

CASE REPORT

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PHYTOBEZOAR; CAUSE OF INTESTINAL OBSTRUCTION IN CHILDREN

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ABSTRACT... aliasia@hotmail.com, surgish2000@yahoo.com. **Objectives:** We are presenting a case report of an 11 year old boy brought in emergency with acute intestinal obstruction. An exploratory Laparotomy revealed two stony hard large phytobezoars to be the cause of the acute small intestinal obstruction at terminal ileum. Enterotomy was done to remove the bezoars and patient had smooth recovery.

INTRODUCTION

Bezoar is a transliteration of the Arabic word "Badzehr" or the Turkish word "Panzehr" meaning antidote¹. They result from the accumulation of foreign ingested material in the form of masses or concretions. They have been the subject of fascination in medical history because of the belief that they possess magical power. In ancient times, oriental bezoars found in the stomach and intestine of animals were used to cure disease and as an antidote to poisons^{1,2}. Until eighteenth century a large bezoar stone set in gold was included in the inventory of the crown jewels at the time of ascension of James I to the English throne in 1662¹. Different types of phytobezoars are reported in literature. Most common type is "Diospyrobezoar" which occurs due to ingestion of Persimmons^{1,3}. Second most common type is due to ingestion of citrus fruit and "Trichophytobezoar" which is

combination of above two¹. Other types of bezoars like Pharmacobezoars from medicine, shellac bezoar in furniture workers, Lactobezoars in neonates, Trichobezoars in psychiatric patients or in girls are also reported^{1,3}.

CASE REPORT

An 11 year old boy was admitted with four days history of generalized abdominal pain, vomiting and absolute constipation. Clinical examination revealed generalized abdominal distention, tenderness with guarding and absent bowel sounds. Plain abdominal radiograph shows multiple air fluid levels suggestive of acute intestinal obstruction at the level of ileum. Ultrasound abdomen revealed dilated small gut, without any peristalsis and presence of free fluid in the abdomen. Exploratory Laparotomy revealed distended small bowel til the distal

ileum. Two stony hard phytobezoars were found causing the obstruction and distention at distal ileum (Fig.1,2).



Fig-1. Two phytobezoars in the lumen of ileum

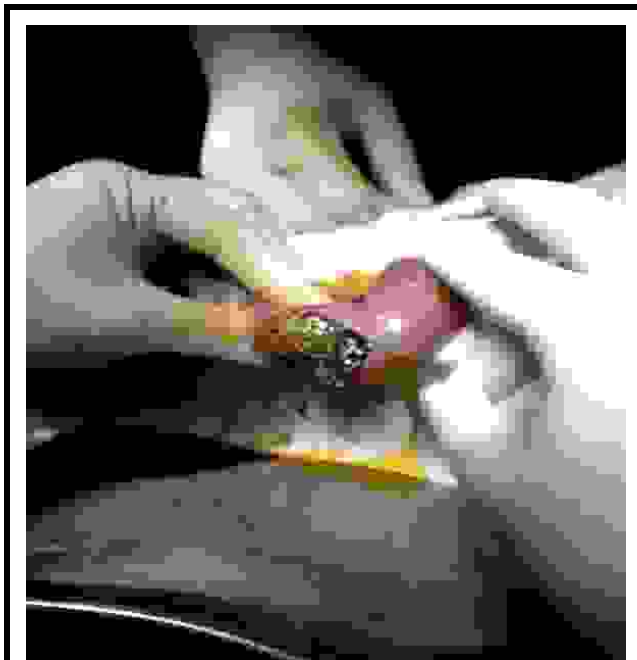


Fig-2. Phytobezoars are removed through enterotomy

Phytobezoars were removed through enterotomy and primary closure was done. Rest of the gut, stomach and abdominal viscera's were normal. Patient had smooth post-operative recovery and was discharged from hospital within a week.

