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Small bowel obstruction due to splenosis few years after splenectomy : A Case Report .

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Case Report

ABSTRACT

Background: Small bowel obstruction secondary to abdominal splenosis is a rare clinical condition that may occur many years after splenectomy and often presents a diagnostic challenge. We report the case of a patient who presented with features of acute small bowel obstruction ten years following splenectomy. The patient had a history of prior splenic surgery and no other significant abdominal pathology. Contrast-enhanced computed tomography of the abdomen revealed multiple well-defined intra-abdominal nodules consistent with splenosis, associated with signs of mechanical small bowel obstruction.

Given the persistence of obstructive symptoms, the patient underwent exploratory laparotomy. Intraoperatively, multiple ectopic splenic implants were identified within the peritoneal cavity, with dense adhesions causing small bowel obstruction. Adhesiolysis and excision of the obstructing splenic tissue were performed. Postoperative recovery was uneventful, with complete resolution of symptoms.

Histopathological examination confirmed the presence of ectopic splenic tissue consistent with splenosis. The patient remained asymptomatic on follow-up.

This case highlights the importance of considering abdominal splenosis in the differential diagnosis of small bowel obstruction in patients with a history of splenic injury or splenectomy. Early recognition using appropriate imaging modalities may aid diagnosis, while surgical management remains the definitive treatment in symptomatic cases.

KEYWORDS: abdominal Splenosis, Small bowel obstruction, Splenectomy, Intestinal obstruction.

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INTRODUCTION

Intestinal obstruction is one of the most common surgical emergencies encountered in clinical practice and remains a significant cause of morbidity and hospital admission worldwide. It results from the partial or complete interruption of the normal passage of intestinal contents and may lead to serious complications, including bowel ischemia, necrosis, perforation, sepsis, and death if diagnosis or treatment is delayed. Although postoperative adhesions, incarcerated hernias, malignancies, and volvulus account for the majority of cases, uncommon aetiologies continue to pose diagnostic challenges because of their rarity and nonspecific clinical presentation [1,2].

Splenosis is a benign acquired condition characterised by heterotopic autotransplantation of viable splenic tissue following traumatic splenic rupture or splenectomy. After disruption of the splenic capsule, splenic fragments may disseminate throughout the peritoneal cavity and implant on vascularised surfaces, where they subsequently establish an independent blood supply and proliferate. Unlike accessory spleens, which arise from congenital embryological anomalies and possess a normal splenic architecture and vascular pedicle, splenetic implants derive their blood supply from surrounding tissues and demonstrate variable histological organisation [3,4].

The true incidence of splenosis remains uncertain and is likely underestimated, with studies suggesting that splenic autotransplantation may occur in up to 65–75% of patients following splenic trauma or splenectomy. The condition most commonly involves the peritoneal cavity, including the omentum, mesentery, bowel serosa, and pelvic structures, although ectopic splenic tissue has also been reported in the thorax, liver, pancreas, subcutaneous tissue, and other unusual locations. In most cases, splenosis remains asymptomatic and is discovered incidentally years or even decades after the initial splenic injury during imaging studies or surgical exploration performed for unrelated conditions [4–6].

Despite its generally benign nature, splenosis may occasionally result in clinically significant complications depending on the size, number, and location of the implants. Reported manifestations include chronic abdominal pain, gastrointestinal bleeding, hydronephrosis, ureteric obstruction, pelvic pain, and intestinal obstruction. Bowel obstruction secondary to splenosis is particularly rare and may occur through several mechanisms, including adhesive bands, external compression of bowel loops, mesenteric involvement, volvulus, or entrapment of intestinal segments between splenic nodules. Because symptoms may develop many years after the original splenic injury, the relationship between prior splenectomy and current presentation is often overlooked, contributing to delayed diagnosis and management [7–9].

The diagnosis of abdominal splenosis remains challenging because radiological findings frequently mimic both benign and malignant intra-abdominal pathologies, including peritoneal carcinomatosis, metastatic disease, lymphoma, gastrointestinal stromal tumors, and primary peritoneal neoplasms. Conventional imaging modalities such as ultrasonography, computed tomography (CT), and magnetic resonance imaging (MRI) can demonstrate multiple soft-tissue nodules but often lack sufficient specificity for definitive diagnosis. Nuclear scintigraphy using technetium-99m-labelled heat-damaged red blood cells remains the most sensitive and specific noninvasive diagnostic modality for identifying functional ectopic splenic tissue and differentiating splenosis from neoplastic disease, thereby preventing unnecessary invasive procedures [4,10,11].

Awareness of splenosis as a potential cause of intestinal obstruction is therefore of considerable clinical importance. In patients presenting with bowel obstruction and a remote history of splenic trauma or splenectomy, splenosis should be included in the differential diagnosis, particularly

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when multiple unexplained intra-abdominal nodules are identified on imaging. Early recognition may facilitate appropriate operative planning, avoid misdiagnosis, and prevent unnecessary extensive surgical resection. Given the rarity of this presentation, individual case reports continue to provide valuable insights into its pathophysiology, diagnostic challenges, and optimal management strategies.

We report a rare case of small bowel obstruction secondary to abdominal splenosis occurring ten years after splenectomy. This case highlights the diagnostic difficulties associated with this unusual entity and emphasizes the importance of considering splenosis in the differential diagnosis of intestinal obstruction in patients with a previous history of splenic trauma or splenectomy.

