

An unusual cause of small bowel obstruction: dried apricots

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Abstract

Small bowel obstruction is rarely caused by bezoars. An important cause of phytobezoars are dried fruits. A 56 year old man presented to our department with symptoms of acute intestinal obstruction. Abdomen was distended and tender at the right and left lower quadrants. Bowel movements were decreased, and rectum was empty on digital examination. Upright plain films of the abdomen revealed multiple air-fluid levels and patient was immediately operated on. Due to the ischaemia of short small bowel segment, resection and end to end anastomosis were performed. After resection, bowel was opened and an apricot was found in the small bowel lumen. Although the dried apricot was small enough to pass through the pylorus spontaneously, it became swollen in fluid and started to obstruct the small bowel lumen especially in the terminal ileum. Obstruction by undigested food is rare and mostly seen in children, edentulous older people and patients with mental disorders. In conclusion, dried fruits, when swallowed without chewing, may cause intestinal obstruction.

Keywords: Bowel obstruction, Bezoars, Phytobezoars, Dried fruits, Ischaemia, Intestinal obstruction.

Introduction

Acute intraluminal occlusion of small bowel is uncommon, and among the intraluminal causes of small bowel obstruction (SBO) are gallstones, foreign bodies, retained meconium, bezoars, and tangles of ascarides.¹ Bezoars are concretions found in the stomach or intestines. They usually originate in the stomach and when they migrate to the small intestine can cause mechanical SBO. Most come into one of the five groups: phytobezoars, trichobezoars, lactobezoars, pharmacobezoars and food bolus bezoars. Obstruction by food bolus bezoars can stem from the amount of certain foods swallowed. Previous gastric surgery, incomplete mastication, rapid deglutition, swallowing of large nuts and pits, intestinal narrowing due to congenital bands, strictures, or physiologically narrowed segments and the presence of Meckel's diverticulum can be among the contributing factors. A great variety of fruit and vegetable matter has been reported in phytobezoars including persimmons, orange pits, grapefruit, mango, carrots, pickled onions, Brussel sprouts, green figs, and dried fruits.²

We report a case of acute intestinal obstruction caused

by a dried apricot swallowed during ingestion.

Case Report

(Informed consent was obtained from the patient for presenting this case report). A 56-year-old man presented to our department with the history of abdominal pain, distension, and vomiting for the last 4 days. Patient was unable to pass flatus for the last 2 days. There was no history of prior abdominal surgery, blood in stool, weight loss, or previous change in bowel habit. Abdomen was distended and tender at the right and left lower quadrants. Bowel movements were decreased, and rectum was empty on digital exam. The patient was on medication for chronic obstructive lung disease. The physical exam was otherwise unremarkable with normal complete blood count results. Upright plain films of the abdomen revealed multiple air-fluid levels. There was no free air in the abdomen or air in the bowel wall. An ultrasound examination of the abdomen was performed to confirm or exclude intussusception as a cause of the bowel obstruction. Evidence of an intussusception, one ovoid mass located distally within the small bowel lumen and dilatation of small bowel loops and to and fro movement of intestinal content was reported. There was a small amount of intra-abdominal free fluid. No evidence of strangulation was evident. The radiologic diagnosis was intestinal obstruction due to intussusception. An emergency laparotomy was performed. One mass was palpated within the ileal lumen 50

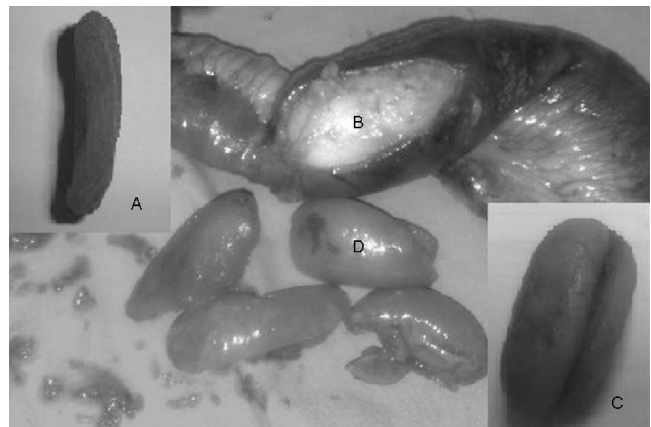


Figure: (A) Natural and dried apricot. (B) Swollen apricot which was the cause of obstruction. (C) Unchewed apricot removed from the obstructed segment of the bowel. (D) Chewed apricots which were removed from the bowel of the patient and did not cause obstruction.

