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Rare case of prickly pear seeds phytobezoar causing rectal impaction

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ABSTRACT

Rectal impaction due to phytobezoar is a rare surgical phenomenon associated with significant morbidity and often requires timely treatment to avoid complications such as urinary obstruction, fecal impaction, and colonic perforation. In this novel case, a 43-year-old man developed constipation and perianal pain from rectal impaction due to consumption of approximately five kilograms of prickly pears. This was identified during examination under anesthesia and treated by manual disimpaction which resulted in full resolution of symptoms. Common complications of such illnesses include fecal loading resulting in bowel obstruction, urinary obstruction, and colonic or rectal perforation. The case highlights the need for greater awareness of prickly pear seeds causing fecal impaction by primary care practitioners and the wider community and rapid diagnosis and timely interventions are crucial to avoid documented complications.

Keywords: Prickly pear, Rectal impaction

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INTRODUCTION

Phytobezoars are persistent foreign trapped masses most often found in the stomach and more rarely in the small intestine, colon, and rectum. They are formed after large quantities of indigestible plant material such as skin, fiber, and seeds are consumed. Common symptoms of rectal bezoars include abdominal pain, constipation, diarrhea, rectal bleeding, and urinary obstruction [1, 2]. Although a rare occurrence, rectal impaction should be considered as a differential diagnosis for perianal pain, especially with a history of excessive ingestion of fruit and vegetable seeds and fiber. This requires prompt surgical management via examination under anesthesia and manual disimpaction of the seeds from the rectum to hasten the recovery process and minimize potential complications such as fecal loading resulting in bowel obstruction, urinary obstruction, and colonic or rectal perforation [3, 4].

CASE REPORT

A 43-year-old middle-eastern man presented to the emergency department with a 1-day history of worsening constipation and severe perianal pain. The patient had consumed approximately five kilograms of prickly pears on the previous day. Following consumption, he described symptoms of constipation with the inability to pass stool due to significant anal pain on attempting defecation. He was able to pass flatus and denied any abdominal pain, urinary symptoms, fevers, sweats, or rigors.

His past medical history included an umbilical hernia repair, type 2 diabetes mellitus controlled with oral hypoglycemics. He had no previous history or other conditions related to constipation. He had no significant family history and denied smoking, alcohol consumption, or use of any illicit drugs. On examination, the patient

was afebrile and hemodynamically stable. No signs of distension or peritonism were present on abdominal examination. Digital rectal exam elicited a very tender perianal region, with severe tenderness at 1 and 3 o'clock regions of the anal verge. Limited per rectal examination was performed due to patient discomfort.

Initial investigation included a full blood count which showed leukocytosis WCC 12.9/nL (3.6–9.2/nL normal range) with neutrophilia 8.8/nL (1.7–6.2/nL normal range) and hemoglobin was within normal limits Hb 161 g/L (137–172 g/L normal range). However, inflammatory marker was elevated C-reactive protein (CRP) 20 mg/L (<5 mg/L normal range). Computerized tomography (CT) of the abdomen and pelvis with contrast performed showed some edema around the anorectal junction of the mucosa (Figure 1). An intersphincteric collection/fistula was unable to be excluded within the limitations of the CT. Ischiorectal fossa fat was normal with no stranding or abscess.

Differential diagnoses included perianal abscess with or without anal fistula and anorectal mass/tumor. The severity of the perianal pain, exquisitely tender anal verge region, limited rectal examination, elevated CRP and leukocytosis with neutrophilia biochemically, and a CT scan demonstrating edema of the anorectal junction mucosa supported the development of perianal abscess with or without anal fistula pending the results of examination under anesthesia. While this could have been an atypical presentation of an anorectal mass/tumor, this was less likely based off previously normal bowel habits with no presence of blood, normal hemoglobin count, and a CT scan of the abdomen and pelvis demonstrating no obvious mass/tumor.

