

Giant faecolith as an unusual cause of small bowel obstruction: A case report

Tahleesa Cuda, Andrew Riddell, David Clark

ABSTRACT

Introduction: Causes of small bowel obstruction include adhesional, neoplastic, herniation, inflammatory, foreign body and congenital. However, uncommon causes such as a large obstructing faecolith are encountered on occasion. The timely diagnosis and intervention of small bowel obstruction are pertinent in minimising morbidity and mortality. **Case Report:** Herein, we present a rare cause for small bowel obstruction in a patient with a personal history of malignancy. A 68-year-old female presented with progressively increasing symptoms of partial obstruction including abdominal pain, distension and a palpable abdominal mass. **Conclusion:** The workup for small bowel obstruction must be systematic and encompass a multitude of different causes. Malignancy must be considered and excluded.

Keywords: Chronic partial small bowel obstruction, Faecolith, Palpable abdominal mass

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INTRODUCTION

Intestinal obstruction is a common clinical scenario encountered in the surgical field, responsible for 20% of acute abdominal admissions. The small bowel is involved in 60-80% of all intestinal obstructions [1]. The diagnosis of small bowel obstruction is evident clinically and radiologically. However, less obvious is the cause of obstruction [1]. A multitude of causes can lead to mechanical or dynamic small bowel obstruction, with postoperative adhesions being the most common. Neoplasia, herniation, inflammatory disease, foreign body, congenital disorders and intussusception are other causes for the presentation [2-4]. The exclusion of malignancy as a cause of obstruction is pertinent in the presence of a mass, even more so in patients with a previous history of malignancy. Carcinoid, lymphoma and adenocarcinoma are the more common malignant neoplasms affecting small bowel. Benign neoplasms include adenomas, lipomas, leiomyomas and haemangiomas [1]. Adhesional small bowel obstruction occurs in 14-17% of patients following open colorectal or general surgical procedures [2, 3].

Eighty percent of small bowel obstructions resolve spontaneously with conservative intervention. Timely identification of patients not resolving with conservative

management is vital in minimising morbidity and mortality [4]. Patients failing conservative management are at risk of intestinal strangulation and ischaemia [5].

Small bowel obstruction secondary to an obstructing faecolith is rare, nor a differential often considered for a patient with a history of malignancy [6]. Faecoliths are most commonly encountered in the rectum and sigmoid [7, 8]. This case report illustrates the importance of thoroughly investigating a patient with a small bowel obstruction with a palpable mass on a background of previous malignancy. It also discusses a rare, benign cause for this presentation. The following case report was written in keeping with the SCARE criteria [9].

CASE REPORT

A 68-year-old female patient presented with 12 months of worsening daily abdominal pain, intolerance of solids, audible borborygmi and a palpable abdominal mass in her right iliac fossa on a background of rectal carcinoma. The patient had undergone an anterior resection for malignancy in the late 1990's. In 2002, she had a laparotomy and resection of gangrenous small bowel secondary to adhesional obstruction with primary anastomosis. Subsequently, she had multiple admissions for recurrent adhesive small bowel obstructions, managed conservatively. Over an 18-month period, her chronic obstructive symptoms progressively worsened leading to her eventual presentation. On admission, her haemodynamic status was stable, but physical examination revealed a firm, smooth, tender tennis ball size mass on the right side of her abdomen. Full blood count, urea and electrolyte liver function tests, C-reactive protein and carcinoembryonic antigen were unremarkable. Computed tomographic scan with oral contrast showed a rounded structure 70x45x40mm, lying amongst a conglomerate of bowel loops. Contrast was seen distal to the lesion in the large bowel and the appearance was not consistent with a tumour (Figure 1 and 2). Magnetic resonance enterography demonstrated evidence of a small bowel anastomosis in the distal ileum. New and progressive circumferential wall thickening of the anastomosis was evident, raising concerns about possible malignancy (Figure 3).

Laparoscopic resection of the anastomosis, adjacent small bowel and draining mesenteric lymph nodes with primary anastomosis was performed. A smooth and sizable mass was evident at the small bowel anastomosis with associated mesenteric lymphadenopathy. During peri-operative examination of the specimen, the surgeon discovered a large, firm, yellow coloured "stone" obstructing the small bowel lumen (Figure 4). Histologically, the specimen was identified as containing a faecolith, 85x50 mm. The excised anastomosis was ulcerated and microscopically demonstrated non-specific mucosal inflammation with regenerative changes. There was no malignancy present. The patient made an

uneventful recovery and had complete resolution of her obstructive symptoms.

DISCUSSION

A faecolith is a hard intraluminal stone. True faecoliths occur as a consequence of precipitation and deposition of native gut contents including cholesteric acid stones, a bile salt byproduct. In comparison, false faecoliths develop around a foreign focus – including foreign bodies, bezoars, precipitation of insoluble varnish stones and chalk concentrations [10–12].

