

## Abdominal Splenosis: An Unusual Cause of Bowel Obstruction in a 7-Year-Old Child

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### Abstract

Splenosis is a rare condition defined as a heterotopic auto-transplantation of splenic tissue, typically after blunt abdominal trauma. It can occur anywhere in the abdominal cavity, or even the chest. Splenosis found in clinical practice is relatively rare because most patients are asymptomatic. We report a rare case of abdominal splenosis in a 7-year-old boy, 3 years after an abdominal blunt trauma.

**Key Words:** Bowel obstruction, Children, Splenosis; Surgery, Trauma.

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## 1- INTRODUCTION

Splenosis is a rare condition defined as a heterotopic auto-transplantation of splenic tissue, typically after blunt abdominal trauma (1). It can occur anywhere in the abdominal cavity, or even the chest (2, 3). Splenosis seeds onto exposed vascularized peritoneal surfaces following splenic trauma or surgery. However, splenosis found in clinical practice is relatively rare because most patients are asymptomatic (4). We report a rare case of abdominal splenosis in a 7-year-old boy, 3 years after an abdominal blunt trauma.

## 2- CASE REPORT

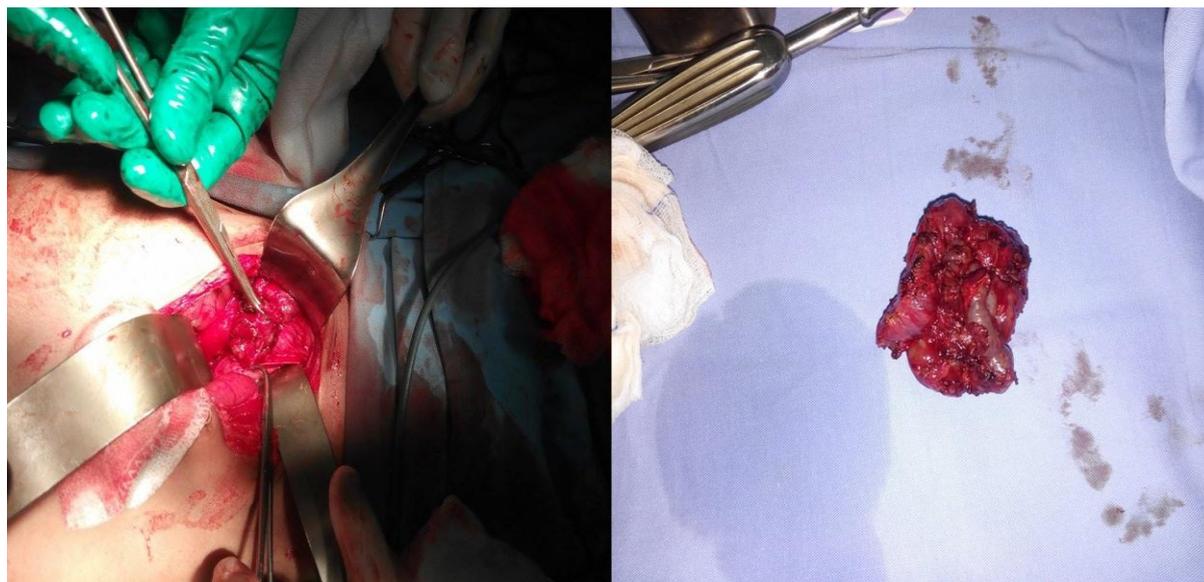
A 7-year-old boy, with a history of a trauma to the left upper quadrant at the age of four, presented to the pediatric emergency department with a 2-day

history of abdominal pain and vomiting. On physical examination, the patient was lethargic, his temperature was 37.9°C and his abdomen was distended. Vital signs were normal. Plain abdominal radiograph showed air-fluid levels (**Figure.1**). Computed tomography (CT) scan findings were suggestive of mechanical small bowel obstruction. However, the cause of this obstruction was not detected.

Urgent exploratory laparotomy was performed. Upon exploration and adhesiolysis, a well-contoured, dark blue mass was found in the small bowel mesentery in tight contact with the rectum and the abdominal wall. This mass was resected (**Figure.2**). The pathological examination of the operative specimen revealed a normal splenic tissue, consistent with a diagnosis of splenosis.



**Fig.1:** Plain abdominal radiograph showing air-fluid levels.



**Fig.2:** Intraoperative view of the resected mass.

### 3- DISCUSSION

Splenuis is a benign condition among patients with a history of splenic trauma or surgery (4-6). The majority of splenuis cases occur after traumatic splenuis, whereas a few are the result of elective splenuis done for hematological diseases (6). The actual incidence of splenuis is not known due to the incidental nature of the diagnosis (7). Splenuis is not a rare disease. Abdominal splenuis has been shown to occur in 16-17% of patients who undergo elective splenuis for a hematological disease, and in 44-76% of patients with a posttraumatic splenuis due to spillage after traumatic insult (8).

Splenic fragments could heterotopically auto transplant onto vascularized intra or extra peritoneal surfaces, deriving its blood supply from adjacent tissues and organs (2, 9). Splenic fragments usually spread by a direct seeding process onto adjacent surfaces, mainly the small intestine serosa, the greater omentum, the parietal peritoneum, the undersurface of the diaphragm, and the pancreatic tail (10). A hematological spread of splenic fragments

to distant organs such as the liver, the breast, and the brain has also been described (11). Most of patients with splenuis are asymptomatic and splenic deposits are usually found incidentally on imaging or at laparotomy (4, 12). However, splenuis may be implicated in recurrent episodes of abdominal pain, small bowel obstruction, and bleeding by invasion into the gut or its own rupture (7, 13). Standard CT and Magnetic resonance imaging (MRI scans could be able to identify and describe the anatomical locations of these deposits (13).

However, these imaging tools are of limited value and are nonspecific in this entity. Splenuis could mimic malignancy on imaging posing a diagnostic dilemma. Standard CT and MRI scans cannot distinguish splenuis nodules from other conditions such as metastatic disease, pheochromocytoma, lymphoma, carcinomatosis, hepatic or renal malignancy, endometriosis, or simple adenopathy (14, 15). In the present case, CT scan was not helpful for the diagnosis of abdominal splenuis. Technetium-99m-labelled erythrocytes scintigraphy has been

demonstrated to be the most sensitive and specific diagnostic technique for detecting ectopic splenic tissue (15-17). When imaging findings alone do not provide a definitive diagnosis of splenosis, surgery is needed to reach the final diagnosis (17). The treatment of splenosis depends on the patient's symptoms (18). Asymptomatic splenosis pose no risk and the resection of splenic deposits is not required (6). Surgery is required in cases of symptomatic or complicated splenosis, in patients with hematological disease for whom splenectomy is beneficial, and when scintigraphic methods are not available (19). At present, the development of laparoscopic surgical techniques, provides a port for minimally invasive entry for the visualization of suspected abdominal masses, and allows access for eventual biopsy or resection (20).

#### 4- CONCLUSION

Abdominal Splenosis should be included as a potential source for abdominal pain or bowel obstruction in splenectomized patients or those with abdominal blunt trauma to prevent unnecessary surgeries.

**5- CONFLICT OF INTEREST:** None.

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