

Case Series

Unusual Causes of Acute Intestinal Obstruction Presenting as Surgical Emergencies: A Case Series

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ABSTRACT

Background: Acute intestinal obstruction is one of the most common emergencies faced by surgeons. In most patients, the cause is fairly predictable, such as adhesions, hernias, or cancers. However, in younger patients, the cause is not always obvious. Rare conditions may be responsible, making diagnosis difficult and management challenging.

Aim: To share our experience with three young patients who presented with acute intestinal obstruction due to uncommon causes and required emergency surgery.

Materials and Methods: We retrospectively reviewed three patients who presented with features of acute intestinal obstruction at our tertiary care teaching hospital. Clinical presentation, imaging findings, operative details, histopathology, and postoperative outcomes were studied.

Results: The causes of obstruction were unusual and included a gangrenous Meckel's diverticulum, ileocecal tuberculosis presenting as a mass, and a proximal jejunal mass causing external compression of the bowel. All patients underwent emergency surgery and recovered well.

Conclusion: Acute intestinal obstruction in young patients should always raise suspicion of uncommon causes, especially in the absence of previous abdominal surgery. Early imaging and timely surgical intervention play a crucial role in achieving good outcomes.

Keywords: *Acute intestinal obstruction, Meckel's diverticulum, intestinal tuberculosis, jejunal mass, emergency surgery.*

INTRODUCTION

Acute intestinal obstruction is a condition that surgeons encounter almost daily in emergency practice. Patients typically present with abdominal pain, vomiting, distension of the abdomen, and inability to pass stools or flatus. If not treated promptly, intestinal obstruction can progress to bowel ischemia, perforation, sepsis, and even death.

In adults, most cases are due to postoperative adhesions, hernias, or malignancies. However, when a young patient with no prior abdominal surgery presents with obstruction, the situation becomes more complex. In such cases, rare conditions such as congenital anomalies, infections like tuberculosis, or unusual intestinal masses may be responsible. These conditions often cannot be diagnosed with certainty before surgery.

Through this case series, we aim to highlight three uncommon causes of acute intestinal obstruction seen in young patients and to emphasise the importance of early recognition and prompt surgical management.

AIMS AND OBJECTIVES

1. To describe rare causes of acute intestinal obstruction in young patients
2. To highlight the diagnostic challenges associated with these conditions
3. To discuss surgical management and patient outcomes
4. To emphasise the importance of timely intervention in emergency settings

MATERIALS AND METHODS

This study is a retrospective case series conducted at a tertiary care teaching hospital.

Three patients between the ages of 15 and 40 years who presented with acute intestinal obstruction and required emergency surgery were included. Patients with obstruction due to postoperative adhesions or external hernias were excluded.

Details regarding clinical presentation, radiological investigations, intraoperative findings, histopathology reports, and postoperative recovery were collected from hospital records and analysed.

CASE 1

An 18-year-old male presented to the emergency department with severe abdominal pain, repeated bilious vomiting, abdominal distension, and complete constipation for one day. He had no previous history of surgery or chronic illness. On examination, he was dehydrated and having tachycardia, with diffuse abdominal tenderness.

A plain X-ray of the abdomen showed multiple air–fluid levels suggestive of small bowel obstruction. After resuscitation, an emergency exploratory laparotomy was performed. During surgery, a gangrenous Meckel's diverticulum was found to be causing obstruction of the small intestine. The affected segment of ileum along with the diverticulum was resected, and a primary anastomosis was done. The patient recovered well and had an uneventful postoperative course.

CASE 2

A 17 Year old female presented with colicky abdominal pain, vomiting, abdominal distension, and constipation for two days. There was no past surgical history. A contrast-enhanced CT scan of the abdomen showed a closed-loop obstruction involving the ileocecal region with a suspicious mass lesion.