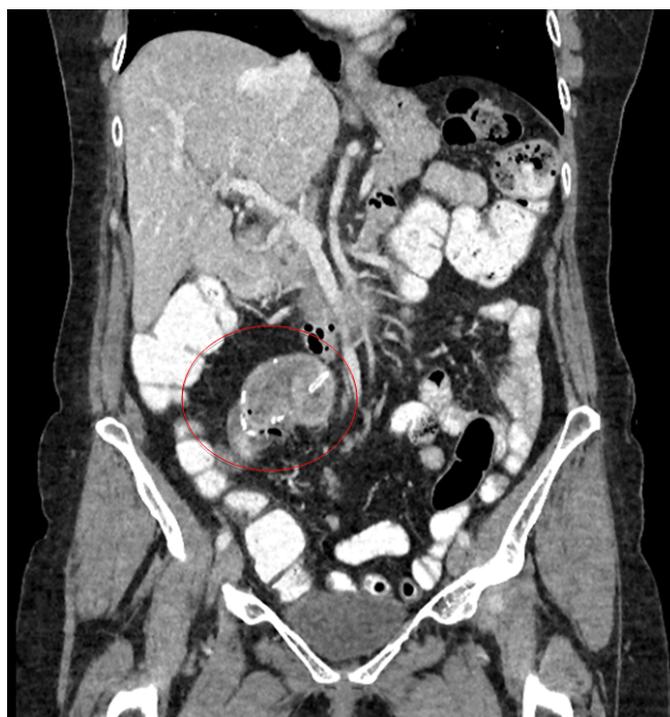


Figure 1: Abdominal computed tomography, coronal view with oral contrast showing a rounded structure lying amongst bowel loops at the site of anastomosis.

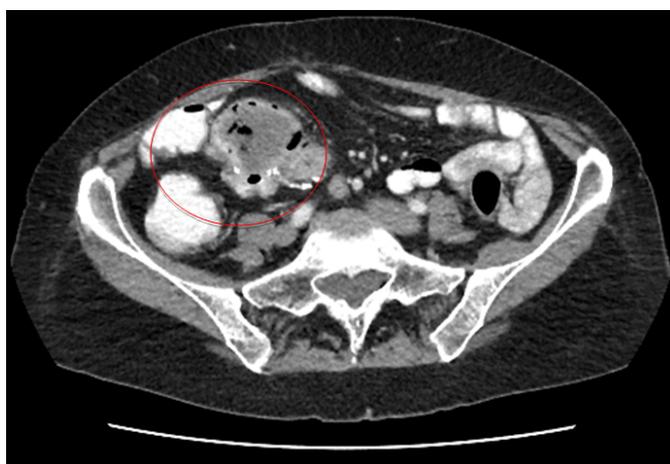


Figure 2: Abdominal computed tomography, axial view with oral contrast showing a rounded structure lying amongst bowel loops at the site of anastomosis.

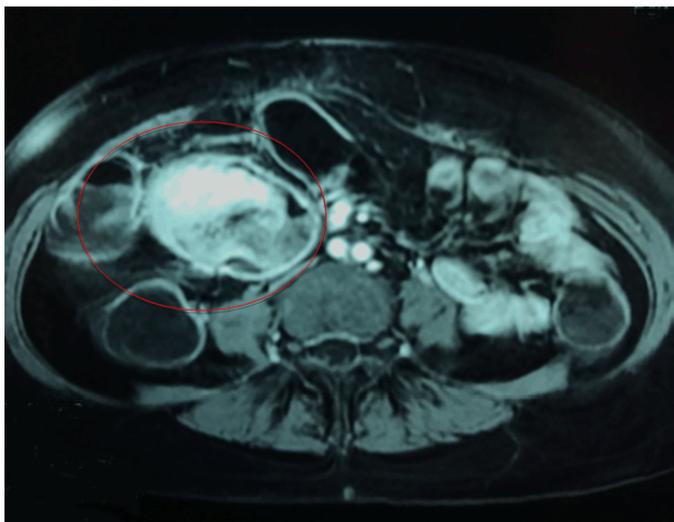


Figure 3: Magnetic resonance enterography, axial view, showing circumferential wall thickening of the small bowel anastomosis containing a large calcified lesion.



Figure 4: Gross examination of the surgical specimen showed a large calcified faecolith and a thickened small bowel segment with associated mesentery.

Intraluminal stasis is the most significant factor influencing the development of faecoliths [10]. Stasis frequently occurs in regions of structural abnormality including bowel anastomoses, strictures, inflammation and sites of previous operation [10, 11]. Other factors potentiating stasis include medications promoting gut hypomotility, chronic gut dysmotility and some metabolic disorders [11].

Patients can present subacutely with intermittent or partial obstructive symptoms or acutely with acute intestinal obstruction, perforation or haemorrhage [10].

