



Paper or Plastic? A Foreign Body Ingestion Leading to Small Bowel Obstruction. A Case Report

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Abstract

Background: The ingestion of a foreign body is a common event. It most often occurs in young children. When ingestion occurs in adults, it is usually incidental. Individuals with psychiatric disorders, patients with dentures, and those with alcohol dependencies are more likely to ingest a foreign body accidentally. Other adults are known to ingest fish or chicken bones accidentally. The majority of ingested foreign bodies pass through the gastrointestinal tract without any complications. The minority of ingested foreign bodies will require endoscopic intervention while only ~1% require surgical intervention.

Case Description: A 91-year-old female with late-stage dementia presented with abdominal pain and vomiting of 1-day duration. Computed tomography obtained in the emergency room was suggestive of partial small bowel obstruction vs. ileus. She was treated conservatively with bowel rest. After 48 hours of failed medical management, she was taken to surgery. Exploratory laparotomy identified a firm, mobile mass in mid jejunum. Surgeons performed a small bowel resection. The specimen when opened revealed a tightly compacted sheet of plastic. Postoperative the patient did well and recovered without any complications.

Conclusion: This incident is the first report of a mechanical small bowel obstruction caused by ingestion of a plastic bag. Our report highlights the practice of using multiple window-computed tomography views when evaluating a patient with intestinal obstruction.

1. INTRODUCTION

The ingestion of a foreign body is a common event. It most often occurs in young children. When a foreign body is ingested by an adult, it is often incidentally ingested while concurrently eating food. However, it has also been shown to be more common with individuals who have psychiatric disorders, are alcoholics, and patients who wear dentures [1,2,3,4]. In children, the most commonly ingested items include objects commonly found on the ground such as coins or batteries. In adults, the most commonly ingested foreign bodies include fish or chicken bones as well as toothpicks. Most ingested foreign bodies, up to 80% reported, successfully pass through the gastrointestinal tract without complications. Approximately 20% of reported incidents required endoscopic intervention while 1% required surgery. [5,6,7,8,9,10,11,12,13,14] Often, the patient is unaware of the actual ingestion. In our case our patient was an elderly female with late-stage dementia whom unknowingly swallowed a portion of a plastic bag which subsequently lead to a small bowel

obstruction. To our knowledge, there has not been a reported case with a similar outcome.

2. CASE DESCRIPTION/SUMMARY

A 91 year old female with late stage dementia presented to the emergency department with acute onset of abdominal pain and vomiting. Her son, with whom she lives, provided most of the medical history. She had one episode of vomiting the prior to arrival. Her vomitus was brown in color and provided no relief of her pain. She had a normal bowel movement later in the day but continued to have pain. She was able to tolerate a small breakfast the morning of presentation without any issues. She stated that she has been passing some flatus. Her past medical history is significant for multiple abdominal procedures in the past, including a procedure secondary to a previous small bowel obstruction ten years ago, the extent of the procedure was unknown by the patient. On physical exam, her abdomen was soft, mildly distended, tender to palpation across the lower abdomen, and without peritoneal signs. A CT of the abdomen/pelvis was obtained which

was suggestive of obstruction. No mass was mentioned or identified at this time. The decision was made to conservatively treat her for partial small bowel obstruction vs. ileus. She was placed in observation, IV fluid hydration, NPO. At this time, she was not complaining of nausea and the use of nasogastric tube was deferred. She was given dulcolax suppository and continued with conservative management for the next 48 hours with serial abdominal exams. Her symptoms remained unchanged as she continued to have abdominal distension and tenderness. A small bowel follow-through was obtained which showed an obstruction with no filling of the colon. At this time a decision was made to proceed to the operating room. A midline exploratory laparotomy was performed. Upon entry to the abdomen a small number of adhesions to the omentum and small bowel were noted. The small bowel was dilated, but otherwise appeared grossly normal. Proceeded to inspect the small bowel from ileocecal valve to ligament of treitz. A large firm mass was

identified in the mid jejunum with decompressed loops of bowel distally. The distal loops of bowel were tethered to one another with loose adhesions. Attempts were made to milk the mass proximally and distally which proved purposeless. The decision was made to resect that portion of bowel and perform side to side anastomosis. The specimen was opened on the back table and the foreign body appeared to be a tightly compacted large sheet of plastic. This was sent to pathology which later would confirm that it was part of a plastic shopping bag. Now knowing that there was a foreign body causing obstruction the imaging was again reviewed. The foreign body is not perceptible using the standard abdominal view (Figure 1). By switching the view to a lung window, the foreign body became distinctive (Figure 2). The foreign body which can be seen on the CT using the lung window view coincides with the approximate location which it was uncovered intra-operatively. Postoperatively she did well and was discharged home without any complications.