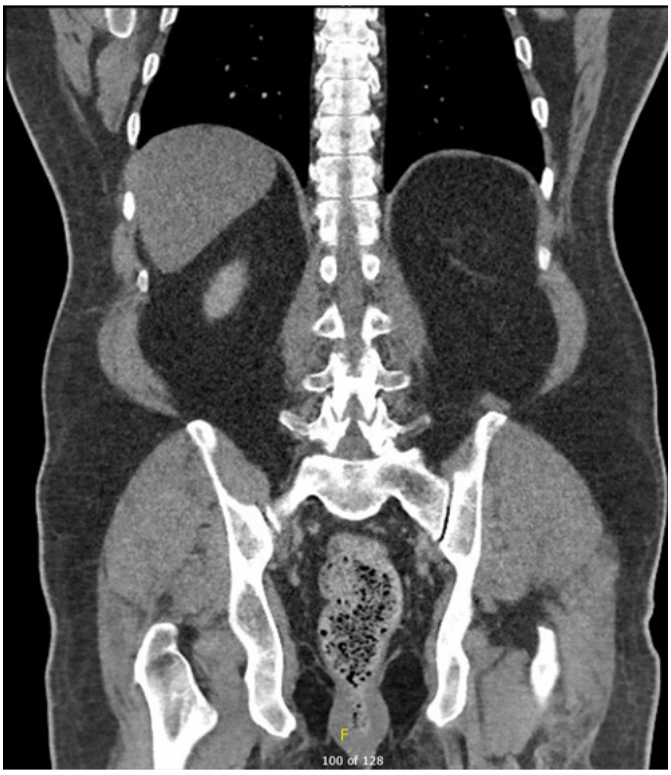

Figure 1: Coronal CT demonstrating edema of the anorectal junction mucosa.

The patient was promptly taken to theatre and examined under general anesthesia in the lithotomy position. There was no perianal swelling, thickening, or abscess cavity present. However, the rectum was filled with 200–300 mL of prickly pear seeds which was manually disimpacted.

Following the procedure, the patient made an uneventful recovery on the ward and consequently discharged home two days afterward. Main issues were perianal pain and defecation which were managed with appropriate analgesia and aperients. The patient was booked for an outpatient colonoscopy to investigate his fecal impaction and followed up with their primary care physician the following week without any further issues.

DISCUSSION

Rectal impaction due to prickly pear phytobezoar is a rare entity within the literature. The first reported case was in 1976, where Bartha reported a fecal impaction in an elderly woman due to prickly pear phytobezoar [3]. In a recent systematic review of gastrointestinal seed bezoars by Manatakis et al. there were 22 adults and 6 children identified from case reports and case series to have developed prickly pear phytobezoars along their gastrointestinal tract with the most common presenting symptoms being constipation, abdominal and rectal pain, and intestinal obstruction [5]. Additionally, 12 retrospective cases from an adult population and 6 cases were reported in children where prickly pear phytobezoar rectal impaction was present and the recommendation was prompt examination under anesthesia and manual disimpaction of the seeds from the rectum to hasten the recovery process and minimize potential complications [1, 2]. The only documented complication of rectal perforation due to prickly pear phytobezoar was in an elderly woman in 2003 which was promptly treated with a Hartman's procedure and colostomy [4].

Unlike common phytobezoar causing foods such as watermelon, sunflower seeds, and psyllium, prickly pear seeds are very difficult to separate and thus the seeds are usually consumed with the meaty part of the fruit [6]. It is hypothesized that due to the indigestibility and small diameter of the prickly pear seeds, they are able to freely pass through the pylorus and ileocecal valves and accumulate in the lower gastrointestinal tract [6]. Due to the relative stasis, water absorption and solidification process that occurs in the colon, this leads to amalgamation of the seeds and ultimately phytobezoar formation [6]. Therefore, it is recommended to chew the seeds prior to swallowing the fruit or limiting the number of prickly pears consumed during one sitting.

CONCLUSION

Our case demonstrated how massive consumption of prickly pears can lead to rectal impaction associated with perianal pain and constipation. However, with prompt diagnosis and timely surgical intervention via examination under anesthesia and manual disimpaction, patient recovery can be swift and uncomplicated.

Learning Points/Take home messages

- Greater awareness of prickly pear seeds causing fecal impaction by primary care practitioners and the wider community may help to prevent future occurrences.
- Consumption of large quantities of prickly pear seeds may cause constipation, fecal impaction, and potentially even perforation of the bowels. Thus, we recommend eating such fruits in moderation and to remove the seeds prior to consumption.
- Rapid diagnosis and timely interventions are crucial to avoid documented complications which may include urinary obstruction, fecal impaction, and colonic perforation.

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Author Contributions

Muhammad Shehzaad Peerbux – Design of the work, Acquisition of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Simon Ho – Conception of the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Muhammad Abdullah – Conception of the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Consent Statement

Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.