

SMALL INTESTINAL OBSTRUCTION CAUSED BY A PHYTOBEZOAR: A CASE REPORT

Saqib Saleem Afridi, Mahmud Aurangzeb, Muhammad Zarin, Nisar Ahmad

Department of Surgery,
Khyber Teaching Hospital, Peshawar -Pakistan

ABSTRACT

Phytobezoar is a concretion formed in the stomach or intestine and composed chiefly of undigested compacted vegetable or fruit fibers. A case of Phytobezoar causing acute small intestinal obstruction in absence of prior gastric surgery or other predisposing factors is presented. The patient was managed surgically i.e., enterotomy.

Key words: *Small Intestinal Obstruction, Phytobezoar.*

INTRODUCTION

The term bezoar is derived from the Persian word "padzahr" meaning "to expel poison". In ancient times, bezoars from goats and antelopes were ground up and ingested as remedies for diseases and antidotes to poison. Bezoars are of three types: trichobezoars (composed of hair), phytobezoars (made up of fruit and vegetables fibres) and tricophytobezoars (a mixture of the two). Bezoars have been known to cause obstruction of the gastrointestinal tract since the late 18th century and, although rarely found in humans, can cause obstruction of any portion of the gastrointestinal tract from the esophagus to the colon, most often following gastric surgery. This report describes a patient with a surgically treated phytobezoar of the small intestine without a history of previous gastric surgery.

Moreover, gastric bezoar should be excluded preoperatively whenever possible or at least with the palpation of stomach at surgery, as De Bakey and Ochsner recommended. Recently computed tomography has been also proposed for the definitive diagnosis of small bowel obstruction secondary to bezoar.

Furthermore, bezoar should be kept in mind when evaluating a patient presented with obstruction.

We are presenting a case of phytobezoar causing acute small intestinal obstruction in absence of prior gastric surgery or other

predisposing factors is presented. The patient was managed surgically i.e., enterotomy.

CASE REPORT

A 15-years-old boy was admitted to our unit on 18th April, 2009, complaining of the gradual onset of colicky pain in the periumbilical area, nausea and bilious vomiting with normal urinary and bowel habits. There was no past history of episodes of intestinal ileus or pain. The physical examination revealed an afebrile, well nourished and hydrated man. The abdomen was soft and nontender. Bowel sounds were present but exaggerated. Rectal examination revealed an empty ampulla.

His white blood cell count was 9.8×10^3 with hemoglobin of 12.3 gm%. Urinalysis was negative. Plain film of the abdomen in upright position was normal.

He was kept NPO and i/v fluids were administered. NG tube and suction was advised for repeated vomiting and retching but the patient refused. He was kept under observation, but he was not improving. 24 hrs later the severity of pain was increased and still had vomiting. Abdominal examination revealed mildly distended abdomen, mild tenderness, resonant percussion note and audible bowel sounds but diminished.

Plain film of the abdomen in upright and erect position was repeated which showed dilated

jejunal and ileal loops with multiple central air fluid levels suggesting the diagnosis of acute small intestinal obstruction.

At laparotomy dilated and edematous loops of the small bowel proximal to obstruction and a mass in mid ileum were evident. The mass was impacted almost in the mid ileum causing complete obstruction proximal to the mass. There was no evidence of perforation. Enterotomy was performed through a transverse incision and a 6 x 12cm oblong greenish black phytobezoar was removed. After a rapid return of bowel function, the patient made an uneventful recovery and was discharged 6 days later.

DISCUSSION

Gastro intestinal bezoars are concretions of ingested materials. Any kind of indigestible material has the chance to form a compact mass. There is a wide variety of substances which form bezoars. Some of these include hair (trichobezoar); vegetable and fruit materials (phytobezoar); a mixture of the two (trichophytobezoar); foreign bodies such as paper, plastic or string; fungal balls; medications; and candy.

Other precipitating factors are incomplete mastication because of rapid deglutition resulting in large boluses of food entering the stomach, poor dentition, edentulism and dehydration.

The key element in the development of non permission phytobezoar is gastric stasis, secondary to gastric surgery, underlying medical condition or idiopathic. Brady noted delayed gastric emptying in 8 of 12 patients with phytobezoar.

Contributing factors in the postgastrectomy setting include reduced acid-pepsin secretion, chronic gastritis leading to increased secretion of mucus and loss of pyloric function permitting large boluses to enter the intestine.

Phytobezoar is a relatively uncommon cause of small bowel obstruction and are often associated with a history of recent pulpy foods such as persimmons and oranges. In cases without previous gastric surgery, the most common cause is persimmon (73 – 90%). The real incidence is not known but incidence of post gastrectomy bezoar formation is ranged between 5 – 12 % in one report.

Clinical manifestations depend on the site of bezoar. Gastric bezoars cause mostly non specific symptoms (e.g. epigastric pain, dyspepsia, occasional vomiting and post prandial fullness). Intestinal bezoars present with complete or partial mechanical intestinal obstruction. In these patients, temporary relief with recurrence is named

intestinal "lucid interval" by some authors.

