Bezoar as a cause of gastric perforation in young female patient: A Case Report

**Case Report**

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**ABSTRACT**

**Introduction:** Bezoars are rare accumulations of indigestible contents within the gastrointestinal tract. These are commonly found in patients with previous psychiatric illness, learning disabilities, and gastric surgery. Computed tomography (CT) is the non-invasive imaging modality of choice as it can not only diagnose but recognize associated complications as well.

**Case discussion:** We present a case of a young 16 years old female who presented with nausea, dull abdominal pain, and distension. She underwent a Contrast-enhanced CT scan and was diagnosed as a case of gastric bezoar with gastric perforation and frank pneumoperitoneum. The patient underwent exploratory laparotomy and repair of the stomach. Per operative, findings were consistent with trichobezoar. The patient recovered well after surgery.

**Discussion:** Bezoar is an accumulation of partially digested foreign material in the gastrointestinal (GI) tract. Bezoar can occur in any part of GIT, however, are most common in the stomach. Multiple risk factors are recognized however can occur without the risk factor. Bezoars are classified into several main types. Proper clinical history, examination, and imaging can play an important role in its diagnosis.

**Conclusion:** Nonspecific abdominal pain in young female patients with a psychiatric disorder can result from uncommon causes such as bezoars and is important for clinicians and radiologists to be aware of this uncommon entity.

**Keywords:** bezoar, gastric, pneumoperitoneum.

**INTRODUCTION**

Bezoars are uncommon findings in the gastrointestinal tract and are composed of a wide variety of materials, that are indigestible. Depending upon components different types of bezoars are identified trichobezoar, phytobezoar, pharmacobezoar and lactobezoar. By far phytobezoar and tricobezoar are most common.[1, 2] Trichobezoars are most commonly seen in psychiatric patients. When the tail of the trichobezoar extends some distance through the small bowel it is called Rapunzel syndrome.[1, 3] Trichobezoar consists of hair and commonly seen in females who chew and swallow their hair. It is usually confined to the stomach. Phytobezoars consists of poorly digested fruits, inadequate chewing or previous gastric surgery are the predisposing factors and can present with small bowel obstruction.[1]

Seed bezoars are a subtype of phytobezoars, caused by undigested vegetable seeds or fruit pits. Contrary to other types, seed bezoar is found in the rectum with no predisposing factors, a fact that suggests a different pathophysiological process.[3] Symptoms and management can be variable depending upon the type of bezoar. The presence of bezoar can be indicated from plain radiography however recent studies show that CT scan is more helpful in diagnosing bezoar.[2]

We present a case of a young 16 years old girl who was diagnosed as a case of gastric bezoar on Contrast-enhanced CT (CE CT) abdomen and pelvis.

**CASE REPORT**

A 16 years old female presented to the diagnostic center of Shaukat Khanum memorial hospital and research center with complaints of nausea, dull abdominal pain, and distension for 48 hours. On examination, the abdomen was tender, bowel sounds were absent. Her mother further gave a history of early satiety and anorexia. The patient's mother told us that she has observed her daughter chewing her hair at times. On workup her CBC, RFTs, and LFTs were within the normal...
range. Previous sonographic reports showed the possibility of left hemi-abdominal mass. Her contrast-enhanced CT examination was performed on a 160 slice canon CT scanner on an emergent basis, which showed frank pneumoperitoneum [Fig 1a]. The stomach was distended with mottled air lucencies suggesting trichobezoar [Fig 1b]. CT was reviewed in multiple planes and gastric perforation with a defect in greater curvature was discovered along with mild abdominal free fluid. The rest of the abdominal organs were unremarkable. After urgent reporting, the informed consent was obtained from mother of child. The patient underwent exploratory laparotomy. Per operative, findings were consistent with trichobezoar and the bezoar was removed along with primary gastric repair with 2/0 vicryl sutures in two layers. Abdomen was lavaged with copious saline and closed in single layer Prolene with insitu 28 fr drain[Fig 2]. The patient recovered well after surgery and discharged on fifth day. She was healthy on follow up visits and was referred for psychiatric counseling.

**DISCUSSION**

The word bezoar can trace its origins to Arabic (“bazahr”) and Persian (“pad-zahr”), has been known to human kind for ages. Bezoar was believed to have medicinal properties and was hailed as catholicon. A bezoar is accumulation of partially digested or non-digested foreign material in the gastrointestinal (GI) tract. They can occur anywhere from the esophagus to the rectum, however, they predominate the stomach. Females in any age group are common patients. Trichobezoars are frequently seen in women, with only few cases reported in males and is common among ages of 13–20 years. Certain risk factors identified in adults include gastric surgeries, achlorhydia, chronic illnesses like diabetes (and other endocrinopathies) chronic gastropresis and patients on mechanical ventilation. Trichobezoars are frequent in children ,psychiatric patients and mentally retardates. The symptomatology of bezoar varies depending upon its location in gastro-intestinal tract but the most common presentation is with signs and symptoms of intestinal obstruction. On examination, a tender mass may be palpable in abdomen but this is not a definite occurrence.

Investigations include abdominal radiographs which however are of limited use and can only help in diagnosis of bowel obstruction (if present). Sonography is of limited sensitivity in diagnosing gastric bezoar as in our case. Contrast studies of the gastrointestinal tract and computed tomography scan are gold standard. In our patient previous ultrasound raised suspicion of left hemi-abdominal mass however it was inconclusive. CT
REFERENCES can be managed by primary repair with good results.

[11, 12] CT scan identifies bezoar as, well-defined oval intra-luminal mass with air bubbles, identifies its level of accumulation and presence or absence of GI obstruction. Gastric food particles can at times be confusing to differentiate from bezoar for an inexperienced radiologist. Small bezoars appear as round, floating and of lower density then food residue unlike large bezoars which show internal air locules and tend to fill lumen.Barium studies are indicated, however it may limit endoscopic visualization. Upper GI Endoscopy also remains investigation of choice in long standing cases as it can be used both for diagnostic and therapeutic purposes.

[13] GI bezoars are uncommon cause of bowel obstruction and a rarely reported cause of gastric perforation, accounting for only 4 % of all admissions for small-bowel obstruction.[14] GI obstruction is more commonly seen in Phytobezoars. Apart from obstruction, prolong history of gastric bezoar can also lead to ulceration and perforation. It is due to pressure necrosis of stomach, weakening the stomach wall and ultimately perforation which is preventable if diagnosed and treated early. Many studies have reported perforation in bezoar only picked up during surgical intervention as in our patient.[15] Hence early diagnosis is imperative for early cure and to prevent complications. It is worthwhile that Ripollés T et al reported that concurrent gastric and intestinal bezoar was found in 53% of their subjects hence whole GI track should be visualized pre and peroperatively.[1]

CONCLUSION

Bezoar should be considered in differential diagnosis in any young female, presenting with pain abdomen, S/S of intestinal obstruction with psychiatric disorders. CT scan is gold standard for early diagnosis and with prompt treatment, many complications can be prevented. These bezoar induced gastric perforations can be managed by primary repair with good results.

REFERENCES
