Chronic appendicitis with cavitation leading to recurrent small bowel obstruction

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Key words: appendicitis; appendicectomy; resectional procedures; appendiceal abscess; bowel obstruction.

Contributions: OO, writing – original draft, writing – review & editing; DS, MA, MY, writing – review & editing. All authors have read and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

Conflict of interest: the authors have no conflict of interest to declare.

Ethics approval and consent to participate: no ethical committee approval was required for this case report by the Department, because this article does not contain any studies with human participants or animals. Informed consent was obtained from the patient included in this study.

Consent for publication: the patient gave her written consent to use her personal data for the publication of this case report.

Availability of data and materials: all data are available at the Department of Colorectal Surgery, Royal London Hospital, upon reasonable request.

Acknowledgements: we would like to thank everyone from the Colorectal Surgery team at Royal London Hospital who was involved in the care of this patient, as well as the team members who collaborated to write this article.

Received: 24 May 2025.
Accepted: 27 May 2025.

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Licensee PAGEPress, Italy
Surgery in Geriatrics and Frailty 2025; 1:25
doi: 10.4081/sigaf.25

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Abstract

Acute abdomen is a common surgical emergency, with appendicitis being a well-recognized cause. Whilst acute appendicitis is common, chronic appendicitis leading to cavitation and recurrent episodes of subacute obstruction is rare. We report the case of a 53-year-old woman who presented with recurrent adhesive small bowel obstruction, secondary to chronic appendicitis with an appendiceal perforation forming a cavity involving the cecum and the terminal ileum. She underwent a laparoscopic converted to open right hemicolectomy, leading to a good recovery. This case emphasises the importance of considering atypical presentations of appendicitis in recurrent bowel obstruction.

Introduction

Acute appendicitis remains one of the most common causes of acute abdomen worldwide. Whilst most cases present with classic symptoms – right iliac fossa pain, nausea, and fever – atypical presentations are not uncommon, sometimes leading to diagnostic challenges and increased morbidity.[1]

Undiagnosed or inappropriately treated cases can progress to chronic appendicitis, potentially resulting in complications such as perforation, abscess formation, fistulae, and even bowel obstruction.[2]

Perforated appendicitis can lead to cavitation involving adjacent structures such as the terminal ileum and cecum, resulting in repeated episodes of subacute obstruction secondary to adhesions and inflammation.[3] Such cases often require extensive surgical intervention beyond a simple appendicectomy, including an ileocaecectomy or a right hemicolectomy.[4,5] We herein report a rare case of chronic appendicitis with cavitation, leading to multiple episodes of bowel obstruction.

Case Report

A 53-year-old woman, currently in remission from an adenocarcinoma of the cervix (FIGO Stage IIB) diagnosed in 2015, post-laparoscopic partial hysterectomy with bilateral salpingo-oopherectomy and para-aortic lymphadenectomy, presented with recurrent episodes (six emergency department visits and three hospital admissions) of abdominal pain, nausea, vomiting, and bloating, suggestive of small bowel obstruction. She was managed conservatively for the subacute adhesive intestinal obstruction as per the standard departmental policy.

Other relevant history included a laparoscopic cholecystectomy for cholelithiasis and hormone replacement therapy and sertraline for post-menopausal symptoms.

Investigations

Further relevant investigations were deemed appropriate given her multiple presentations. An abdominopelvic CT scan of the abdomen and pelvis with intravenous contrast and an MRI small bowel series revealed features suggestive of adhesional small bowel obstruction with pelvic and peritoneal thickening. However, imaging did not demonstrate clear evidence of appendiceal perforation or an abscess cavity. Her laboratory workup was unremarkable except for an elevated white cell count.

Surgical intervention was proposed to her in the form of a complete laparoscopic/open abdominopelvic adhesiolysis with the possibility of bowel resection, given her repeated episodes of presentation.

Treatment

Intraoperatively, the appendix and terminal ileum were densely adherent to the pelvic brim. A chronic abscess cavity containing the residual appendix and a partially obliterated lumen was identified. The dense adhesions of the small bowel and the inflammation's proximity to the ileocecal valve to the cavity made the dissection challenging. A right hemicolectomy with side-to-side stapled ileo-colic anastomosis was hence performed to ensure adequate resection and prevent further complications. The peritoneal cavity was thoroughly irrigated, and a 20F Robinson drain was placed in the pelvis.

Outcome and follow-up

The patient was managed post-operatively as per the trust's Enhanced Recovery After Surgery (ERAS) protocol. Antibiotics were continued, given post-operative fever spikes, elevated inflammatory markers, and a CT scan demonstrating inadequate drainage of a collection by the surgical drain. The drain was repositioned under ultrasound guidance, leading to successful resolution of the collection.

She was subsequently discharged on postoperative day seven. A follow-up review a week later exhibited good wound healing with a return to baseline for her. Cytology of the cavity fluid revealed sporadic neutrophils and degenerating inflammatory cells, with no malignant cells. The final histology was suggestive of appendicitis and serositis of the small bowel.

Discussion

Chronic appendicitis is a rare and underdiagnosed entity presenting with recurrent, nonspecific abdominal symptoms.[6] This case underscores an even rarer complication: cavitation with adherence of the small bowel, leading to repeated episodes of subacute obstruction.

Appendiceal perforation often leads to localised or generalised peritonitis, but in some cases, the inflammatory process becomes walled off, forming a chronic abscess cavity that can involve adjacent structures such as the cecum and terminal ileum.[7] Such presentations are diagnostically challenging due to non-specific imaging findings and overlap with other causes of bowel obstruction.[8] Whilst CT scans are a valuable diagnostic tool, they may fail to identify appendiceal perforation when an abscess is encapsulated or obscured by fibrosis.[9] A high index of clinical suspicion and intraoperative findings remain paramount in such circumstances.

Surgical intervention is often necessary in chronic appendicitis with extensive adhesions or cavitation, and a simple appendectomy is insufficient when surrounding bowel structures are involved. Studies suggest that resectional procedures, such as right hemicolectomy, reduce the risk of recurrent intra-abdominal infections and anastomotic complications in such cases.[4,5]

Additionally, chronic appendicitis has been associated with recurrent bowel obstruction, a condition requiring careful surgical decision-making.[10] Inflammatory caecal masses mimicking appendicitis may necessitate hemicolectomy, as seen in previous case series.[11]

Our case aligns with these findings, demonstrating that early definitive surgery prevents further morbidity in chronic appendicitis with bowel involvement.

Conclusions

This case highlights a rare presentation of chronic appendicitis causing cavitation and recurrent episodes of small bowel obstruction needing definitive surgical intervention. In cases of unexplained recurrent bowel obstruction, chronic appendicitis should be considered as a differential diagnosis. With inconclusive imaging, laparoscopy serves a crucial diagnostic and therapeutic role. Furthermore, in cases with extensive adhesions and involvement of adjacent bowel structures, resectional procedures such as right hemicolectomy yield the best outcomes.

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