Emergency surgery revealed a firm mass at the ileocecal junction with dense adhesion causing obstruction. A right hemicolectomy was performed. Histopathological examination confirmed intestinal tuberculosis. The patient was started on antitubercular treatment and showed good clinical improvement during follow-up.

CASE 3

A 30-year-old female presented with recurrent episodes of vomiting and upper abdominal pain. CT imaging revealed a mass in the proximal jejunum near the ligament of Treitz, causing external compression of the bowel.

At surgery, a well-defined jejunal mass compressing the bowel from outside was identified and completely excised. The patient had an uneventful recovery. Histopathology confirmed the lesion to be benign.

Table 1: Clinical Profile of Patients

Case No.	Age	Sex	Symptoms	Duration	Past Surgery	Diagnosis
1	18	Male	Pain, bilious vomiting, distension, constipation	1 day	None	SBO
2	17	Female	Colicky pain, vomiting, distension, constipation	2 days	None	IO
3	30	Female	Recurrent vomiting, epigastric pain	Recurrent	None	Subacute IO

Table 2: Imaging Findings

Case No.	Modality	Findings	Impression
1	X-ray	Multiple air–fluid levels	SBO
2	CECT	Closed-loop obstruction, ileocecal mass	Obstructing ileocecal lesion
3	CECT	Proximal jejunal mass near Treitz	Extrinsic compression

Table 3: Operative Findings and Management

Case No.	Findings	Procedure	Anastomosis
1	Gangrenous Meckel's diverticulum	Segmental ileal resection	Primary end-to-end
2	Ileocecal mass with adhesions	Right hemicolectomy	Ileotransverse
3	Proximal jejunal mass	Excision	Primary closure

Table 4: Histopathology and Outcome

Case No.	Histopathology	Post-op Course	Adjuvant Therapy	Outcome
1	Gangrenous Meckel's diverticulum	Uneventful	None	Recovered
2	Intestinal tuberculosis	Uneventful	ATT	Improved
3	jejunal Benign mass	Uneventful	None	Recovered