Whereas the treatment of choice for gastric phytobezoar is nonoperative, based on gastric lavage or clear fluid diet, phytobezoars presenting as acute intestinal obstruction require mandatory operative management. Gastric bezoars should be excluded preoperatively or at least during surgery by the palpation of stomach, as De Bakey and Ochsner recommended. Frequently, synchronous bezoars are found in stomach or other areas of GIT; therefore, it is mandatory to explore whole GIT to avoid recurrence.

Now computed tomography is suggested for the definitive diagnosis of small bowel obstruction secondary to bezoar.

CONCLUSION

Although the assumption of high-fiber diet is recommended for the majority of patients, some persons with risk factors are prone to form phytobezoars and should not add certain kinds of fibers to the diet. In patients with a history of previous gastric surgery and/or other contributory factors, the massive assumption of foods with high fiber content could be sufficient to lead to this pathology. Elliot suggested that poorly chewed boluses of food, but small enough to pass through pyloric canal, may absorb water in the small bowel, increasing in size with impaction.

It is considered that phytobezoars may recur up to 33% of the cases. Patients with gastric stasis should be advised that raw fruits or stringy vegetables must be chewed thoroughly and eaten slowly.

REFERENCES

1. O'Neil HK, Hibbeln JF, Resnick DJ, Bass EM, Aizenstein RI. Intestinal obstruction by a bezoar from tube feedings. *AJR Am J Roentgenol* 1996;167:1477-8.
2. Tanju Acar T, Tuncal S, Aydin R.. An unusual cause of gastrointestinal obstruction: bezoar. A case report. *N Z Med J* 2003;116:422.
3. Cifuentes Tebar J, Robles Campos R, Parrilla Paricio P, Lujan Mompean JA, Escamilla C, Liron Ruiz R, et al. Gastric surgery and bezoars. *Diq Dis Sci* 1992;37:1694-6.
4. Dreznik Z. Intestinal "lucid interval" and phytobezoar ileus. *Lancet* 1989;9:624-5.
5. Rider JA, Foresti-Lorente RF, Garrido J, Puletti EJ, Rider DL, King AH, et al. Gastric bezoars: treatment and prevention. *Am J Gastroenterol* 1984;79:357-9.
6. Hayes PG, Rotstein OD. Gastrointestinal

- Phytobezoars: presentation and management. *Can J Surg* 1986;29:419-20.
7. Verstanding AG, Klin B, Bloom RA, Hadas I, Lisbon E. Small bowel phytobezoars: detection with radiography. *Radiology* 1989;172:705-7.
 8. Galasso U, Cloro L. Occlusione intestinale da fitobezoar in reseccato gastrico. *La Radiologia Medica* 1978;93:21.
 9. De Bakey M, Ochsner A. Bezoars and concretion: a comprehensive review of the literature with analysis of 303 collected cases and presentation of 8 additional cases. *Surgery* 1938;4:934-63.
 10. Quiroga S, Alvarez-Castells A, Sebastia MC, Pallisa E, Barluenga E. Small bowel obstruction secondary to bezoar: CT diagnosis. *Abdom Imaging* 1997;22:315-7.
 11. Dolan PA, Thompson BW. Mangement of persimmon bezoars (diospyrobezoars). *South Med J* 1979;72:1527-8.
 12. Moriel EZ, Ayalon A, Eid A. An unusually high incidence of gastrointestinal obstruction by persimmon bezoars in Israeli patients after ulcer surgery. *Gastroenterology* 1983;84:752-5.
 13. Granot E, Fich A, Ayalon A, Manny J, Winograd I, Schwartz J, et al. An epidemy of persimmon bezoars in Israel. *Isr J Med Sci* 1984;20:167-9.
 14. Bucholz RR, Haistain AS. Phytobezoars following gastric surgery for duodenal ulcer. *Surg Clin North Am* 1972;52:341-2.
 15. Pancaldi R, Bruni GC, Chiodaroli R, Avogadri C. Occlusione intestinale da bezoar. *Min Chir* 1987;42:229-31.
 16. Delpre G., Glanz I., Neeman A Avidor I, Kadish U. New therapeutic approach in postoperative phytobezoars. *J Clin Gastroenterol* 1984;6:231-237.
 17. Brady PG. Gastric phytobezoars consequent to delayed gastric emptying. *Gastrointest Endosc* 1978;24:159-61.
 18. Emerson AP. Food high in fiber and phytobezoar formation. *J Am Diet Assoc* 1987;87:1675-7.
 19. Elliot AH. Intestinal obstruction caused by food: review of the literature and case report. *Am J Med Sci* 1932;184:85-93.
 20. Zarling EJ, Thompson LE. Nonpersimmon gastric phytobezoar. A benign recurrent condition. *Arch Intern Med* 1984;144:959-61.

Address For Correspondence:**Dr. Saqib Saleem Afridi,**

Department of Surgery

Khyber Teaching Hospital, Peshawar.

E-mail: ss.afridi@yahoo.com