

Areca nut - an unusual cause of small intestinal obstruction

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ABSTRACT

Ingested foreign bodies are commonly encountered in clinical practice, especially in children. Till now, no case has been reported in the literature where a small intestinal obstruction was produced as a result of foreign body (areca nut) ingestion. We report a case of a 30-year-old female clinically presented as an acute intestinal obstruction of 4 days duration. Her plain X-ray abdomen showed multiple small intestinal fluid levels. Abdominal ultrasound showed dilated loops of small intestine. Contrast-enhanced computed tomography abdomen showed an intraluminal non-enhancing lesion near ileocecal junction. Exploratory laparotomy revealed 3 cm×2.5 cm×2.5 cm rounded foreign body (swollen areca nut) causing an intestinal obstruction which was removed by enterotomy. There was no ileal stricture or diverticulum noted. Post-operative period was uneventful.

Key words: *Areca nut, Foreign body, Gastrointestinal tract, Phytobezoars, Small bowel obstruction*

Foreign body ingestion is commonly encountered in clinical practice, especially in children. Most of the foreign bodies pass uneventfully through the gastrointestinal tract (GIT), except some blunt and sharp objects which produce gastrointestinal obstruction and perforations, respectively. Among adults, it is very uncommon practice and is observed only in patients with mental disorders, bulimia, and alcoholics [1].

Areca nut (*Areca catechu* or supari) is commonly consumed by Indian population in association with tobacco or betel leaf (*Piper beetle/pan*). Usually, it is broken down into small pieces and mixed with tobacco for consumption, but some people have a habit of consuming full areca nut. A habit of keeping the full nut in the mouth and keep chewing it or try to break it with teeth could lead to accidental ingestion of whole areca nut. Here, we report a case of a 30-year-old female clinically presented as an acute intestinal obstruction due to accidental swallowing of areca nut. Areca nut producing mechanical small intestinal obstruction was not found in the literature search of case reports; hence, it could be claimed as a first case to be reported.

CASE REPORT

A 30-year-old unmarried female presented to the department with a chief complaint of pain and distension of abdomen, with bilious vomiting and constipation of 4 days duration clinically diagnosed as intestinal obstruction. There was no history of exploratory laparotomy, abdominal trauma, or peptic ulcer disease.

On admission, pulse was 88/min and blood pressure was 100/80 mmHg. Clinical examination showed the distention of

abdomen with generalized tenderness and exaggerated bowel sounds.

An erect X-ray abdomen was done, which showed multiple centrally placed air-fluid levels suggestive of small intestinal obstruction (Fig. 1). Abdominal ultrasound was suggestive of dilated bowel loops in the right iliac fossa. Contrast-enhanced computed tomography abdomen demonstrated a well-defined, non-enhancing lesion of size 3 cm×2.8 cm×2.6 cm within the lumen of the distal portion of ileum with a speck of air within. The lesion was near ileocecal junction with distended small intestine (Fig. 2).

It was clinically diagnosed as intestinal obstruction probably due to ileoileal intussusception. Initially, the patient had received conservative treatment before admission to our institute. Non-response to conservative management with a suspicion of intraluminal mass and exploratory laparotomy was done through a midline incision. Cecum was collapsed and small bowel loops were distended. There was a rounded mobile foreign body in ileum 10 cm from an ileocecal junction. Enterotomy revealed a swollen areca nut as a cause of intestinal obstruction (Figs. 3 and 4). There was no ileal stricture or diverticulum noted. Post-operative recovery of this patient was uneventful. The patient on retrospective questioning gave a history of keeping betel nut in the mouth to break it and had an episode of swallowing 1 month before presenting with acute intestinal obstruction.