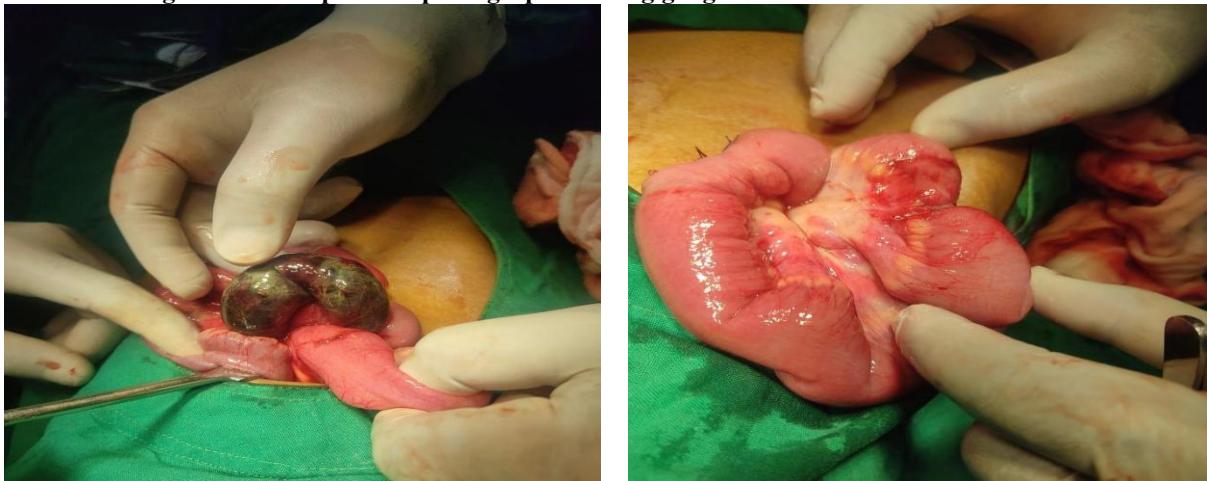
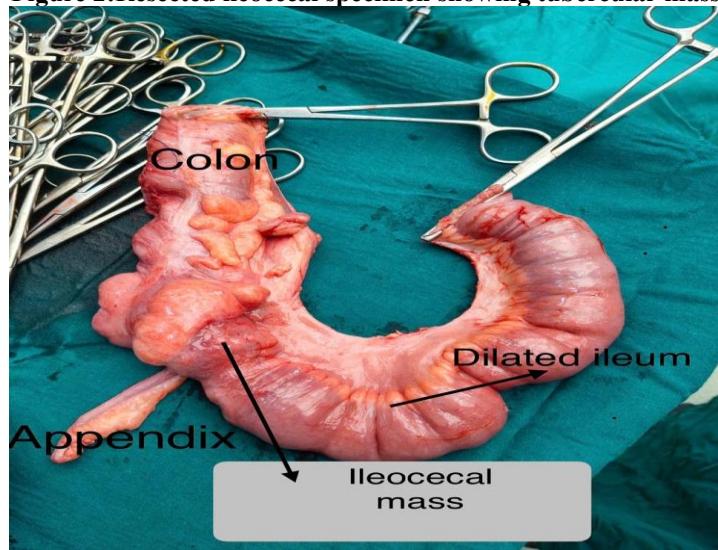
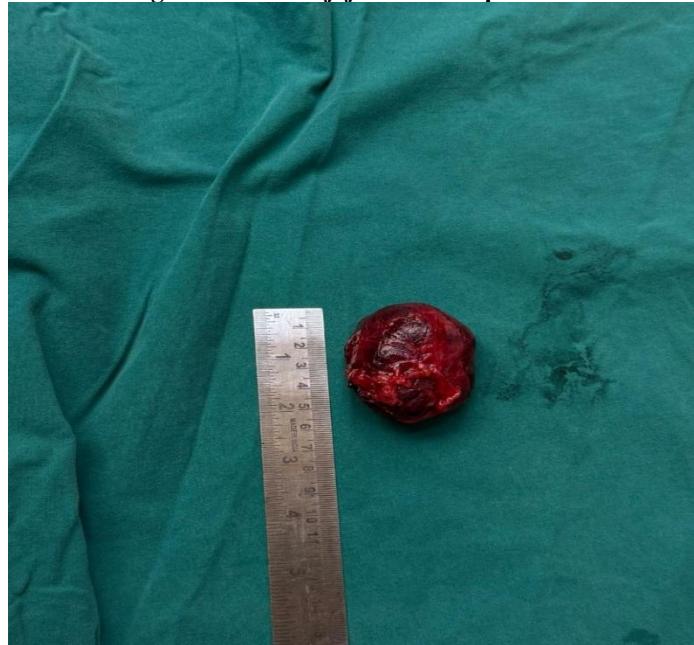
Images / Figures**Figure 1: Intraoperative photograph showing gangrenous Meckel's diverticulum****Figure 2: Resected ileocecal specimen showing tubercular mass**

Figure 3:Intra-op image showing proximal jejunal mass



Figure 4:Excised jejunal mass specimen



DISCUSSION

Acute intestinal obstruction (AIO) continues to be a major surgical emergency, contributing significantly to emergency admissions and operative workload. Although postoperative adhesions, hernias, and malignancies account for the majority of cases, young patients without prior abdominal surgery frequently present with uncommon and unexpected aetiologies. This case series highlights three such rare causes and demonstrates the importance of early diagnosis and prompt surgical intervention.

The demographic profile and presenting symptoms of all three patients are summarised in Table 1, which shows that all patients were young and presented with classical features of intestinal obstruction. The absence of previous abdominal surgery in all cases emphasises the need to consider alternative diagnoses beyond adhesive obstruction in this population.

