

A Rare Reason of Mechanical Intestinal Obstruction; Phytobezoar Images for Clinicians

Oztekin Cıkman¹, Omer Faruk Ozkan¹, Gürhan Adam², Sukru Tas¹, Serkan Ademoglu¹, Muammer Karaayvaz¹

ABSTRACT

Mechanical intestinal obstruction is defined as the partial or total blockage of the passage of digested food in gastrointestinal system towards the distal. If intestinal obstruction is not treated properly it can cause high incidences of morbidity and mortality. The most frequent cause is adhesion after surgery but etiological cause changes frequently with age. Known symptoms of intestinal obstructions are nausea, vomiting, abdominal ache and distention in the abdomen. In our study we aimed to present a 70 year old patient with intestinal obstruction due to phytobezoar who developed sepsis, with the help of current literature.

Key words: Mechanical small bowel obstruction, phytobezoar, sepsis, elderly

Mekanik Barsak Tıkanıklığının Nadir Bir Nedeni: Fitobezoar

ÖZET

Mekanik barsak tıkanıklığı, sindirilmiş gıdaların gastrointestinal sistemde distal geçişinin total veya parsiel olarak engellediği durum olarak tanımlanmaktadır. Barsak tıkanıklığı uygun olarak tedavi edilmediğinde, ciddi mortalite ve morbiditeyle sonuçlanabilmektedir. Etiyoloji, yaşla değişmekle beraber en sık neden postoperatif adezyonlardır. Bilinen semptomları bulantı, kusma, karın ağrısı ve abdominal distansiyondur. Çalışmamızda; sepsis gelişen, 70 yaşındaki hastada intestinal obstrüksiyonun neden olduğu fitobezoar olgusu güncel literatür eşliğinde sunulmuştur.

Anahtar Kelimeler: Mekanik barsak tıkanıklığı, fitobezoar, sepsis, yaşlı

INTRODUCTION

Mechanical intestinal obstruction is the partial or total blockage of the passage in gastrointestinal system towards the distal. Known symptoms of intestinal obstructions are nausea, vomiting, abdominal ache and distention in the abdomen. The most known reason is the adhesion formation after surgical intervention but etiological cause changes frequently with age (1). If intestinal obstruction is not treated properly, it can cause high incidences of morbidity and mortality such as perforation, sepsis (1-4). Phytobezoars are defined as the presence of concretion of hairs and undigested vegetable fibers in gastrointestinal system. Generally it is seen

secondary to peristaltic and functional abnormalities of the stomach in patients who has a history of gastric surgery due to peptic ulcer (3). It is reported that 0.4-4% of all intestinal obstructions are related to gastrointestinal bezoars in literature (4).

The aim of our study is to evaluate the old patient who applied to emergency service with sepsis due to delayed mechanical bowel obstruction caused by phytobezoar, with the help of the literature.

¹Canakkale 18 Mart University Medical School, Department of General Surgery, Canakkale Turkey, ²Canakkale 18 Mart University Medical School, Department of Radiology, Canakkale Turkey

Correspondence: Oztekin Cıkman,
Canakkale 18 Mart University Medical School, Department of General Surgery
Tel: +90-533 464 65 77
E-mail: droztekin67@hotmail.com



Figure 1. Coronal reformatted contrast-enhanced CT image shows ovoid jejunal bezoar and small bowel obstruction

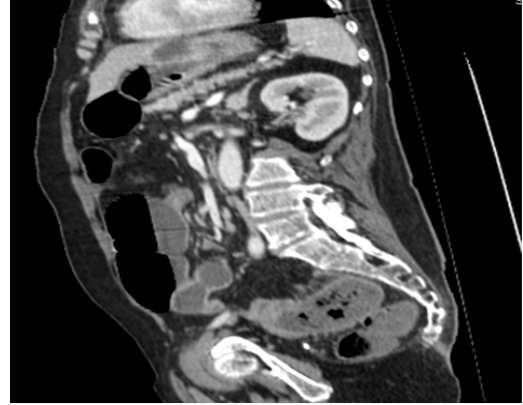


Figure 3. Sagittal reformatted contrast-enhanced CT image shows ovoid jejunal bezoar

CASE

In 70 year old female patient with a history of abdominal surgery due to acute abdomen (intestinal obstruction) in an outer center 1 month ago, who applied to emergency service due disorders in general medical conditions, the values measured were as follows; TA: 80/50mmHg, pulse: 120/min, fever: 38.5°C. Her complaints began with an abdominal pain, constipation and vomiting. In her history, peptic ulcer surgery was performed 30 years ago. In physical examination, respiratory sounds were decreased in basal. Abdomen had a distended appearance and bowel sounds were hyperactive. In abdominal examination, patient had a severe level of generalized abdominal tenderness and rebound.

Air fluid levels were observed in abdomen in abdominal X-ray graphy. Dilated bowel loops and free fluid in abdomen are observed in abdominal CT (Figure 1-3). Antibiotherapy and liquid replacement was started. Patient was taken to operation and indurated mass was detected approximately 100 cm proximal to ileocecal valve totally blocking the lumen, causing dilatation in proximal bowel. Phytobezor was extracted by enterotomy from the proximal of the mass (Figure 4). Patient with stable post-op follow-up was discharged. The phytobezoar was confirmed by the histopathological examination of specimen. No complaints were observed in the 1st month post-op controls.