DISCUSSION

Bezoars are concretions of firm masses of undigested material which can cause gastric or small bowel obstruction^{3,4}. Phytobezoars which are composed of undigested fruits or vegetable matters are the most common type of bezoar. They keep on growing by the continuing ingestion of food rich in cellulose and other indigestible materials, matted together by protein, mucus and pectin. Properties of the ingested material and some degree of gastric dysfunction also contribute. Diet and pre-existing gastro duodenal pathology contribute to the formation of bezoar^{1,3}. Phytobezoars are rarely reported in patients with autoimmune gastritis⁵. Predisposing factors include the ingestion of high-fiber diet, inadequate mastication, previous gastric surgery producing hypo or anacidity and loss of antral pump mechanism, post surgical adhesions, ano-rectal malformations and Meckel's diverticulum^{6,7,8}. Affected patients may remain asymptomatic for many years and develop symptoms insidiously. Gastric bezoars may present as epigastric pain, loss of appetite, weight loss, episode of distention and vomiting. Intestinal bezoars present with intermittent abdominal pain and intestinal obstruction^{1,8}. Phytobezoars have rarely been associated with other gastrointestinal complications such as peritonitis, perforation, steatorrhoea, intussusception, appendicitis and constipation^{3,7}. They are usually discovered as an incidental finding in the patient with non-specific symptoms except for an occasional abdominal mass or halitosis^{2,8}. In contrary to trichobezoar, no psychiatric association with the phytobezoar is found in the patients⁴. Most of the patients with phytobezoars are men between the ages of 40 and 50 years. Phytobezoars are not uncommon in childhood. Phytobezoars are reported in very young age in two children of twenty seven month age and six year age by Ameh and his colleagues⁶. Phytobezoars are usually single but multiple phytobezoars are reported in

stomach in 17% and intestine in 4% of patients^{1,8}.

Abdominal radiograph, ultrasound or Computer tomography scan may be helpful in the diagnosis. Computer tomography scan shows the phytobezoars as a mass, a filling defect or "a fecal ball sign" which is defined as a clearly distinguishable, ovoid or round intraluminal mass with mottled gas pattern outlined by fluid or oral contrast material in the dilated small bowel at the site of obstruction, and abruptly collapsed lumen beyond the lesion^{7,9}. So the "fecal ball sign" is considered as an accurate diagnostic sign in the preoperative diagnosis of phytobezoar^{7,9}. Gold standard of diagnosis of gastric phytobezoars is upper gastrointestinal endoscopy as it provides direct visualization of the phytobezoars and allows sampling for analysis¹⁰.

Treatment therapy for bezoars showed it is tailored to the composition of the concretions and to the underlying pathophysiological process. Available treatment methods for phytobezoars include chemical dissolution, endoscopy and surgery. Gastric phytobezoars can be treated conservatively by cellulose enzymatic digestion or by endoscopic removal^{8,10}. Chemical dissolution should be considered when phytobezoars are producing mild symptoms or when Endoscopic extraction of large phytobezoars is not possible. Many agents for chemical dissolution have been tried with spectacular results but most trials are uncontrolled and anecdotal. Cellulose, Papain, Acetylcysteine or Metoclopramide has been used successfully as dissolution agents. A potential complication of successful chemical therapy is that dissolved phytobezoars may cause small bowel obstruction. Also agent such as papain can lead to adverse effects like gastric ulcer and esophageal perforation^{1,2}.

Endoscopic removal involves mechanical fragmentation of the phytobezoars with a water jet, direct suction through a large channel endoscope, forceps and snares and then clearing the fragments with the endoscope¹⁰. Surgical removal should be considered in patients who fail medical therapy or who have complications such as obstruction or significant bleeding. Sometimes it may be

possible to knead the bolus into the caecum and if not successful then phytobezoar is removed by an enterotomy⁸. Laparoscopic assisted management of phytobezoars is also reported in literature by Shridhar and his colleagues¹¹. Recurrence can be prevented in predisposed patients who had a gastric surgery by dietary management: more water consumption, appropriate alteration of the diet (e.g. avoid persimmons and stringy vegetables), proper mastication and adequate dentition. Treating the underlying motility problem may be of great help as a preventive measure in some patients^{3,4}.

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