cm proximal to the ileocaecal valve. There were no adhesions between bowel loops. The palpated mass was quite large and hard, and there were early signs of ischaemia in the 40 cm of bowel distal and proximal to the mass. The mass was presumed to be a benign bowel tumour such as leiomyoma. Ischaemia was thought to be caused by bowel rotation. Short segmental small bowel resection and an end-to-end anastomosis were performed. After the specimen was opened, it was found that an apricot appeared to be obstructing the bowel lumen completely. The patient later confirmed having swallowed dried apricots four days ago. A pathological examination of the specimen did not reveal any other diagnosis. The patient had an uneventful recovery.

Discussion

Small bowel obstruction is a frequent cause of emergency surgery.³ Causes of small bowel obstruction are adhesion (60%), hernia (15%), neoplasm (6%), inflammatory (5%), and sometimes ingested foreign body, but rarely food bolus.⁴ Ingestion of foreign bodies is not associated with morbidity once they have passed through the pylorus. However, in exceptional cases they can cause perforation, impaction, bleeding, and fistula formation, depending on the foreign body's size, shape, and nature.^{2,3} Food bolus impaction is common with meat, fish bones, and in a few cases it is fruits.⁴ Food bolus impaction is seen in old people with poor natural teeth or ill-fitting dentures, or inadequate mastication as in our case.⁴ The majority of foreign bodies that reach the GI tract, true foreign objects and food bolus impactions, will pass spontaneously. However, 10% to 20% will require non-operative intervention, and 1% or less will require surgery. Rounded ingested foreign bodies greater than 2.5 cm in diameter are less likely to pass through the pylorus by itself. Ingested foreign bodies longer than 6 to 10 cm, will have difficulty passing the duodenal sweep and should be removed.⁵ Presenting symptoms vary depending on site of impaction, type of ingested food, and presence or absence of complications. Patients with impaction in small intestine present with symptoms of vomiting, abdominal distension, and constipation. Radiological investigations have limitations in studying bowel obstruction caused by foreign bodies, especially if when they are not radio-opaque.⁴ Plain abdominal film still plays an important role in the diagnosis of intestinal obstruction due to its high sensitivity (86%) in detecting high grade small bowel obstruction.^{1,3} An intramural width of small intestine of 3 cm is considered

abnormal. Ultrasound may clearly demonstrate loops of distended small bowel with hyper peristalsis. Occasionally, the foreign body may be identified on ultrasound as an echogenic intraluminal mass and may cast an acoustic shadow if surrounded by fluid.⁴ When plain radiographic findings are inconclusive, abdominal CT is able to correctly reveal the cause of obstruction in 73-95% of cases.^{1,3,6} Early diagnosis and therapeutic management has considerable importance. Obstruction of the bowel due to ingested foreign bodies can be difficult to diagnose preoperatively unless there is a clear-cut history.⁷ Generally, in such cases, laparotomy is performed for diagnosis and management.⁴ When dry fruits are swallowed, they might become softer and increase in size afterwards.⁸ In the present report, our patient swallowed a whole dried apricot. Presumably, the dried fruit was small enough to pass through the pylorus and was rehydrated as it progressed down the gastrointestinal tract. In a previous report this hypothesis was tested by experimenting with dried apricots submerged in water and scanned several times over a period of 6 hours. The apricots showed progressive swelling over time, and after several hours.⁸ Our patient did not have a history of previous gastric surgery but he was edentulous.

Conclusion

Dried apricot could cause intestinal obstruction when swallowed especially in edentulous patients. Apricot obstruction should also be considered in the diagnosis of bowel obstruction although it is a very rare case.

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