

## Case Report



# Epiploic Appendagitis Causing Small Bowel Obstruction - A Rare Case Report

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## Abstract

**Background:** Small bowel obstruction (SBO) remains a frequently encountered cause of hospital admission and surgical intervention. While postoperative adhesions are the predominant aetiology, other causes including hernias, neoplasms, and inflammatory conditions must be considered. Epiploic appendagitis (EA), though rare, can lead to SBO by causing localised inflammation, torsion, or adhesion formation. Prompt diagnosis is essential to avoid unnecessary surgery and to enable appropriate management. **Case Report:** A 62-year-old woman presented with symptoms of diffuse abdominal pain, vomiting, and obstipation. With no previous history of abdominal surgery, imaging studies revealed a subacute small bowel obstruction. A diagnostic laparoscopy identified a calcified epiploic appendage from the sigmoid colon mesentery, which was compressing the distal jejunum. The appendage was resected. Histopathology confirmed fat necrosis and calcification, consistent with epiploic appendagitis. The patient made a full recovery and was discharged by postoperative day three. **Conclusion:** This case highlights the importance of considering epiploic appendagitis as a rare but significant differential in causes of SBO, especially in patients with virgin abdomen. Early recognition and laparoscopic management can lead to excellent outcomes.

**Keywords:** Epiploic Appendagitis (EA), Small Bowel Obstruction (SBO), Calcified Epiploic Appendage, Laparoscopic Resection, Virgin Abdomen.

## Introduction

Small bowel obstruction (SBO) is a well-recognised surgical condition, with descriptions dating back to ancient medical literature. Despite significant advancements in diagnostic modalities and therapeutic interventions, SBO remains a substantial clinical challenge in both diagnosis and management. Adhesions remain the leading cause, accounting for up to 80% of cases in developed countries [1]. However, rare causes such as epiploic appendagitis may be overlooked, especially in patients with no history of abdominal surgery [4,5].

Epiploic appendages (appendices epiploicae) are fat-filled, peritoneal outpouchings along the colon, most prominently located in the sigmoid and caecal regions [6]. Each appendage contains a vascular stalk and is prone to torsion or venous thrombosis, which can lead to infarction and inflammation a condition known as primary epiploic appendagitis (PEA) [2]. While typically self-limiting and managed conservatively, complications such as calcification or adhesion formation may rarely lead to mechanical SBO [4,5].

## Case Presentation

A 62-year-old female with a history of diabetes and hypertension presented to the emergency department with diffuse abdominal pain

and vomiting for 24 hours, along with obstipation. She had no fever, abdominal distension, or previous surgeries. On examination, she was haemodynamically stable. The abdomen was soft, non-distended, with generalised tenderness. Bowel sounds were present. Per rectal examination showed normal sphincter tone with stool-stained gloves. Contrast-enhanced CT (CECT) of the abdomen revealed dilated jejunal and proximal ileal loops (maximum diameter 3.6 cm) with a transition point in the proximal ileum. A 2.5 × 2.4 cm fat-containing lesion with peripheral calcification was noted in the pelvis, suspicious for a calcified epiploic appendage. A short segment of jejunal narrowing adjacent to this lesion raised concern for stricture or external compression [Figure 1,2].

After 24 hours of conservative management, the patient's symptoms persisted. A diagnostic laparoscopy was undertaken. Intraoperatively, a calcified epiploic appendage was found arising from the sigmoid mesentery and adherent to the anterior abdominal wall, compressing the distal jejunum. The jejunal loops proximal to this point were collapsed, while distal ileal loops were dilated [Figure 3]. The epiploic appendage was mobilised and resected [Figure 4].

Histopathology confirmed fat necrosis with calcification [Figure 5]. The patient passed stool on postoperative day one and was discharged on day three in stable condition.

