

Case Presentation
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A Bezoar Presentation of Abdominal Pain: A Case Report

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Introduction

A bezoar is the acquisition and ingestion of food or materials that are indigestible or partially digested, resulting in gastrointestinal obstruction [1]. Bezoars can also form secondary to a gastric outlet obstruction, allowing for gastric contents to remain in the stomach for a prolonged period of time [2]. Bezoars often cause non-specific clinical findings, are rare in presentation, and are therefore usually found incidentally during imaging or endoscopic studies [3]. Bezoars can present at any age and are often linked to the patient's behaviors and comorbidities. The presentation, diagnosis, and treatment of bezoars widely varies based on case specifics. Some of the risk factors for bezoar formation are gastric dysmotility, dehydration, anticholinergic or opiate use. Mechanical factors may also lead to bezoar formation, such as improper or insufficient mastication due to dentures [4,5]. Symptom manifestations may include abdominal pain, melena, anemia, dysphagia, hematemesis, nausea, anorexia, or they may be asymptomatic [6]. Due to the variety of bezoar types, severity of symptoms, and patient anatomy, definitive treatment can be complex and multifactorial. We report a case of a large, gastric bezoar caused by gastric dysmotility, found incidentally during a work-up for suspected diverticulitis. Oftentimes, the etiology of bezoar formation is known at the time of diagnosis, however this case exemplifies the wide variety of bezoar causes.

Case Presentation

The patient is an elderly female in her eighties with no significant medical history who came to the office due to left-sided abdominal pain that has been ongoing for a week. The pain was described as episodes of "getting punched in the abdomen", that lasted up to twenty minutes. These episodes happened at any time, causing her to keel over in pain. She denied nausea, vomiting, or diarrhea. She reported having up to three bowel movements a day with good consistency, and no blood or mucus. She had some intentional weight loss due to diet and exercise, and denied both fever and decreased appetite. Physical exam revealed diffused, mild tenderness to palpation but no signs of peritoneal inflammation or abdominal distension.

Initially diverticulitis was suspected as the diagnosis due to the location of the pain, the patient's age, and the acuity of her symptoms. An abdominal CT with and without contrast was ordered and the study concluded a distended stomach with a

prominent filling defect suggesting a large bezoar. The CT scan also showed significant antropyloric thickening. It was postulated that if the antropyloric thickening were to be severe enough, it in itself could cause the bezoar due to obstructed gastric emptying. The antral and pyloric thickening could have been the result of a bezoar obstruction as a compensation mechanism, or this finding could have been an independent complication due to abnormalities in the gastric contractions. The patient was treated conservatively and scheduled for endoscopic evaluation of the suspected gastric obstruction. Endoscopy revealed that there was no mass of indigestible material or abnormality in the structure of the pyloric sphincter at that time. Additionally, the exam revealed retained food products and a sliding type hiatal hernia with no evidence of gastric mucosal abnormalities.

Upon follow up interview several months later the patient did not have recurrence of her gastric bezoar. The patient endorsed that before the incident she was having difficulty with the fitting of her dentures. Additionally, the patient's daughter reported that the patient had difficulty chewing her food and was concerned about the size of the food bolus upon swallowing. The patient admitted that the bolus would be large and she would have difficulty with swallowing, due to its size. Therefore, poor mastication and the formation of large food boli due to improper denture fitting could have caused the creation of the bezoar. After the initial incident, the patient repaired her dentures and remained asymptomatic.


Figure: 1



Figure 2

Sagittal and Coronal CT scans displayed a significant gastric filling defect. Evaluation of this patient led us to believe that the patient formed a gastric obstruction due to bezoar formation.

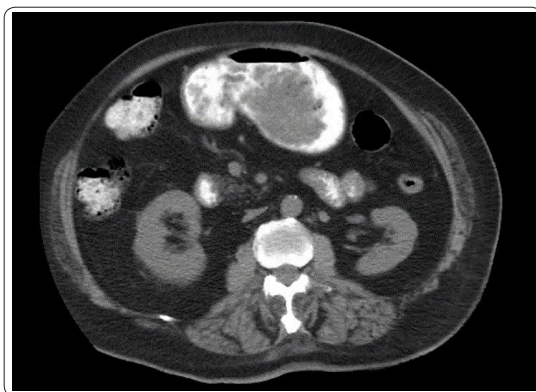


Figure 3

Transverse CT scan displaying antropyloric thickening can be the result and a possible complication of a bezoar mediated obstruction as a compensatory mechanism, or due to other etiologies. The prominent pyloric thickening observed in the CT abdomen could be due to physiologic contractions, or more likely the cause of the formation of the bezoar.

Discussion

General

Bezoars are rare and present with a wide range of symptoms based on size, location, and composition. Etiologies of bezoar include gastric carcinoma, psychiatric disorders such as pica, autonomic dysfunction, gastric operations, and pyloric hypertrophy. There is a known association between gastric bezoars and gastric surgery, as 70 to 94% of confirmed cases have a history of gastric surgery and up to 80% have undergone vagotomy and pyloroplasty [7]. Gastric bezoars may be recurrent, with recurrence in up to 20% of patients [8]. Undiagnosed and untreated bezoars have a 30% mortality rate due to perforation and other complications [9]. In addition, it is well established that patients who wear dentures may be at increased risk for bezoar formation due to impaired mastication mechanics altering proper food bolus formation [4,5]. A large food bolus can delay gastric emptying and decrease nutrient absorption leading to supersaturation and subsequent formation of bezoars [4,5]. Due to the common use of dentures, considering the diagnosis of a gastric bezoar in elderly patients with gastrointestinal

symptoms is important. Preventative measures vary depending on case presentation and are aimed at increasing water intake, diet adjustments, and promoting thorough mastication [6]. In light of this patient's findings, thorough mastication is recommended for patients that have dentures and regular visits with their dentists should be scheduled to ensure proper fitting and function.

Treatment

Traditionally the initial conservative management of bezoars includes the usage of agents like cellulase, carbonated beverages, and acetylcysteine [6]. Refractory treatment to conservative management usually involves an endoscopic fragmentation or laparoscopic surgery to remove the obstruction. Laparotomy is typically reserved for cases presenting with ileus, or those that failed laparoscopic intervention.

Implications

Gastric bezoar is relatively rare, but when it does present, the causes are often readily identifiable. When this is not the case, through evaluation of the patient as a whole, including lifestyle information may be necessary to identify the cause. Since bezoars have a propensity to recur, uncovering and addressing the primary cause is vital.

Limitations

As with all case reports, there are many limitations. We are unable to make any generalizations about similar patients, as this solely represents the clinical account of a single patient. Additionally, no causal relationships, statistically significant evidence, or external validity is present due to the nature of the study design.

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