

# Bezoar: Imaging Findings & Case Study of a Rare Pathology

RT 3

## Introduction

A bezoar is a hard, indigestible mass of material that forms within the alimentary canal, most commonly the stomach.<sup>1</sup> Bezoars are classified according to composition. The most common type of bezoar is a phytobezoar composed of indigestible food fibers that occur in fruits & vegetables, including celery, pumpkin, prunes, raisins, & sunflower-seed shells. Other common types of bezoars include trichobezoars, composed of hair, & pharmacobezoars, made of undissolved medications.

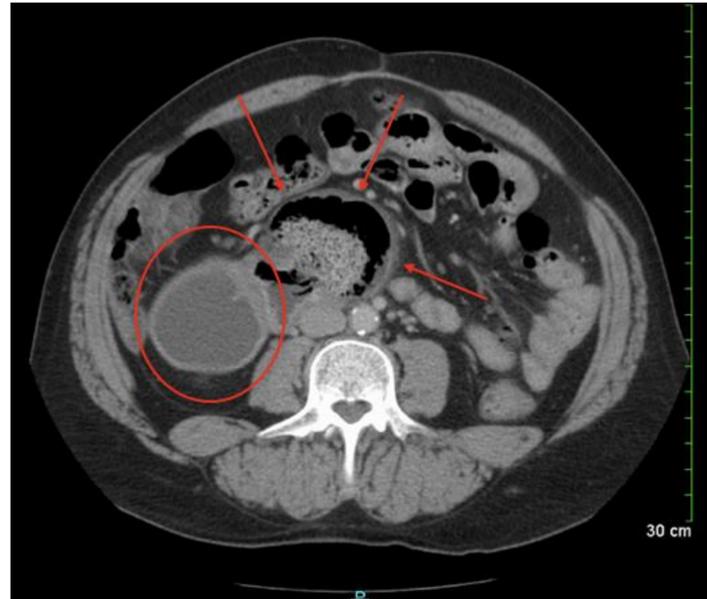
A number of risk factors have been associated with bezoar development. Patients who have undergone gastric surgery, such as partial gastrectomy, are at an increased risk of developing a bezoar due to delayed gastric emptying, decreased stomach size, or reduced stomach acid production. Other risk factors include diabetes mellitus, end-stage kidney disease, cystic fibrosis, intrahepatic cholestasis, & psychiatric illness.<sup>2,3</sup>

This poster will present the rare finding of a large duodenal bezoar.

## Case Study

This case study involved a male in his early 50's who presented to the emergency department with left-sided abdominal pain & vomiting after eating. The patient had been experiencing pain for approximately 24 hours along with chills, malaise, & a decreased appetite. He was unsure of his last bowel movement. Upon physical exam, rebound tenderness was noted in the left mid-abdomen as well as abdominal guarding.

Pertinent medical history included diverticulitis & a partial colon resection

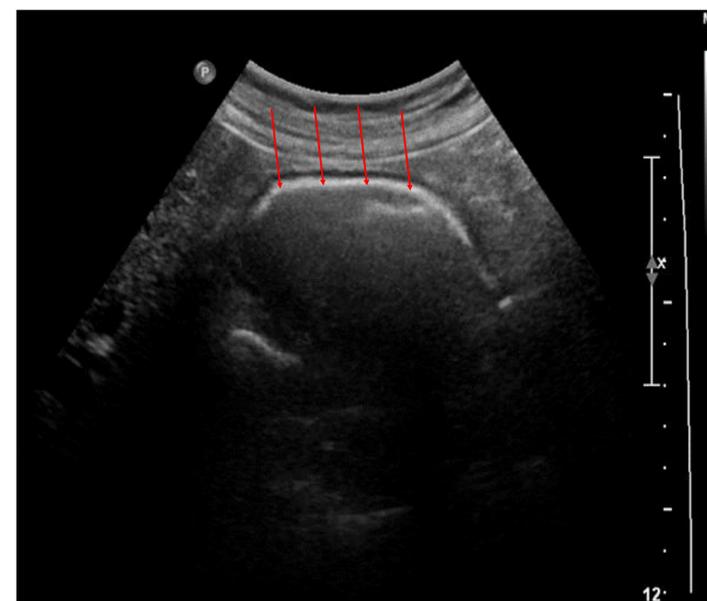


**Fig. 1 Axial CT Image**

A patulous, distended proximal duodenum (circle) are noted on this axial CT image along with a mega duodenal diverticulum containing a heterogeneous intraluminal mass or bezoar (arrows).

**Fig. 2 Ultrasound**

The transverse mid-abdominal image demonstrates the echogenic surface of the bezoar (arrows). Structures posterior are not visualized due to shadowing artifact.



**Fig. 3 Coronal CT Image**

The coronal CT image notes a thickened bowel wall in the dilated duodenum (circle) compared to the other areas of small bowel (arrows).



**Fig. 4 Intraoperative Findings**

An example of an ovoid-shaped bezoar containing seeds removed via enterotomy.<sup>2</sup>

## Diagnostic Work-up

The diagnosis of a bezoar is established both clinically & radiographically in most patients. Physical examination may reveal a palpable abdominal mass; halitosis may also be noted. Clinicians can screen for bezoar risk factors by evaluating labs & by obtaining a patient's dietary & medication history. A complete blood count can help rule out intestinal bleeding or infection. An imaging work-up often includes both computed tomography (CT) & ultrasound.

## Imaging Findings

CT is utilized in both the diagnosis & surgical planning treatment for bezoars. The findings of a well-defined intraluminal mass with mottled gas pattern are suggestive of an intestinal bezoar.<sup>2,3</sup> (Figures 1 & 3)

Sonographic findings of a bezoar vary depending on the composition. Common findings include a hyperechoic, intraluminal mass with posterior shadowing. (Figure 2)

## Treatment

The prognosis & treatment for bezoars is tailored to the underlying cause, as well as the composition of the mass. Smaller bezoars may pass through the digestive system on their own. Medication to aid in dissolving the mass may be administered. In severe cases, surgery may be required to remove the mass.<sup>1</sup>

The patient in this case study was diagnosed with a phytobezoar which was surgically removed. A gastrojejunostomy was performed to create an anastomosis between the stomach & the proximal jejunum, bypassing the duodenum. Unfortunately, he experienced complications from the bezoar & was hospitalized for over two months. He was eventually discharged on a general diet with his pain controlled.

## References

1. Ahmad Z, Sharma A, Ahmed M, & Vatti V. Trichobezoar Causing Gastric Perforation: A Case Report. *Iranian Journal of Medical Sciences*. 2016; 41(1): 67-70.
2. Altintoprak F, Degirmenci B, Dikicier E, Cakmak G, Kivilcium T, Akbulut G, Dilek ON, & Gunduz Y. CT Findings of Patients with Small Bowel Obstruction due to Bezoar: A Descriptive Study. *The Scientific World Journal*. 2013.
3. Nasri B, Calin M, Shah A, & Gilchrist B. A rare cause of small bowel obstruction due to bezoar in a virgin abdomen. *International Journal of Surgery Case Reports*. 2016;19:144-146. <http://doi.org/10.1016/j.ijscr.2015.12.0394>.