The radiological diagnosis of a faecolith is arduous. Plain abdominal X-ray is often performed in the first instance. Only one-third of small-bowel faecoliths are radio-opaque. Plain radiographs may suggest the presence of a small bowel obstruction and level of obstruction [12]. Cross-sectional modalities such as CT

provide more detailed images, structural information and sometimes the cause of bowel pathology. Oral contrast can be utilised in both plain films and cross-sectional imaging modalities to increase the yield of identifying a faecolith [10, 12].

Conservative management can be tried for non-obstructing faecoliths less than 2 cm. Faecoliths localised to the stomach and duodenum can be removed endoscopically [10]. The definitive management of an obstructing or sizeable small bowel faecolith is surgical. Historically, an open approach to removal was recommended. However, with advent and advances in laparoscopic surgery, more minimally invasive approaches are possible [12]. Evacuation options include crushing and milking the faecolith into the distal colon. An enterotomy can be made in non-oedematous bowel, with the faecolith gently expressed and removed. In the acute setting, laparoscopy with crushing or milking of the faecolith is discouraged due to the risk of trauma to oedematous bowel. Bowel resection is necessary to remove structural causes or when acute complications arise including pressure necrosis [11].

Our provisional diagnosis would have otherwise pursued adhesions as a cause of this patient's presentation, however, in the presence of a palpable mass, concerns of malignancy recurrence were looming. Albeit a large, partially obstructing faecolith was not expected, this was an anxiety alleviating finding for both patient and doctor. Investigations and management were performed in a chronological order we felt appropriate for this individual's presentation. We followed the vital surgical principle – obstructive symptoms with the presence of a mass must have malignancy excluded.

CONCLUSION

Obstructing faecolith is a rare cause of small bowel obstruction. Structural abnormalities potentiate faecolith formation. However, malignancy should always be considered in patients with having a previous malignancy. Timely diagnosis is pertinent.

REFERENCES

1. Gümüstas OG, Gümüstas A, Yalçın R, Savci G, Soylu RA. Unusual causes of small bowel obstruction and contemporary diagnostic algorithm. *J Med Imaging Radiat Oncol* 2008 Jun;52(3):208–15.
2. Wiggins T, Markar SR, Harris A. Laparoscopic adhesiolysis for acute small bowel obstruction: Systematic review and pooled analysis. *Surg Endosc* 2015 Dec;29(12):3432–42.
3. Yao S, Tanaka E, Ikeda A, Murakami T, Okumoto T, Harada T. Outcomes of laparoscopic management of acute small bowel obstruction: A 7-year experience of 110 consecutive cases with various etiologies. *Surg Today* 2017 Apr;47(4):432–9.

4. van Oudheusden TR, Aerts BA, de Hingh IH, Luyer MD. Challenges in diagnosing adhesive small bowel obstruction. *World J Gastroenterol* 2013;19(43):7489–93.
5. Zielinski MD, Eiken PW, Bannon MP, et al. Small bowel obstruction-who needs an operation? A multivariate prediction model. *World J Surg* 2010 May;34(5):910–9.
6. Narayanaswamy S, Walsh M. Calcified fecolith: A rare cause of large bowel obstruction. *Emerg Radiol* 2007 Jan;13(4):199–200.
7. Yoo HY, Park HW, Chang SH, Bae SH. Ileal fecaloma presenting with small bowel obstruction. *Pediatr Gastroenterol Hepatol Nutr* 2015 Sep;18(3):193–6.
8. Mushtaq M, Shah MA, Malik AA, Wani KA, Thakur N, Q Parray F. Giant fecaloma causing small bowel obstruction: Case report and review of the literature. *Bull Emerg Trauma* 2015 Apr;3(2):70–2.
9. Agha RA, Fowler AJ, Saeta A, et al. The SCARE Statement: Consensus-based surgical case report guidelines. *Int J Surg* 2016 Oct;34:180–6.
10. Sudharsanan S, Elamurugan TP, Vijayakumar C, Rajnish K, Jagdish S. An unusual cause of small bowel obstruction: A case report. *Cureus* 2017 Mar 26;9(3):e1116.
11. Quinn T, Strauss P. Faecolith arising from jejunal diverticulosis: An unusual cause of small bowel obstruction in the virgin abdomen. *ANZ J Surg* 2014 Sep;84(9):689–91.
12. Shrestha AL, Shrestha P. Recurrent enterolithiasis small bowel obstruction: A case seldom described. *Case Rep Gastrointest Med.* 2017;2017:4684182.

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Author Contributions

Tahleesa Cuda – Substantial contributions to conception and design, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
 Andrew Riddell – Substantial contributions to conception and design, Revising it critically for important intellectual content, Final approval of the version to be published
 David Clark – Substantial contributions to conception and design, Acquisition of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor of Submission

The corresponding author is the guarantor of submission.

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None

Consent Statement

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

Conflict of Interest

Authors declare no conflict of interest.

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