Aetiological Spectrum and Clinical Presentation

The spectrum of unusual causes encountered in this series is summarised in Table 3 which highlights the heterogeneity of pathologies responsible for obstruction. In young patients, congenital anomalies, infectious conditions, and rare masses constitute an important subset of aetiologies. Miller et al. have reported that a significant proportion of obstructions in young adults are due to rare causes

Meckel's Diverticulum and Obstruction

Meckel's diverticulum is the most common congenital anomaly of the gastrointestinal tract but rarely presents with acute obstruction in adulthood. In Case 1, obstruction occurred due to a gangrenous Meckel's diverticulum, as documented intra operatively (Figure 1). Preoperative imaging in this case showed only features of small bowel obstruction (Table 2), underscoring the difficulty in establishing a preoperative diagnosis. Surgical resection with primary anastomosis resulted in an uneventful recovery (Table 4), consistent with outcomes reported in the literature.

Intestinal Tuberculosis as a Cause of Obstruction

Intestinal tuberculosis remains an important cause of obstruction in endemic regions. The ileocecal region is most commonly affected due to physiological stasis and abundant lymphoid tissue. In Case 2, contrast-enhanced CT demonstrated a closed-loop obstruction with an ileocecal mass (Table 2), raising suspicion of malignancy. However, intraoperative findings (Figure 2) and histopathology confirmed intestinal tuberculosis (Table 4). This highlights the diagnostic challenge posed by abdominal tuberculosis and reinforces the need for histopathological confirmation. Postoperative initiation of antitubercular therapy led to clinical improvement.

Jejunal Mass and Rare Obstructive Lesions

Tumours and mass lesions of the jejunum are uncommon causes of intestinal obstruction. In **Case 3**, CT imaging revealed a proximal jejunal mass near the ligament of Treitz (Figure 3), which was found intra operatively to be causing extrinsic compression of the bowel (Figure 4). Complete excision of the mass resulted in symptomatic relief and an uneventful postoperative course (Table 4). This case illustrates the role of CT imaging in localising the lesion, while also highlighting that definitive diagnosis often requires surgical exploration and histopathology.

Role of Imaging

The radiological findings across all cases are summarised in Table 2. While plain radiographs are useful as initial screening tools, contrast-enhanced CT played a crucial role in identifying the level and nature of obstruction, detecting closed-loop obstruction, and localising mass lesions. However, as seen in Case 1, imaging may not always identify the exact pathology, reinforcing the importance of clinical judgement and early surgical intervention.

Surgical Management and Outcomes

The operative procedures performed and postoperative outcomes are summarised in Tables 3 and 4. All patients underwent emergency surgical intervention tailored to intraoperative findings. Resection with primary anastomosis was safely performed in all cases, with no postoperative complications. Early surgical decision-making contributed to favourable outcomes, highlighting the importance of timely intervention in emergency settings.

Clinical Implications

This case series demonstrates that:

Young patients with acute intestinal obstruction and no prior surgical history warrant careful evaluation for uncommon causes

Tuberculosis should be considered in ileocecal masses in endemic regions

Imaging findings must be interpreted in conjunction with clinical features

Early surgical exploration remains both diagnostic and therapeutic in uncertain cases

Limitations

The small sample size and retrospective nature of this study are acknowledged limitations. However, the rarity and emergency presentation of these conditions justify their documentation to improve awareness among surgeons.

Summary

By correlating clinical features (Table 1), radiological findings (Table 2), operative observations (Table 3), histopathological results and outcomes (Table 4), and representative intraoperative and radiological images (Figures 1–4), this case series highlights the diverse and unusual causes of acute intestinal obstruction in young patients and underscores the importance of early surgical intervention.

CONCLUSION

Uncommon causes of acute intestinal obstruction should always be considered in young patients, especially those without a history of previous abdominal surgery. Prompt imaging, careful clinical judgement, and early surgical intervention are key to preventing complications and ensuring good patient outcomes.

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