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Small Bowel Obstruction Revealing a Primary Small Bowel Adhesive Band: A Case Report

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Abstract | **Case Report**

Small bowel obstruction (SBO) is a common surgical emergency, most frequently caused by postoperative adhesions. However, primary adhesive bands occurring in patients without previous abdominal surgery are rare and may represent a diagnostic challenge. We report the case of a 48-year-old male patient with no past medical or surgical history, admitted for complete cessation of stool and flatus for five days. Clinical examination revealed abdominal distension with an empty rectal ampulla on digital rectal examination. Laboratory investigations showed leukocytosis (18,460/mm³), elevated C-reactive protein (98 mg/L), and hyponatremia (127 mmol/L). Abdominal computed tomography demonstrated small bowel obstruction likely caused by an adhesive band, associated with minimal peritoneal fluid. Emergency surgical exploration revealed diffuse small bowel dilatation proximal to a primary adhesive band located approximately 150 cm from the ligament of Treitz, with viable bowel and no evidence of ischemia. Surgical management consisted of adhesiolysis associated with bowel decompression. Postoperative recovery was uneventful, with restoration of bowel transit on postoperative day 2 and discharge on day 3. This case highlights that primary adhesive bands, although rare, should be considered even in patients without previous surgical history.

Keywords: Small bowel obstruction; Primary adhesive band; Adhesions; Intestinal obstruction.

INTRODUCTION

Small bowel obstruction (SBO) is a frequent surgical emergency and accounts for a significant proportion of emergency abdominal admissions. Postoperative adhesions represent the leading cause, accounting for approximately 60–75% of cases [1,2]. In contrast, bowel obstruction caused by a primary adhesive band in patients without prior abdominal surgery is rare and remains poorly understood [3].

These atypical presentations may delay diagnosis and management, increasing the risk of severe complications such as bowel ischemia, necrosis, or perforation [2]. Computed Tomography currently represents the imaging modality of choice for identifying the obstruction site, assessing bowel viability, and detecting signs of strangulation [2].

To report a rare case of small bowel obstruction secondary to a primary adhesive band in a patient without previous surgical history, and to discuss the diagnostic and therapeutic challenges of this uncommon entity.

CASE PRESENTATION

A 48-year-old male patient with no significant medical or surgical history was admitted to the emergency department for complete cessation of stool and flatus evolving for five days.

On physical examination, the abdomen was distended. Digital rectal examination revealed an empty rectal ampulla.

Laboratory investigations demonstrated leukocytosis at 18,460/mm³, hemoglobin of 17.3 g/dL, platelet count of 326,000/mm³, and prothrombin activity of 85.2%. Biochemical analysis revealed hyponatremia (127 mmol/L), potassium level of 4.22 mmol/L, urea of 1.22 g/L, creatinine of 25.37 mg/L, and elevated C-reactive protein (98 mg/L), suggesting inflammatory syndrome associated with dehydration.

Abdominal computed tomography demonstrated small bowel obstruction likely caused by an adhesive band, associated with a small amount of peritoneal fluid.

