

# Laparoscopically Treated Giant Gastric Bezoar Complicated with Large Ulcer in Young Patient

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**Abstract.** Gastric bezoars are rare but well known intraluminal formations in the gastrointestinal system. Reports for gastric bezoar treatment include dissolution, endoscopic retrieval and surgery (open and laparoscopic). We are presenting a case of 32 years old male patient presented with giant gastric bezoar complicated with large ulcer. The patient was operated laparoscopically with success. Laparoscopic surgery is safe alternative to open surgery for giant gastric bezoars treatment.

**Key words:** gastric bezoar, gastric ulcer, laparoscopy.

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## Introduction

Bezoars are rare but well known intraluminal formations in the gastrointestinal system.

Indigestible in their nature, they are made of ingested hair (trycho bezoars), fruit (phyto bezoars), drug tablets (pharmaco bezoars), concentrated infant milk formula (lacto bezoars) and foreign bodies-bezoars [1]. They are predominantly located in the stomach. Due to the chronic contact of the bezoar to the gastric mucosa, pressure occurs resulting in ulcer formation [2]. Reports for gastric bezoar treatment include dissolution, endoscopic retrieval and surgery (open and laparoscopic) [3–5]. We are presenting a case of giant gastric bezoar in young male patient accompanied with large ulcer retrieved laparoscopically.

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## Case report

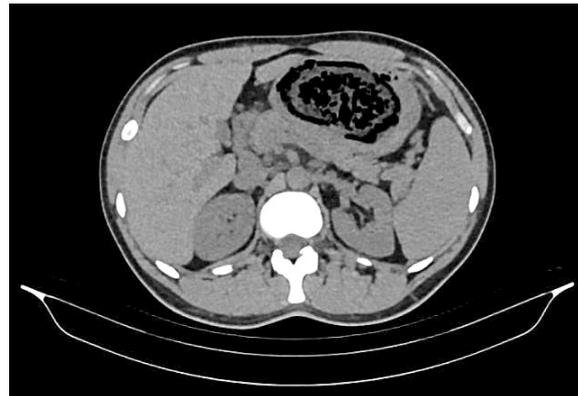
A thirty two years old male patient presented to our surgery department with complain of postprandial abdominal pain, early satiety and occasional vomiting episodes. He lost 5–6 kg in the past 6 months. The symptoms were present for the last 1 year. No comorbidity was reported. Previously he underwent a gastroscopy in another hospital where a stomach bezoar and large ulcer was diagnosed (Figure 1). Plain x-ray (Figure 2), computerized tomography (CT) scan (Figures 3 and 4) and gastroscopy were conducted in our institution. The gastroscopic examination reported giant rough bezoar impossible for endoscopic retrieval.



**Figure 1.** Endoscopic finding of bezoar and large gastric ulcer in the stomach (white arrow)



**Figure 2.** Plain chest x-ray with visible mass in the stomach



**Figure 3.** Axial computerized tomography scan visual bezoar

Laparoscopic removal was offered. Under general anesthesia, a gastroscopy was performed for bezoar visualization. The anterior gastric wall was opened and the laparoscopic view of the bezoar was achieved (Figure 5). It was retrieved from the stomach, inserted in endo-bag and removed from the abdominal cavity through a small transverse laparotomy on the left side of the abdominal wall (Figure 6). Gastrotomy was sutured with laparoscopic linear stapler.



**Figure 4.** Sagittal computerized tomography scan



**Figure 5.** Intraoperative finding



**Figure 6.** Retrieved bezoar

In the first two postoperative days the patient was highly febrile (up to 39 °C). Blood and urine samples were obtained and they were negative for bacterial infection. Serum C-reactive protein value was 247 mg/L. Postoperative CT scan of the thorax and abdomen did not reveal abnormality. Polymerase Chain Reaction (PCR) test was conducted for SARS-Cov-2 infection and it was also negative. The patient was referred to the infectious diseases ward where empiric antibiotic therapy was initiated. On postoperative day 3, inflammation of the surgical wound occurred. It was opened and purulent discharge was freed. The fever subsided the same day. Oral intake of liquid and solid food was conducted. Passage of flatus and stool followed. The patient was discharged on postoperative day 4. The wound was closed according to the principles of delayed wound closure.

## **Discussion**

Although most of the diagnosed bezoars are gastric ones, they are rare clinical entity. The reported prevalence is between 0.068–0.43% [6, 7]. Impaired gastric emptying is believed to be the cause for their formation. Previous gastric surgery, diabetic neuropathy and myotonic dystrophy are the described predisposing factors [8, 9].

Gastric bezoars can be asymptomatic or can present with gastrointestinal symptoms, mostly with abdominal pain, tarry stool, abdominal fullness, nausea, anorexia and hematemesis [2]. The presence of bezoar in the stomach can additionally cause pressure gastric ulcer as a complication [3, 10]. Iwamuro reports a rate of 81.5% of concomitant pressure gastric ulcers in patients with gastric bezoars [2].

Upper endoscopy plays central role in the diagnosis and can also be considered as the method for treatment [4].

Three types of treatment are reported:

- dissolution and irrigation with Coca-Cola, alone or in addition to pro kinetics and lytic enzymes [11];
- endoscopic retrieval with different types of endoscopic devices [12] and surgical removal (open and laparoscopic) [12].

Giant gastric bezoars complicated with pressure ulcers, perforations and gastric obstruction are treated with surgery. Open surgical procedures are reported predominantly [13].

Laparoscopic removal via gastrotomy is another efficient option for this condition [5, 14–17].

One must have in mind that surgery for bezoar that is already complicated carries significant morbidity and mortality. Two small separate series were reported to have a surgical morbidity rate of 28% and 29.4% and mortality rate up to 32.14% and 14.28%, respectively, although, most of the cases in these series were small bowel bezoars [18, 19].

## Conclusion

Laparotomy is currently the method of choice for large gastric bezoars removal. Laparoscopy offers safe and effective alternative for this rare entity. Therefore, huge lesions can be removed from the stomach without the need for large laparotomies in order to shorten the postoperative period, reduce postoperative pain and enable better cosmetic results.

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