



Phytobezoar Induced Ileal Obstruction in Children - Report of Two Cases

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Abstract

Two cases of small bowel obstruction (SBO) in children induced by phytobezoar impaction are reported. Both the children were between 3-4 yrs of age and had no history of any previous intra-abdominal operation. Preoperative diagnosis was not possible in either case. Both the cases were diagnosed at laparotomy and obstruction was relieved by disintegration of the phytobezoar mass. Postoperatively, after specific questioning suggestive history of Carissa Opaca (Garna) ingestion, 24 hrs before onset of symptoms was obtained from the parents.

Key words

Bezoars, Phytobezoar, Intestinal obstruction in children.

Introduction

Phytobezoars are the most common types of bezoars associated with SBO and the reported incidence being 0.3 to 6% of all intestinal obstructions (1-3). Persimmon is the commonest cause of phytobezoar formation reported in the literature (4). The obstruction is more commonly seen in adults who have undergone gastric surgery (5) but can occur in intact intestinal tract without any recognised motility disorder especially in children (4,6,7). Because of its rarity and peculiar clinical course in children, phytobezoar obstruction pose diagnostic difficulties (8). In this article two children with Garna ingestion leading to ileal obstruction are described and literature on phytobezoar is briefly reviewed.

Carissa Opaca commonly known as Garna in different parts of Jammu province is a wild fruit of the family of Apocynaceae and Carissa species. The raw fruit is green while the ripe one is purple to shining black in colour depending on the state of ripening and is seen in clusters (Fig1). The ripe berries are eaten by the children on country side.

Case Reports

Case I : A 4 years old girl, resident of Poonch was admitted with history of colicky pain abdomen and bilious vomiting of 4 days duration and absolute constipation since last 48 hrs. She weighed 10 kg and her temperature was normal with a pulse rate of 96/min. Abdominal examination revealed distension, tenderness and visible peristalsis. There was no palpable mass and bowel sounds were more frequent. On digital examination, rectum was empty and dilated She had a haemoglobin of 9.5 gm/dl, the total and differential counts, blood urea nitrogen, electrolytes and urinalysis were within normal limits. Plain X-ray abdomen showed multiple airfluid levels consistent with SBO and ultrasound revealed free peritoneal fluid with distended gut coils. At laparotomy there was approximately 200 ml of light yellow coloured fluid in the peritoneal cavity. An intraluminal mass was palpable in the ileum about 20 cm. from ileocecal junction with gross dilatation of proximal small bowel loops (Fig.2).

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Disintegration of the mass was possible by finger fracture technique and the contents were milked into the large bowel and rectum. The stomach and whole of small bowel was thoroughly searched for any additional mass. Contents retrieved per anum showed disintegrated phytobezoar material (Fig.3) Retrospective questioning of the parents revealed history of Garna ingestion 24 hrs prior to onset of symptoms. Postoperatively recovery was uneventful and she was discharged on 10th postoperative day. At 3 and 6 months follow up she is free of any symptoms.

Case II : A 3½ years old boy hailing from Poonch district of Jammu province was referred to our institution with history of colicky pain abdomen, bilious vomiting and constipation of 5 days duration. The boy weighed 13 kg, had mild dehydration and was febrile at time of admission with a pulse rate of 120/min. Abdominal examination showed distension, tenderness and no palpable mass. Bowel sounds were increased and on per rectal examination no fecal matter was present. Haemogram, blood urea nitrogen and urinalysis were within normal limits. Multiple air fluid levels were seen on scout film of the abdomen and ultrasound revealed free peritoneal fluid with dilated bowel loops. Laparotomy was performed and about 300 ml of light yellow coloured fluid was drained from the peritoneal cavity. A palpable mass was present in the ileum about 25 cm from the ileocecal junction with the gut loops distal to it collapsed and distended proximally. Disintegration of the mass was performed with finger fracture technique and contents were pushed into the colon and rectum. Whole of the small bowel and stomach was palpated for any additional bezoar. The retrieved bezoar contents were found to be of Garna. On careful review of history from parents it was revealed that child had ingested Garna fruit one day prior to onset of abdominal complaints. Postoperatively, patient made an uneventful recovery and was discharged on 8th postoperative day. The boy is thriving well and asymptomatic at 3 and 5 months follow-up.



Fig. 1. Carissa Opaca (Garna) fruits.



Fig. 2. Peroperative photograph showing impacted phytobezoar (Garna) mass.



Fig. 3. Showing disintegrated material retrieved per anum.

Discussion

Children on the countryside are often in the habit of taking fruits, vegetables and plant material in their entirety along with seeds. The material if held up in its transit through the small bowel may engage bowel contents and roughage to form phytobezoar. The greater propensity for phytobezoars to cause obstruction is thought to be due to



the fact that they are often multiple, of harder consistency and more irregular in surface than the other type of bezoars. The fruits of *Carissa opaca* are full of sweet, though slightly acidic juice which is sticky in nature & children usually chew them improperly. Both these properties make Garna more prone to phytobezoar formation. The presence of bezoars should always be considered whenever we see children who have recurring nausea, vomiting and epigastric pain or who have small bowel obstruction without any history of antecedent intra-abdominal operation (9). Because of the rarity of the condition, a careful dietary history may suggest the diagnosis preoperatively (10). A definitive diagnosis is nearly always made at laparotomy (11). Though CT scan and ultrasound have been shown to be useful tools in diagnosing SBO caused by phytobezoar (12-14), CT scan was not done in our patients and ultrasound was noncontributory. In spite of advancement in investigative armamentarium, most of the cases are diagnosed at laparotomy and same has been the experience in our patients. A high degree of suspicion is required and in both of our cases diagnosis was possible by taking the history retrospectively from the parents. Traditionally laparotomy has been advocated for the management of bezoar induced SBO but recently some authors have performed the laproscopic approach successfully (15). If the mass is not impacted and or the phytobezoar has enough plasticity, finger fracture technique should be used to disintegrate the mass and manual milking of the material be done beyond ileocecal valve (16). In both of our cases disintegration was possible and we advocate that disintegrated material should be pushed through the entire colon into the rectum and taken out of anus, as presence of bezoar fragments in colon can delay the recovery period. However if the mass is impacted and disintegration is not possible, enterotomy should be done to remove it (17).

In conclusion, children who present with acute intestinal obstruction for the first time without any previous history of pain abdomen or surgery, a differential diagnosis of bezoar obstruction has to be considered and a good dietary history should be taken to reach the proper diagnosis at the earliest. Further this may have more significance if the child comes from a country site.

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