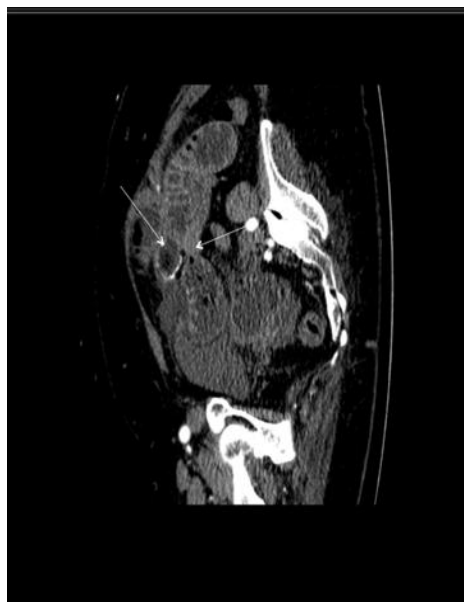


Figure 1



Figure 2

Figure 1 and 2: Showing dilated jejunal and proximal ileal loops (maximum diameter 3.6 cm) with a transition point in the proximal ileum. A  $2.5 \times 2.4$  cm fat-containing lesion with peripheral calcification was noted in the pelvis, suspicious for a calcified epiploic appendage. A short segment of jejunal narrowing adjacent to this lesion raised concern for stricture or external compression.

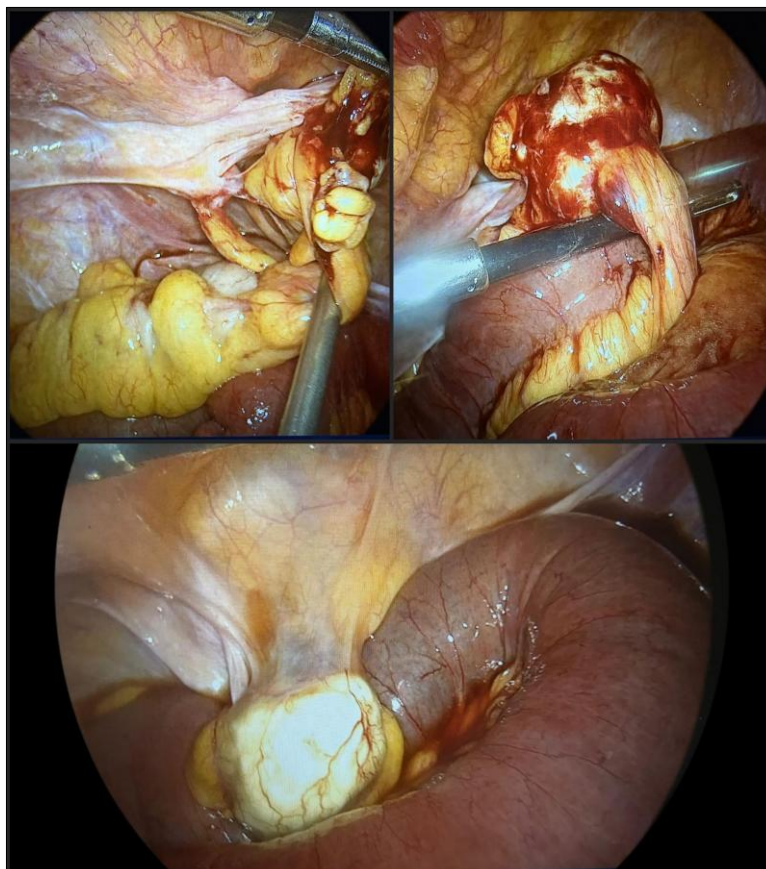
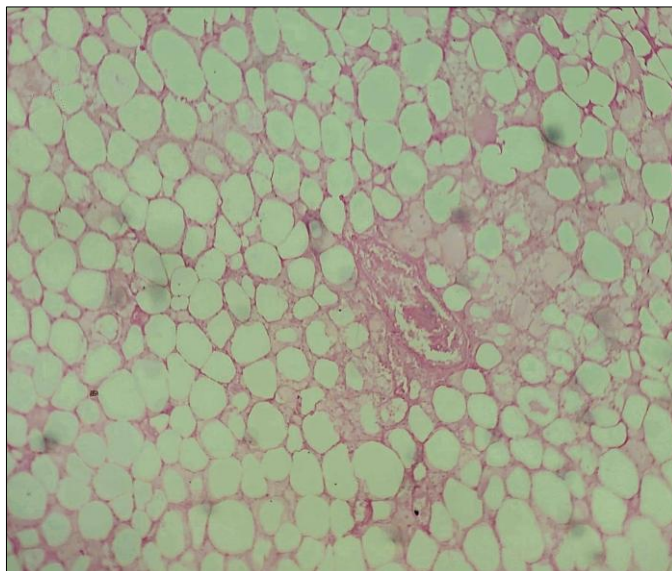
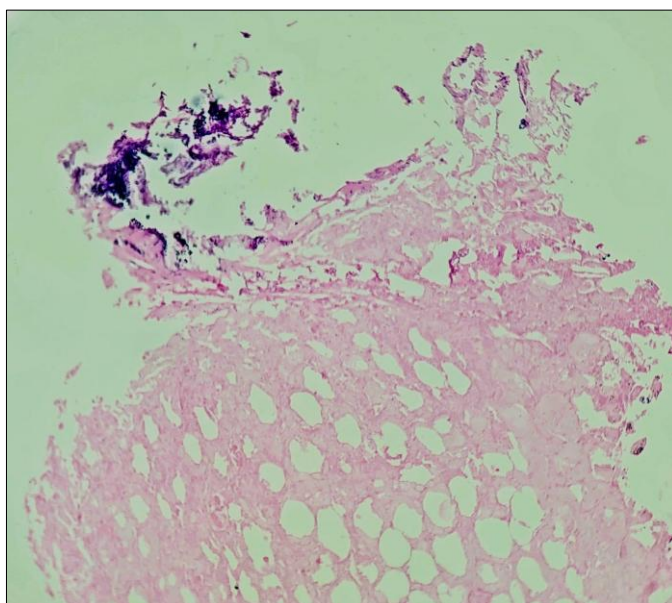