DISCUSSION

Ingested foreign bodies are known to pass uninterrupted through GIT [2,3]. Almost 10–20% of them can be removed



Figure 1: Plain X-ray abdomen showing multiple small bowel fluid levels

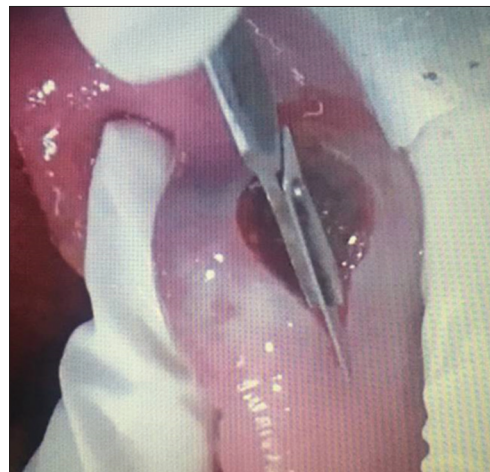


Figure 3: Enterotomy showing protrusion of rounded areca nut



Figure 2: Contrast-enhanced computed tomography abdomen showing well defined mildly enhancing lesion of size 3 cm x 2.8 cm x 2.6 cm



Figure 4: Post-removal areca nut

endoscopically and 1–14% require operative removal [4]. The key factor associated with management depends on the type of the object present, its physical characteristics, location, time since ingestion, associated medical condition, presence or absence of symptoms, or evidence of complications, namely intestinal obstruction or perforation. Blunt objects and coins can cause intestinal obstruction while sharp objects such as pins and nails can perforate bowel wall and cause peritonitis.

Betel nut is commonly chewed in Indian populace either with betel leaves or tobacco or alone, but the majority of them consume it after it has been broken down into small pieces. The habit of putting a whole beetle nut in the mouth like a chewing gum or using jaw force to break it into small pieces is also observed in local population which could lead to accidental swallowing. Exact incidences of such episodes are not known as areca nut causing intestinal obstruction was not reported in the literature and this is the first case to be reported. Areca nut if swallowed accidentally passes to the oropharynx, pylorus, and duodenum quite easily. In intestines, areca nut swells up due to water imbibition. This swollen areca nut is unable to negotiate the ileocecal junction and manifests as intestinal obstruction, or

if it negotiates this ileocecal junction, episode of an areca nut swallowing goes unnoticed.

An important aspect of the write up is the terminology used as foreign body GIT with intestinal obstruction and not calling it as small intestinal phytobezoar. Bezoars are the terms used for intraluminal masses in the gastrointestinal system caused by the accumulation of indigestible ingested material such as vegetable, fruits, and hairs [5,6]. Phytobezoar term is used specifically if the ingested material is fruit or its derivatives. Bezoar can form primarily in the small intestine due to the alteration of mechanical factors such as diverticulum, stricture, or tumor [7], and terminal ileum is the most common site of obstruction [8] usually 50–70 cm proximal to ileocecal valve [9] because of reduced lumen diameter, decreased motility of bezoar due to increased water absorption at the distal end.

Secondary intestinal bezoars are usually seen in patients with pyloric dysfunction after pyloroplasty, wide gastrojejunostomy, post-vagotomy, or partial gastrectomy for peptic ulcer disease which leads to wide gastric outlet [10]. Formation of secondary phytobezoar takes 9–30 years to form [11]; hence, the present case cannot be termed as phytobezoar due to an absence of any peptic ulcer disease or gastrointestinal surgery in the past and short duration of the presentation. Further, history of swallowing

of areca nut by patient retrospectively also supports the term foreign body in GIT.

Management of foreign body and phytobezoar in small intestine remains the same that is enterotomy and removal. This could be done by open laparotomy or laparoscopically, later requiring technical expertise and exact pre-operative radiological localization of foreign body or phytobezoar. The presence of an acute intestinal obstruction with distended intestinal loops makes port placement difficult with a danger of bowel injury; hence, the choice of surgical intervention depends on proper case selection as there are no set guidelines to this rare entity.

CONCLUSION

Obstruction of the small intestine due to areca nut consumption is a rare entity, but its incidence should not be neglected in patients with a habit of areca nut chewing. A detailed and proper history should be asked from the patient of a geographical area, where areca nut chewing is a prevalent practice as in central India, and an awareness should be created among the areca nut chewers about the ill effects of chewing the whole areca nut.

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