

## Primary Duodenal Bezoar that Cause Gastric Outlet Obstruction: A Case Report

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### Abstract

Bezoar is a mass formed by indigested materials. They are a rare cause of intestinal obstruction. They are most frequently located in stomach. Incidence of bezoar located in duodenum is very rare. We report a case of 47-year-old male patient who suffered from gastric outlet obstruction due to a bezoar located in duodenum.

### Keywords

Endoscopy; Duodenum; Phytobezoar

### Introduction

Bezoar is a rare entity that cause of intestinal obstruction. Incidence of bezoar is reported to be 0,4-1% [1]. They are most frequently located in stomach [2]. Incidence of duodenal bezoars are much rare. In all duodenal bezoar cases reported in literature, an etiologic factor has been identified. Besides its rare location, what makes this case unique is the lack of an identified etiologic factor. By presenting this case, we aimed to discuss etiology, diagnosis and treatment options of duodenal bezoars.

### Case Report

A 47-year-old man with a history of no previously diagnosed disease or performed surgery admitted to our clinic with complaints of bloating, nausea and non-bilious vomiting after consumption of solid foods. He had lost 5 kg body weight in last 2 months. Complete blood count and biochemical markers were normal. Plain abdominal X-ray while standing was non significant. Upper gastrointestinal system endoscopy revealed a phytobezoar located in the first segment of duodenum (Figure 1). Since the lumen was obstructed by bezoar, distal segments could not be visualized. Bezoar was tried to be extracted by fragmentating with snare and forceps but failed. To investigate the presence of pathologies that can cause bezoar in duodenum, abdominal computerized tomography (CT) was performed. CT revealed no additional pathology in the duodenum (Figure 2). Then surgery was performed. Abdomen was entered through a supraumbilical incision. With a vertical incision of 4cm extending from pylorus to duodenum, duodenum was opened and explored (Figure 3). A green-brownish phytobezoar 4cmx5cm in diameter was excised (Figure 4). Duodenum was inspected for diverticulum, tumour, web, ulcer or similar pathologies but none was found. Pyloroplasty with Hainke mikulichs method was performed and

duodenum incision was repaired by double layer Connel-Lambert method. Surgery was completed following placing a drainage catheter adjacent to duodenum. Patient passed gas on postoperative day 1. On day 2 the patient was allowed oral feeding. The drainage was extracted on day 5. The patient was discharged following a detailed dietary list and information.

## Discussion

Bezoar is a mass formed by indigested materials. Phytobezoars are the most frequently seen type. Phytobezoars are frequently composed of indigestible cellulose, tannin, lignin derived from ingested vegetables and fruits, especially persimmons and pineapples [2]. Trichobezoars, lactobezoars and pharmacobezoars are the other major types [3]. They are most frequently located in stomach [2]. Though duodenal bezoars are very rare, they are an important entity since their complications are highly severe. Obstruction, bleeding or perforation are common complications [4]. In literature, there's even a case of duodenum bezoar that resulted in pancreatitis [5].

Duodenal bezoars mostly arise due to pathologies like diverticulum, tumour and stricture or previous surgeries (gastrectomy, vagotomy, pyloroplasty) [6]. Diabetes mellitus, hypoparathyroidism, hemodialysis and connective tissue disorders may also increase bezoar formation by causing delayed gastric emptying [6]. Bezoars may also occur in individuals with normal gastrointestinal anatomy and motility [7]. Our patient had none of those predisposing factors. Dietary habit may explain the formation of bezoar but we did not find any data explaining the duodenal location.

Abdominal pain, epigastric distress, anorexia, vomiting and nausea, and small bowel obstruction are the main clinical symptoms for duodenal bezoars [8]. Since duodenal bezoars generally arise on the pathological basis of diverticulum, tumour and strictures, simply diagnosing bezoar is not sufficient. Possible additional pathologies should be evaluated and treatment should be planned accordingly. Abdominal CT scan is the best diagnostic modality for detecting bezoars [9]. CT should be the first choice since it can detect other duodenal pathologies. Barium X-rays are especially useful in diagnosis of diverticuli. Endoscopy is valuable in both diagnosis and excision of bezoar.

Treatment options are chemical dissolution, endoscopic fragmentation and surgical treatment. Cellulose, papain, acetylcysteine and in recent years cola have been used for the medical therapy of bezoars [1]. In situations where chemical and endoscopic treatment fails and there's an underlying pathology, surgery should be preferred and in addition to bezoar itself, the underlying pathology should also be treated at the same time. Depending on surgeon's experience laparoscopic and open surgery can be performed. We diagnosed our patient with endoscopy. We also attempted to treat endoscopically but failed, thus forced to choose surgery.

As a result, bezoar may also be present in duodenum where normal anatomy and normal duodenal motility exists.

Figures



Figure 1: Endoscopic view of phytobezoar.