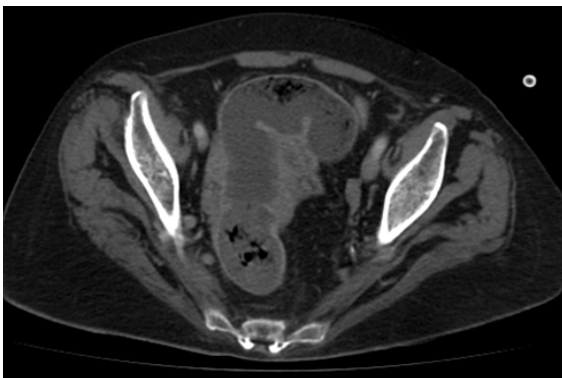


Figure 2. Axial contrast-enhanced CT image shows jejunal bezoar and proximal small bowel dilatation

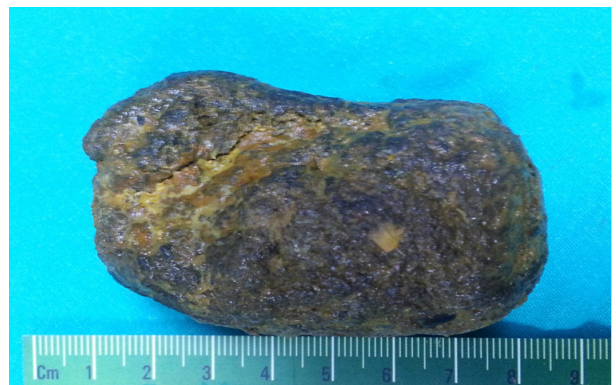


Figure 4. The image of phytobezoar.

DISCUSSION

Phytobezoars originate from fruit and vegetable residues that are not digested properly. Inadequate chewing of food, lack of motility and decrease in gastric acid are primary physiopathological factors. Besides phytobezoars, trichobezoards, lactobezoars, drug bezoars and food bezoars that occur after various not chewed foods (such as garlic, nut, chestnut) are also defined (4-6). Stomach discharge problem is present due to various causes in most of the patients with gastrointestinal bezoar. Most frequently, gastro-duodenal surgery history and rare metabolic diseases such as diabetes are detected (5). Insufficient chewing function, problems related to teeth and excessive consumption of mass creating fruits (orange, quince, date, fig, banana) facilitates bezoar development (4,6). In our case, history of peptic ulcer surgery performed 30 years ago was also present.

Bezoars typically cause mechanical intestinal obstruction. Findings such as abdominal pain in the style of sudden onset cramps, swelling, nausea, vomiting and inability to defecate and fart develop. Since there is abdominal surgery history in most of the patients, it can be misleadingly thought that obstruction related to adhesion develops (6). Epigastric pains imitating peptic ulcer activation in gastric bezoars or upper gastrointestinal system bleeding and perforation due to bezoar eroding mucosa might be observed (7). Time between the first surgery and phytobezoar formation is generally more than 10 years. Although they are generally seen in the stomach, they are rarely observed in small intestine and cause obstruction. While they are mostly observed in small intestine in closer areas to ileocecal valve, they can be seen in other parts of small intestine (8). Phytobezoars are responsible for less than 1% of small intestine obstructions (9). Besides, cases operated due to bowel perforation caused by irregularities in the nutrition of intestine walls are published in the literature (10). In our case complete small intestine obstruction was also caused by phytobezoar. Contrast computerized tomography might be helpful during the diagnosis in some cases if phytobezoars are considered in pre-operative period. The computerized tomography revealed the possible diagnosis of phytobezoar in our case .

Morbidity and mortality can be avoided with early diagnosis. Also successful results are reported with various medical treatment methods in selected and not totally obstructed cases in literature (9,10). Medical treat-

ment methods might be applied to appropriate cases which are diagnosed before the surgery. The treatment is surgical in cases that do not respond to medical treatment or in cases that cause intestinal obstruction and intestinal perforation. (a) Removing phytobezoar with enterotomy, (b) partial bowel resection in cases with intestinal wall nutrition impairment and end to end anastomosis and (c) decompression of phytobezoar till ileocecal valve without opening the intestine in cases with not indurated phytobezoar and fragmentation can be considered as surgical treatment choices (8-10).

In conclusion phytobezoars are a rare cause for small intestine obstructions. We conclude that it should be considered as etiological factor in old patients who had an abdominal surgery and who applied with intestinal obstruction complaint because phytobezoars are usually observed in the cases with a history of abdominal surgery especially after gastric surgery.

REFERENCES

1. Ellis H. Mechanical intestinal obstruction. *Br Med J* 1981;283:1203-4
2. Destarac LA, Ely EW. Sepsis in older patients: An emerging concern in critical care. *Advances in Sepsis* 2002; 15-22.
3. Escamilla C, Robles-Campos R, Parrilla-Paricio, et al. Intestinal obstruction and bezoars. *J Am Coll Surg* 1994;179:285-88.
4. Ripollés T, García-Aguayo J, Martínez MJ, et al. Gastrointestinal bezoars; Sonographic and CT characteristics. *AJR* 2001;177:65-69.
5. Cooper JM, Thirlby RC. Small Bowel Obstruction. *Curr Treat Options Gastroenterol* 2002;5(1):3-8.
6. Cicek Y, Ayan F, Carkman S, et al. Intestinal perforation due to phytobezoar obstruction. *Acta Chir Belg* 1993;93(3):92-3.
7. Robles R, Parilla P, Escamilla C, et al. Gastrointestinal bezoars. *Br J Surg* 1994; 82: 1000-1.
8. Campos RR, Paricio PP, Albasini JLA et al. Gastrointestinal bezoars. Presentation of 60 cases. *Digestive Surgery* 1990; 7:39-44.
9. Brady PG, Richardson R. Gastric bezoar formation secondary to gastroparesis diabetorum. *Arch Intern Med* 1977; 137: 1729.
10. Ladas SD, Triantafyllou K, Tzathas C, et al. Gastric phytobezoars may be treated by nasogastric Coca-Cola lavage. *Eur J Gastroenterol Hepatol* 2002;14(7):801-3.