Figure 3: Intraoperatively, calcified epiploic appendages seen adherent to anterior abdominal wall and mesentery of sigmoid colon.



**Figure 4: Fibroadipose tissue with fat necrosis and congested blood vessels.**



**Figure 5: Microscopy showing calcification.**



**Figure 5: Calcified epiploic appendage**

## Discussion

Epiploic appendagitis is an uncommon but important differential diagnosis in cases of acute abdominal pain and, rarely, SBO [4,5]. It predominantly affects obese males in their 4th to 5th decades but may also occur in women and children. Torsion or spontaneous venous thrombosis of the appendage results in ischaemia and inflammation [2]. Due to its non-specific clinical presentation, EA is frequently misdiagnosed as diverticulitis, appendicitis, or cholecystitis [3,10]. The size of an epiploic appendage ranges from 0.5 to 5 cm and is related to obesity [7]. Branches of a circular end-artery and a central draining vein compose their vasculature [8].

Ultrasound may reveal a hyperechoic, non-compressible mass at the site of pain, but CT remains the gold standard for diagnosis [11]. Characteristic CT findings include a fat-density ovoid lesion with a hyperattenuating rim and surrounding stranding. However, in cases of SBO, while the transition point may be noted, the underlying cause such as a calcified epiploic appendage may remain elusive.

Most cases of EA resolve with conservative treatment; however, surgical intervention is warranted in cases with complications such as obstruction, infarction, or failure of conservative management. A handful of cases of SBO secondary to EA have been reported in the literature, mostly managed by open surgery [13]. Our case is distinctive in its successful laparoscopic management, demonstrating that minimally invasive surgery is a viable and effective approach, especially in patients with no prior abdominal operations.

Moreover, internal herniation or adhesions involving epiploic appendages, even in patients with virgin abdomens, are rare but recognised mechanisms of SBO. A high index of suspicion, timely imaging, and prompt surgical exploration remain critical in achieving favourable outcomes.

## Conclusion

This case illustrates a rare but significant cause of small bowel obstruction due to a calcified epiploic appendage. In patients with no prior abdominal surgery and atypical imaging findings, epiploic appendagitis should be considered as a potential aetiology. Early diagnosis, aided by high-quality imaging and confirmed through laparoscopy, allows for targeted surgical intervention with minimal morbidity. Laparoscopic resection, as demonstrated in this case, offers an excellent therapeutic option with rapid recovery.

## Abbreviations

SBO: Small Bowel Obstruction

EA: Epiploic Appendagitis

PEA: Primary Epiploic Appendagitis

CECT: Contrast-Enhanced Computed Tomography

CT: Computed Tomography

## Declaration

## Ethics approval and consent to participate

Written informed consent was obtained from the patient. Ethics committee approval was not required.

## Consent for publication

I on behalf of all co-authors, hereby give my consent for publication of the manuscript in your esteemed journal.

## Availability of supportive data

If needed, we give consent to provide supplementary Data.

## Competing Interests

None

## Funding Statement

None

## Author's contributions

Dhiliphan A M and Koralla Sai Prathyusha was involved in data collection and drafting the manuscript, Prof Naveen Alexander were involved in reviewing, editing and finalising the manuscript.

## Acknowledgement

None

## Conflict of interest

The authors have no conflicts of interest to declare.

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