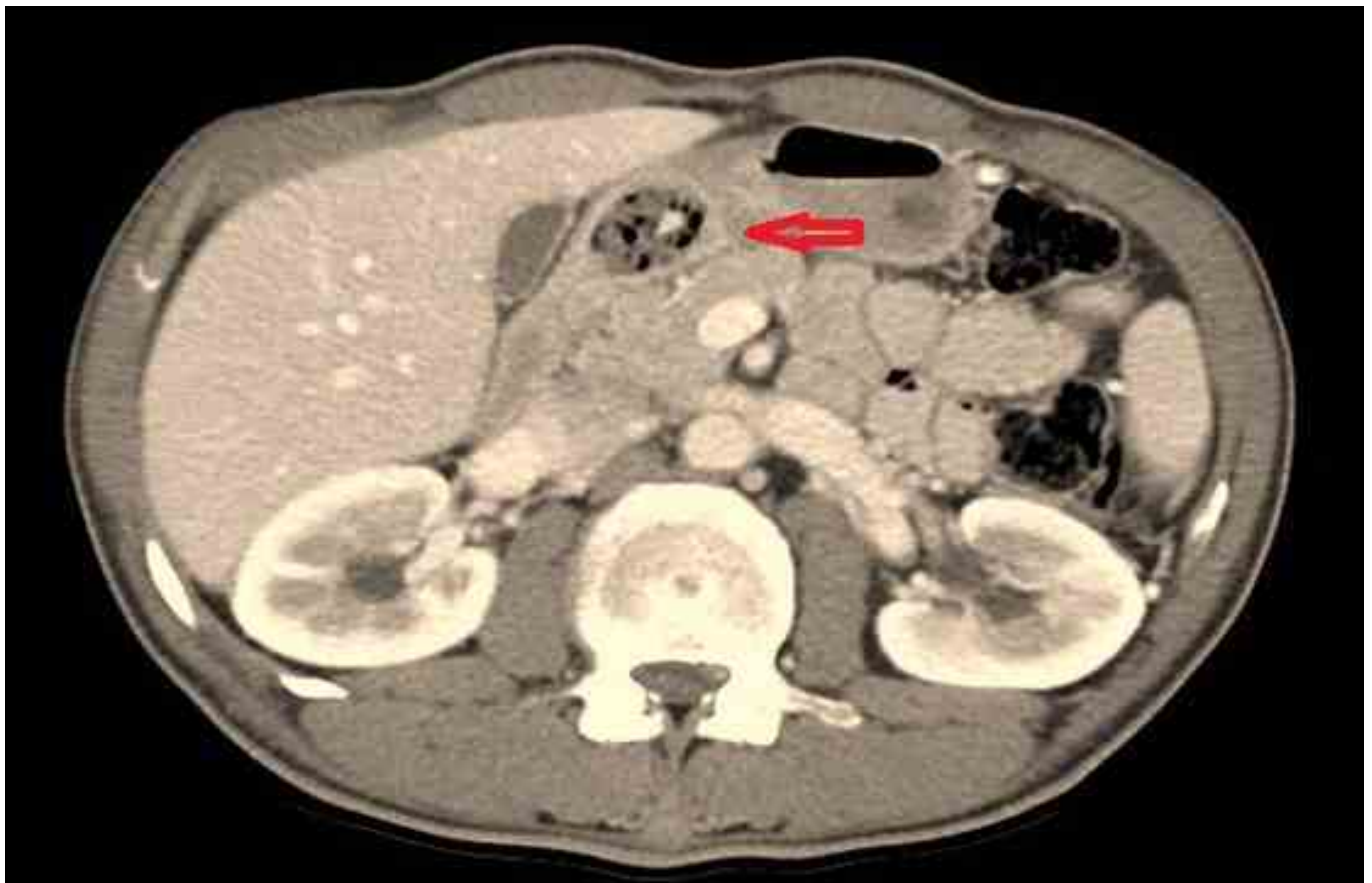
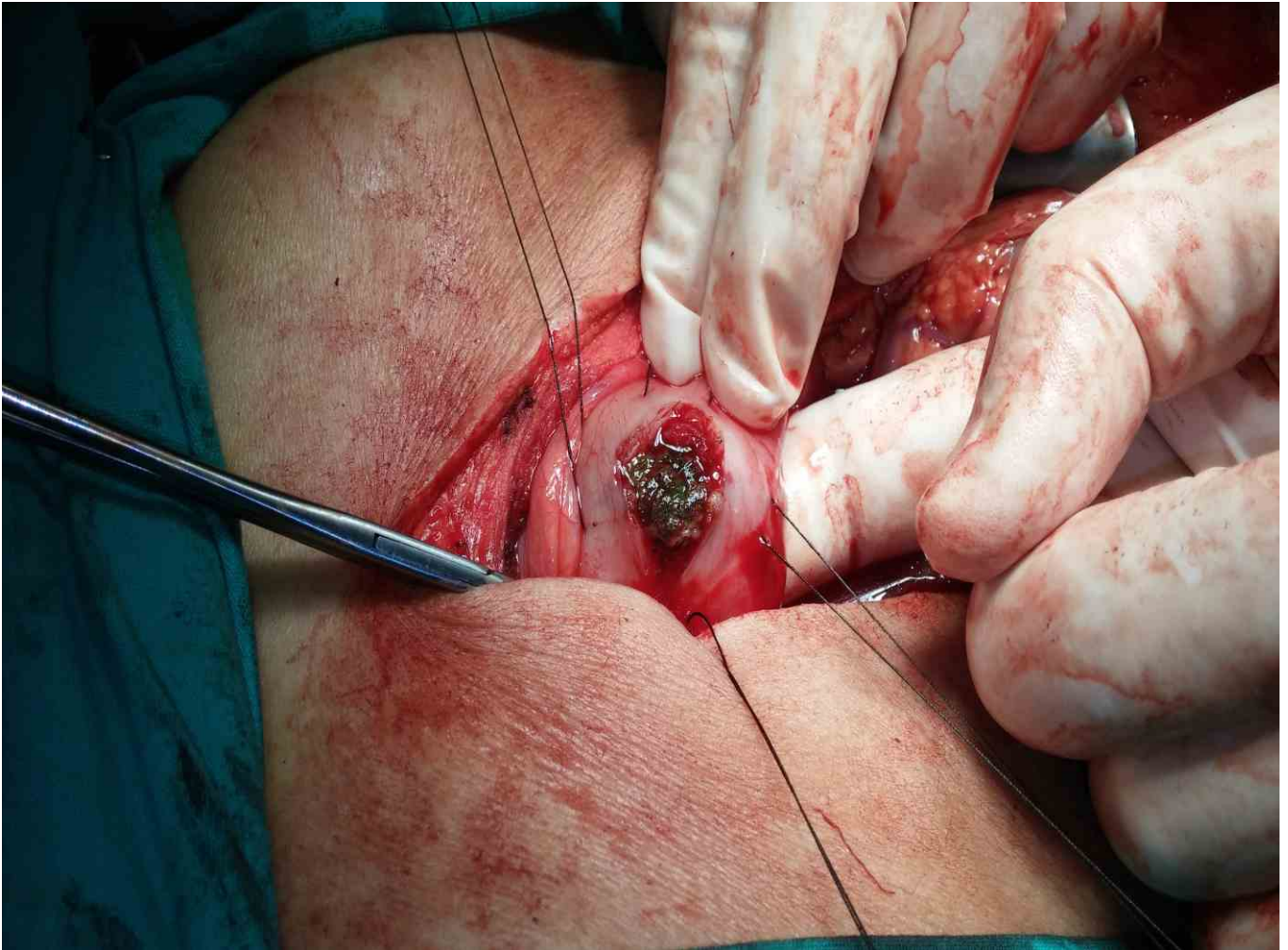


