An Uncommon cause of Small Bowel Obstruction in a Pediatric Female

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Introduction

General surgeons are often asked to evaluate and manage small bowel obstructions. We become comfortable in our training in managing the common causes of small bowel obstructions such as adhesions, hernias, and malignancies. In the pediatric population we may think of congenital malformations as an exotic cause for an obstruction, but this case demonstrates an example of another rare cause of obstruction primarily seen in the pediatric population. It also demonstrates the nuances of balancing the risks and benefits of exploratory surgery with the risks of exposing pediatric patients and younger patients in general to the radiation of a CT scan.

Case Presentation

- 13 year old female who originally presented with abdominal pain, distension, and constipation for three days was admitted to the general pediatric service for further gastrointestinal work-up
- The surgical service was consulted on post-admission day two due to increase in her pain and ongoing obstipation
- The patient did not have prior surgeries
- She was a healthy pubescent female, without any developmental delays, psychiatric history and was not currently taking any medications
- Her vital signs were normal and remained so throughout her hospital stay
- Physical exam did not reveal any hernias, the patient was distended with generalized tenderness to palpation
- A basic metabolic panel and complete blood count were ordered and revealed all values to be within normal limits
- At this point a nasogastric tube was placed and a plain abdominal xray was obtained which showed some air-fluid levels in the middle and left upper quadrant of the abdomen
- At this point the team discussed obtaining a CT scan of the abdomen to primarily evaluate for a malignancy, given this can be the finding at exploration in up to 10% of patient's with a virgin abdomen [1].
- However we decided to proceed with following the patient clinically, as we did not believe the yield of the CT would be worth the radiation exposure…
- We decided if the patient did not show clinical improvement the next morning we would offer her exploratory surgery
- The next morning the patient remained distended and in pain. We proceeded to obtain consent for surgery from her parents and proceeded to prepare for the operating room.

Treatment Course

- She was taken to the OR and we proceed with open exploratory surgery making a small midline incision above the umbilicus
- We almost immediately encountered a luminal obstruction in the proximal to mid ileum
- An enterotomy was made and foul smelling ball of foreign material was encountered
- We were able to grasp the material with an Alice clamp and remove the mass in whole. It was somewhat difficult to free from the bowel wall. We did not see any necrosis in the mucosa
- Once the specimen was brought to the back table, we could clearly see the material was a trichobezoar, approximately 17 cm long and several cm wide, easily able to occlude the lumen. There was some bloody areas on the specimen evidence of
- The rest of the small bowel was thoroughly palpated and examined as well the stomach. No other bezoars were felt.
- The enterotomy was repaired in hand sewn fashion, the abdomen was closed she was transferred back to the floor for routine post-operative care.
- Post operatively after discussion with the patient she did admit to chronically sucking and gnawing on her hair, but denied eating her hair
- The psychiatrist was asked to see the patient, and did not believe she had trichotillomania or trichophagia
- She was eventually discharged on Post operative day 3 after tolerating a diet and having return of bowel function

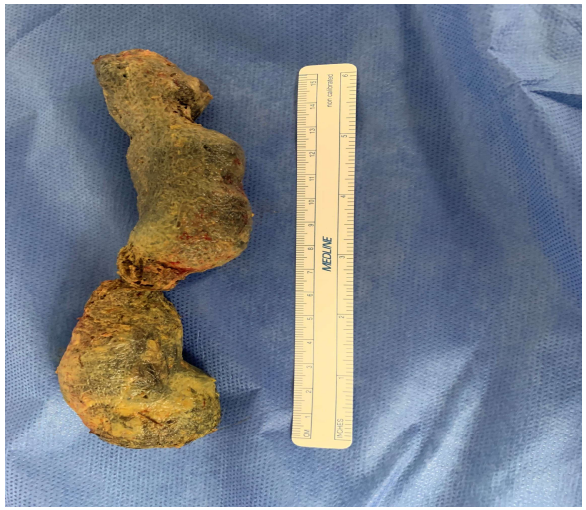

Figure 1. 17 cm long Trichobezoar causing obstruction in the ileum

Discussion

- Trichobezoars make up approximately 6% of all bezoars in one study, and are usually found in the stomach or the duodenum with extension into the stomach [2].
- While trichobezoars can certainly be found in all ages, they are more commonly seen in females and in children. These patients will often have a psychiatric disorder, or developmental issue and can have either trichophagia or trichotillomania [2]. One study found the average age to be 10.8 years old and 96% of the symptomatic patients were female [3].
- Rapunzel syndrome is used to describe the condition when a trichobezoar either extends or migrates past the pylorus to cause obstruction [4].
- Without treatment long standing bezoars have been shown to have significant morbidity and there have been studies suggesting mortalities upwards of 30% due to bleeding, obstruction and perforation [5].

Conclusions

This case demonstrates a rare but very possible cause of small bowel obstruction in a pediatric patient. Although a trichobezoar in the ileum causing obstruction may be unique, the skill of being able to clinically make the decision to take a patient for exploration without the need of a CT scan or abnormal labs should be ingrained in us all as general surgeons. We rightfully worry about taking a patient for an operation they do not need. In this case the patient clearly was not improving, waiting for a laboratory indication or a change in her vital signs could have ended in bowel wall necrosis, perforation and ultimately a more complicated operation and hospital course. By being proactive, listening to the patient, following her physical exam and simply being confident in our training I believe we were able to prevent significant morbidity.

References

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