

# A Quarter Costing More Than 25 Cents: A Case of Recurrent Bowel Obstruction Caused by A Coin

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## Abstract

We report a patient with history of Crohn's disease presenting with recurrent SBO; this is a common scenario for Crohn's patients, as the disease process causes scarring and narrowing of the bowel, which can result in obstruction. Our patient had multiple emergency visits, courses of steroids, and was under consideration for biologic treatment aimed at apparent recurrent Crohn's exacerbations while the true problem was a quarter causing symptomatic partial obstruction. Differential diagnosis of foreign body should be considered in cases of SBO, first or recurrent, where the cause is unclear. Extracting the quarter by ileoscopy resulted in an excellent patient outcome.

## Introduction

Recurrent bowel obstruction (SBO) is a recognized complication of Crohn's disease. However, SBO in such an individual can be due to multiple etiologies. We report a case of recurrent SBO caused by an unusual etiology (coin).

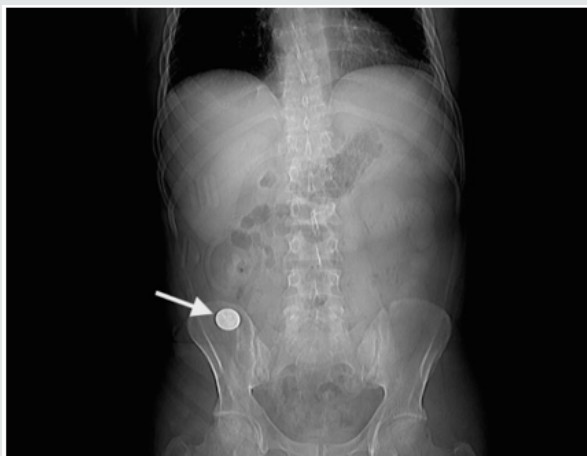
## Case

A 34-year-old male with history of Crohn's disease status post total colectomy and ileostomy, maintained on mesalamine and Adalimumab (Humira, AbbVie, North Chicago, IL), presented to the emergency department with nausea, abdominal cramps, and increased ileostomy output following dinner the night before. Patient had 2 similar emergency visits in the previous 4 months for partial SBO, thought secondary to Crohn's exacerbations, treated with the combination of oral steroids and bowel rest. Abdominal x-ray 2 weeks prior revealed an ileal metal object that was left to pass on its own. Vital signs at presentation were temperature 37.0 C, heart rate 90 beats per minute and blood pressure 120/70 mmHg. Physical examination was significant for generalized

abdominal tenderness and hyperactive bowel sounds. Laboratory data revealed leukocytosis (19,000/ $\mu$ l) with 90% neutrophils, lipase 34u/l, AST 20u/l, ALT 25u/l, ALP 70u/l, total bilirubin 0.3mg/dl and lactic acid 4mg/dl.

Abdominopelvic imaging revealed metal object in the ileum, and multiple air-fluid levels suggestive of small bowel obstruction (abdominal x-ray, Figure 1), and thickened inflamed distal ileum, 2.5cm round metallic density that has the appearance of a coin,

located within a small bowel loop in the right lower quadrant (CT abdomen/pelvis, Figure 2). On further questioning, patient could not recall any incident that led to this finding. However, the patient did recall participating in a recent beer drinking game. Gastroenterology was consulted and ileoscopy performed using a pediatric colonoscope due to a thickened stoma. Following stoma dilation, a 10mm quarter coin was extracted (Figure 3). The patient had frequent return visits in the next 6 months after intervention by both primary care and gastroenterology without recurrence of SBO.



**Figure 1:** Metal object overlying the ileum on abdominal x-ray.



**Figure 2:** Metal object in the ileum on CT scan of abdomen and pelvis with contrast.



**Figure 3:** 10 mm quarter coin on ileoscopy.

## Discussion

SBO is a common problem encountered in emergency department. It occurs as a result of interruption of normal flow of intestinal contents, which may be secondary to a mechanical obstruction or an ileus. The most common cause of recurrent SBO

is adhesions (74%), followed by Crohn's disease (7%), neoplasia (5%), hernia (2%), radiation (1%), and miscellaneous (11%) [1]. Foreign body in general is a rare cause. A majority of foreign body ingestions occur in the pediatric population. In adults, it occurs more commonly in those with psychiatric disorders, developmental delay, incarcerated individuals seeking secondary gain, and alcohol intoxicated patients [2,3]. Patients with SBO may present with abdominal cramps, nausea, vomiting, and obstipation. On physical exam, abdominal distention is the most frequent finding [4]. Generalized tenderness and high pitched (in case of mechanical obstruction) or absent (in case of ileus) bowel sounds are other helpful physical signs. A presumptive diagnosis of acute SBO can be made based on history and physical examination; to confirm the diagnosis, plain radiography is the most appropriate initial imaging modality [5], as it is quick, simple, and inexpensive. It may also reveal perforation or volvulus which will necessitate an emergent intervention. However, abdominal CT scan is superior in identifying the etiology (hernias, masses, etc.), level of obstruction (transition point), and severity (partial vs complete) [6].

Volume resuscitation, correction of metabolic abnormalities, pain control and an assessment of the need for surgical exploration are the key elements in managing SBO. Complete obstruction, closed-loop obstruction, bowel ischemia, necrosis, or perforation are the main indications for urgent surgical intervention [7]. A trial of conservative management with IV fluids, bowel rest, NPO, nasogastric suction, and water-soluble contrast agents for two to five days is appropriate for patients with partial SBO [7]. SBO secondary to Crohn's disease frequently will subside with nonoperative medical treatment [1]. In most situations, 80% of ingested foreign bodies will pass through the gastrointestinal tract spontaneously without complication and should be observed. Indications for immediate intervention include complications such as complete SBO, perforation, or bleeding [7,8]. Of note, patients with inflammatory bowel disease may have an increased risk of foreign body retention due to adhesions or small bowel strictures. In the present patient, improvement of bowel obstruction after extraction confirms that the coin was the initiating factor in causing the episode. To conclude, differential diagnosis of foreign body should be considered in adult SBO cases, first or recurrent, where the cause is unclear. To our knowledge, this is the first case in the literature describing a coin causing such an episode in an adult Crohn's disease patient successfully managed by ileoscopic extraction.

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