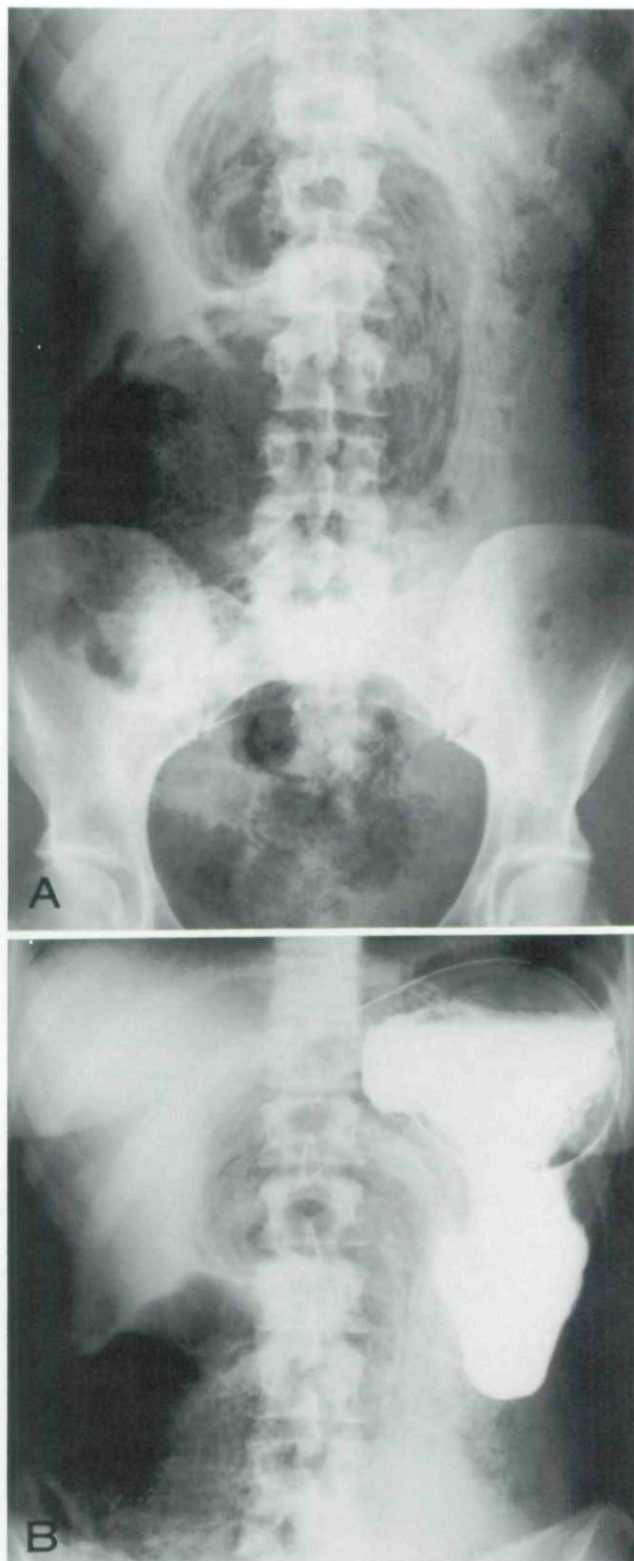


FIG. 1. *A*, an abdominal radiograph showing a large collection of mottled and curvilinear lucencies assuming a "Whorled" appearance in the epigastrium and extending down to the right iliac fossa. The distal transverse colon appears compressed and displaced down. The left side of the abdomen and pelvis are unremarkable. *B*, an upper gastrointestinal examination with oral water soluble iodinated contrast (Hypaque) revealed distended stomach with complete gastric outlet obstruction due to extrinsic compression of the antrum and

pylorus by the large mass containing mottled and curvilinear lucencies. The duodenum did not fill with contrast despite turning the patient in several positions.

phytobezoars are composed of fibrous matter such as skin, seeds, vegetable, and fruit fibers. The trichobezoars or hair balls are composed of masses of hair and decaying food materials. The hard concretions are inorganic masses or calculi unusually containing calcium.

Recently many iatrogenic gastrointestinal lesions including bezoars secondary to medications have been reported (17-19). Medication-induced bezoars may occasionally obstruct the gastrointestinal tract by virtue of their physical site. Obstruction of the alimentary tract can be caused by a number of medications, including hygroscopic bulk laxatives, cholestyramine, nonabsorbable antacids, and vitamin C tablets. Such medication-related bezoars may result in significant morbidity to the patient as illustrated in the above case report of psyllium seed bezoar. Most bezoars are formed in the stomach and may cause intestinal or esophageal obstruction after breakup and migration of the gastric masses. Primary colonic bezoars are extremely rare. Review of literature revealed only two reports of primary colonic bezoar causing large bowel obstruction (19, 20). Bezoar formation apparently requires a combination of gastrointestinal stasis and ingestion of non-digestible food material. Most ingested material such as hair or shellac require gradual accumulation over a period of time. Chronic constipation, heavy vegetable pulp ingestion, and bulk hygroscopic laxatives contributed to the development of colonic bezoar in our patient. Psyllium seed husks are a bulk purgative containing mucilage which swells with water. Its site of action is in the colon by producing increased fecal mass. The use of bulk laxatives and vegetable fiber together, particularly in patients with prolonged colonic transit, must be used with caution in order to prevent this complication.

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