Case Presentation

A [33]-year-old male presented to the emergency department with a [3]-day history of abdominal pain, abdominal distention, obstipation and multiple episodes of profuse bilious vomiting Upon presentation,he was haemodynamially stable and afebrile On physical examination he had severe abdominal distension,high_pitched bowel sounds diffuse tenderness and no guarding .The patient laboratory studies showed leucocytosis with a left neutrophil shift:the remaining test results were all within the normal range An abdominal x_ray showed small bowel distention with multiple air _fluid levels (figure1).

Figure (1) abdominal x ray show multiple air fluids levels



Figure (2) Abdominal computed tomography with intravenous contrast showing the mass causing small bowel obstruction (1), dilated proximal small bowel loops (2) and splenosis distributed in the abdomen (3)

Enhanced abdominal computed tomography was consistent with small bowel obstruction ,with transition zone at the level of the left lower abdominal quadrant suggesting an internal hernia or adhesions .Radiology also noted multiple disseminated nodules compatible with splenosis (figure 2)The patient had a significant past surgical history of splenectomy performed ten years earlier following abdominal trauma.

A diagnosis of small bowel obstruction was made ,A nasogastric tube was inserted and the patient was prepared for surgery .A midline Exploratory laparotomy over old wound scar was done , which revealed multiple dark _red nodules ranging from 1cm to 10 cm attached to the mesentery and jejunal loop (figure 3), causing extrinsic compression and adhesions leading to obstruction ,Adhesiolysis and excision of the obstructing nodules were performed. Histopathological examination confirmed splenic tissue formed by a white pulp and a red pulp, consistent with splenosis.

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Figure (3) shows intraoperative picture for splenosis nodules at jejunal loop of bowel.

The postoperative course was uneventful, and the patient was discharged on postoperative day [5]. At follow-up, the patient remained asymptomatic.

METHODS

Study Design:

- A descriptive single-patient case report was conducted
- Detailed clinical history, including prior splenic trauma or splenectomy, was obtained
- Physical examination and routine laboratory investigations were performed
- Radiological evaluation with contrast-enhanced CT abdomen was used for assessment
- Surgical exploration was undertaken due to clinical indication
- Intraoperative findings were recorded, and excised tissue was sent for histopathological examination
- Postoperative follow-up was carried out to assess clinical outcome and recovery

Study Setting:

Takins General Hospital, Takins, Libya.

DISCUSSION

Abdominal splenosis is an uncommon acquired condition resulting from autotransplantation of splenic tissue following splenic trauma or splenectomy. Although its incidence after splenic injury may be relatively high, most cases remain asymptomatic and are discovered incidentally. Symptomatic splenosis is rare, and small bowel obstruction (SBO) secondary to splenosis remains an exceptionally uncommon complication, with only isolated case reports and small case series available in the literature. A recent systematic review by Peitsidis et al. highlighted the rarity and heterogeneous clinical presentation of splenosis, emphasising its potential to mimic a variety of intra-abdominal pathologies and contribute to diagnostic uncertainty (1). (La Clinica Terapeutica

The interval between splenic injury and the diagnosis of splenosis is highly variable, ranging from 1 to 57 years according to the systematic review by Peitsidis et al. (1). This prolonged latency period frequently obscures the association between previous splenic trauma and current clinical manifestations. In the present case, intestinal obstruction occurred ten years after splenectomy, which is consistent with previously reported cases of splenosis-related bowel obstruction. (La Clinica Terapeutica)

Radiological diagnosis remains challenging because splenosis may closely resemble peritoneal carcinomatosis, metastatic disease, lymphoma, or other intra-abdominal neoplasms. Contemporary radiological reviews have emphasized that CT and MRI findings are often non-specific, whereas technetium-99m-labelled heat-damaged red blood cell scintigraphy remains the most sensitive and specific non-invasive diagnostic modality for confirming ectopic splenic tissue (2,3). However, its utility may be limited in emergency settings where acute intestinal obstruction necessitates urgent surgical intervention. (NCBI)

From a surgical perspective, operative management is indicated in patients with persistent bowel obstruction or when the diagnosis remains uncertain. In our patient, multiple splenic implants and associated adhesions resulted in mechanical small bowel obstruction. Adhesiolysis

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and excision of the splenic nodules successfully relieved the obstruction without bowel resection. Awareness of this rare entity is essential because misdiagnosis may lead to unnecessary extensive surgical procedures. Therefore, splenosis should be considered in the differential diagnosis of intestinal obstruction in any patient with a remote history of splenic trauma or splenectomy.

CONCLUSION

splenosis should be considered in Pt presenting with IO & a prior H/O splenic trauma or splenectomy. Early recognition may prevent misdiagnosis &unnecessary extensive surgery.surgical excision of symptomatic implant provides definitive treatment with excellent outcomes

Ethical Statement

Administrative approval obtained from patient And from Takins general hospital

CONFLICT OF INTEREST

The author declare no conflict of interest.

AUTHORS' CONTRIBUTIONS

Khaled S. Alsherif: study design, data collection, analysis, manuscript drafting.

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We describe in Table 1 all the reported cases in the literature where a splenosis was the cause of bowel obstruction and whether or not exploration is warranted.

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