Figure 2: CT view of phytobezoar.



**Figure 3:** Surgical view of phytobezoar in duodenum.



**Figure 4:** view of phytobezoar after surgically extracted.



## References

1. Guner A, Kahraman I, Aktas A, Kece C, Reis E. Gastric outlet obstruction due to duodenal bezoar: A case report. *Int J Surg Case Rep.* 2012;3: 523–525.
2. Erzurumlu K, Malazgirt Z, Bektas A, Dervisoglu A, Polat C, Senyurek G, Yetim I, Ozkan K. Gastrointestinal bezoars: a retrospective analysis of 34 cases. *World J Gastroenterol.* 2005;11:1813-1817.
3. Jang L.C., Kim S.W., Park Y.H., Kim J.P. Symptomatic duodenal diverticulum. *World Journal of Surgery.* 1995;19:729–733.
4. Singh SK, Marupaka SK. Duodenal date seed bezoar: a very unusual cause of partial gastric outlet obstruction. *Australas Radiol.* 2007;51:126-129.
5. Kim JH, Chang JH, Nam SM. Duodenal obstruction following acute pancreatitis caused by a large duodenal diverticular bezoar. *World J Gastroenterol.* 2012;18:5485-5488.
6. Pergel A, Yucel AF, Aydin I, Sahin DA. Laparoscopic treatment of a phytobezoar in the duodenal diverticulum – Report of a case. *Int J Surg Case Rep.* 2012;3:392–394.
7. Yang JE, Ahn JY, Gi Ae Kim GA. A Large-Sized Phytobezoar Located on the Rare Site of the Gastrointestinal Tract. *Clin Endosc.* 2013; 46:399-402.
8. Zhang RL, Yang ZL, Fan BG. Huge gastric diospyrobezoar: a case report and review of literatures. *World J Gastroenterol.* 2008;14:152–154.
9. Toledoa AP, Rodrigues FH, Rodrigues MR. Diospyrobezoar as a Cause of Small Bowel Obstruction. *Case Rep Gastroenterol.* 2012;6:596–603.

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