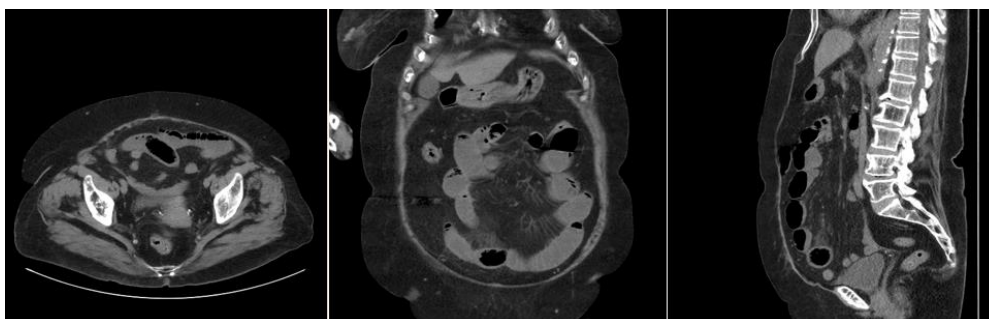


Figure1. Computed tomography obtained in emergency department upon initial presentation. The standard abdominal window view. There is no distinct foreign body obstruction. The area containing the foreign body appears hypodense.

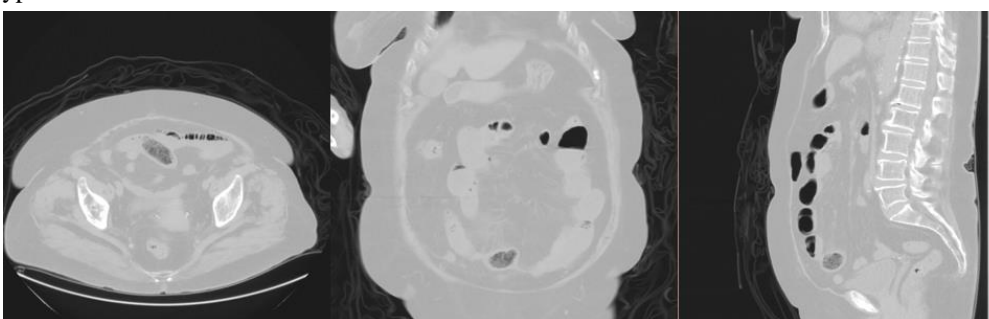


Figure2. Computed tomography obtained in the emergency department upon initial presentation. A lung window view has been applied. An intraluminal heterogeneous density is now observed. This region correlates with the hypodense area seen in *Figure 1*. Due to the nature of the compacted plastic sheet, it is only discernable when using lung window view.

3. DISCUSSION

Our patient presented with a working diagnosis of adynamic ileus vs. partial small bowel obstruction. Due to her baseline cognitive status, there was a delay in the diagnosis of foreign body ingestion due to the fact that she did not recall the episode. One study reported a foreign body was

identified within two to six days. [1,4] We were unable to verify a timeline of ingestion. Conservative management was initiated on admission. Subsequently a small bowel follow-through was obtained which revealed a small bowel obstruction, no barium was present in the large bowel. At this time decision was made to

proceed to surgery. Obtain operative exploration the obstructing mass was located in the small bowel. Upon resection of the affected portion of the bowel, a mass was found to be a large sheet of plastic. There did not appear to be any evidence of perforation prior to surgery. However, the small bowel is the more common site in the gastrointestinal tract for perforations to occur. These perforations are usually caused by long, elongated, or sharp objects. [15,16] Although intestinal perforation can also be caused due to impaction which subsequently leads to bowel ischemia. This type of perforation is often subclinical and not detected on routine imaging. [15,17] Postoperatively, our patient had appropriate return of bowel function. She was unaware of how the sheet of plastic was ingested.

4. CONCLUSION

This is the first report of a mechanical small bowel obstruction caused by ingestion of a plastic bag. Treatment began with conservative management as the mechanical obstruction was not identified at initial onset. Once the patient failed conservative management the situation became surgical. An exploratory laparotomy with small bowel resection was performed. Ultimately, the patient recovered without any adverse sequela. This case demonstrates how multiple window views on computed tomography can display different entities and assist in the diagnosis of intraluminal foreign bodies and intestinal obstruction.

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