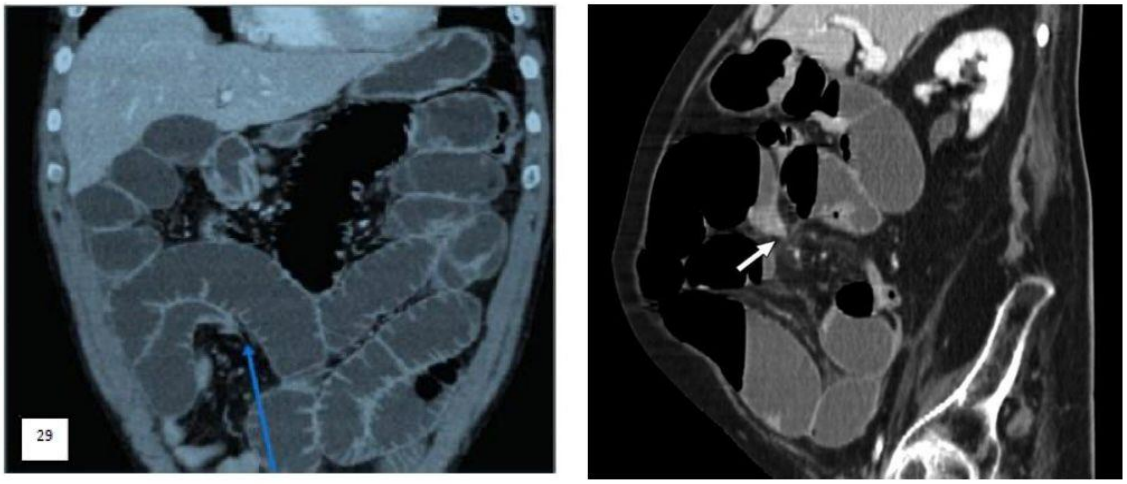

Figure 1: CT scan showing small bowel obstruction with suspected adhesive band

Given the clinical and radiological findings, emergency surgery was indicated. Intraoperative exploration revealed diffuse small bowel dilatation proximal to a primary adhesive band located approximately 150 cm from the ligament of Treitz. The colon was collapsed, and the small bowel remained viable without evidence of ischemia.

Surgical management consisted of division of the adhesive band (adhesiolysis) associated with bowel decompression. Postoperative recovery was uneventful, with restoration of bowel transit on postoperative day 2 and discharge on postoperative day 3.

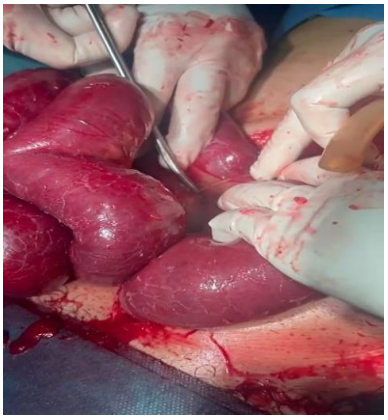

Figure 2: Intraoperative view of the small bowel adhesive band

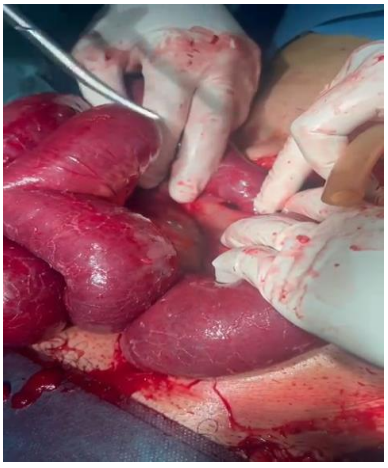

Figure 3: Intraoperative image after section of the primary adhesive band

Discussion

Adhesive small bowel obstruction remains the most common cause of mechanical bowel obstruction in adults and is usually related to previous abdominal surgery [1,2]. According to the World Society of Emergency Surgery Bologna guidelines, adhesions account for nearly 60% of small bowel obstructions and remain associated with significant morbidity and healthcare burden [2].

In contrast, primary adhesive bands occurring in patients without surgical history are rare. Their pathophysiology remains unclear, and several mechanisms have been proposed, including congenital peritoneal anomalies, embryological remnants, or previous subclinical inflammatory intra-abdominal processes [3,4]. Adult cases remain uncommon in the literature [3].

Clinically, SBO typically presents with abdominal pain, abdominal distension, vomiting, and cessation of stool and flatus. In our patient, the prolonged symptom duration associated with leukocytosis, elevated inflammatory markers, and electrolyte imbalance suggested a potentially severe obstruction requiring urgent surgical management [3].

Computed tomography is considered the gold standard imaging modality for SBO, allowing identification of the transition point, evaluation of bowel perfusion, and detection of radiological signs suggestive of strangulation such as mesenteric edema, free fluid, or bowel wall thickening [2,5]. In our case, CT scan suggested an adhesive obstruction with minimal peritoneal fluid, supporting the indication for surgery.

Surgical exploration confirmed the presence of a single primary adhesive band without bowel compromise. Early operative management allowed simple adhesiolysis and bowel decompression, avoiding intestinal resection. Previous studies have shown that delayed surgery in complicated SBO may increase the risk of bowel necrosis and postoperative morbidity [5].

This case challenges the classical assumption that adhesive bands are exclusively postoperative in origin and highlights the importance of considering primary adhesive bands in the differential diagnosis of SBO, even in patients without previous abdominal surgery.

Conclusion

Small bowel obstruction caused by a primary adhesive band is a rare but clinically important entity that should be considered even in patients without previous abdominal surgery.

Early diagnosis and prompt surgical management are essential to prevent complications and ensure favorable postoperative outcomes, particularly in the absence of bowel ischemia.

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