



A Rare Case of Splenic Flexure Volvulus

Min Yien Tan^{1*}; Michelle Zhiyun Chen^{1,2}; Arsalan Bakhtiar^{1,2}; Ewan MacDermid^{1,2}

¹Department of General Surgery, Nepean Hospital, Kingswood, NSW, Australia.

²Department of Colorectal Surgery, Nepean Hospital, Kingswood, NSW, Australia.

*Corresponding Author(s): Min Yien Tan

Nepean Hospital, Derby Street, Kingswood, New South Wales 2747, Australia.

Tel: 02-47342000; Email: minyien.tan@health.nsw.gov.au

Received: Dec 20, 2022

Accepted: Jan 12, 2023

Published Online: Jan 16, 2023

Journal: Journal of Case Reports and Medical Images

Publisher: MedDocs Publishers LLC

Online edition: <http://meddocsonline.org/>

Copyright: © Tan MY (2023). *This Article is distributed under the terms of Creative Commons Attribution 4.0 International License*

Case report

Splenic Flexure Volvulus (SFV) is rare due to the relatively fixed position of the splenic flexure from its ligamentous attachment to surrounding structures such as the stomach, spleen and diaphragm [1]. SFV accounts for only 1-2% of all colonic volvulus, and approximately 50 cases have been described in the literature [1,2]. Risk factors for SFV include chronic constipation and its associated conditions such as Hirschprung's disease, cerebral palsy, myotonic dystrophy and psychiatric disorders [2]. We present a rare case of SFV and its management.

A 50 year old gentleman presented with three weeks history of intermittent left upper abdominal pain, nausea, bloating and constipation. He had no medical comorbidities and had not had any previous abdominal surgeries. His last colonoscopy 10 years ago was normal. On examination, his abdomen was distended with mild tenderness in the left abdomen. Abdominal X-ray demonstrated a "coffee-bean sign" in the left upper quadrant (**Figure 1a and 1b**). Computed Tomography (CT) of the abdomen and pelvis confirmed a splenic flexure volvulus with two transition points seen in close proximity to each other (**Figure 2a-2c**).

Abstract

Splenic Flexure Volvulus (SFV) is rare and accounts for only 1-2% of all colonic volvulus, with approximately 50 cases being described in the literature. Patients typically present with non-specific symptoms of a large bowel obstruction such as abdominal pain, distension, obstipation, nausea or vomiting. The diagnosis of SFV can be easily missed, especially in well patients with symptoms of mild distension or partial bowel obstruction. We present the case of a 50 year old gentleman who presented with three weeks history of non-specific symptoms of a partial bowel obstruction, whom was later diagnosed with a splenic flexure volvulus managed with laparoscopic left hemicolectomy.

The patient underwent an emergency laparoscopic left hemicolectomy with an end-to-end hand sewn colo-colonic anastomosis. Intraoperatively, the splenic flexure was found to be redundant and dilated, and twisted on its own mesentery (**Figure 3**). A single band omental adhesion was also found to be attached to the visceral aspect of the spleen and the descending colon, contributing to the volvulus. Post-operatively, he had a slow recovery and was discharged on Day 10.

Patients with SFV typically present with signs of large bowel obstruction such as abdominal pain, distension, obstipation, nausea or vomiting. SFV is known to be associated with a history of chronic constipation, congenital disorders such as wandering spleen, Chilaiditi syndrome and Prune Belly syndrome [3-5]. About two-thirds of SFV cases are attributed to secondary causes related to previous abdominal surgeries from mobilization of splenic flexure or adhesion formation [2].

The diagnosis of SFV can be easily missed, especially in well patients with symptoms of mild distension or partial bowel obstruction. Frequently, SFV is diagnosed on CT or in exploratory laparotomies when there are concerns of ischemic gut.



In general, the principles for treatment of SFV are similar to those of the more common sigmoid and caecal volvulus. In stable patients with no signs of bowel compromise, endoscopic detorsion followed by definitive resection is generally recommended [2]. Endoscopic detorsion for sigmoid volvulus has a success rate of up to 83%, whereas upfront operative intervention is recommended for caecal volvulus due to the limited success of endoscopic approach [6,7]. However, the role of endoscopy in SFV is unclear due to its rarity, with only one reported case in the literature with success in endoscopic detorsion [2]. In higher risk patients, colo-pxy or tube colostomy are feasible alternatives to resection [1]. When there is evidence of bowel compromise, decompression should not be attempted and surgical resection should be performed promptly.



Figure 1: Abdominal X-ray demonstrating dilated colon in left upper quadrant. "Coffee bean sign". (a) Supine view. (b) Erect view.

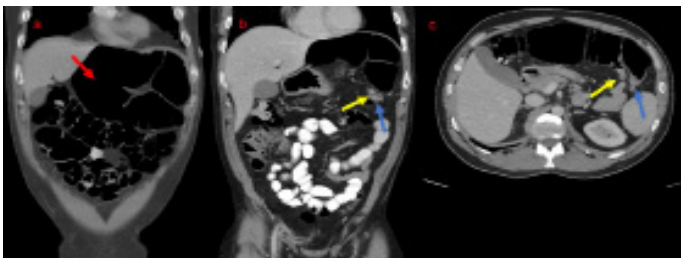


Figure 2: CT abdomen and pelvis demonstrating splenic flexure volvulus. (a) Coronal view. (Red arrow = Splenic flexure volvulus); (b) Coronal view. (Yellow arrow and blue arrows = "v-shaped" transition point involving 2 separate loops of large bowel); (c) Axial view. (Yellow and blue arrows = transition point involving 2 separate loops of large bowel).

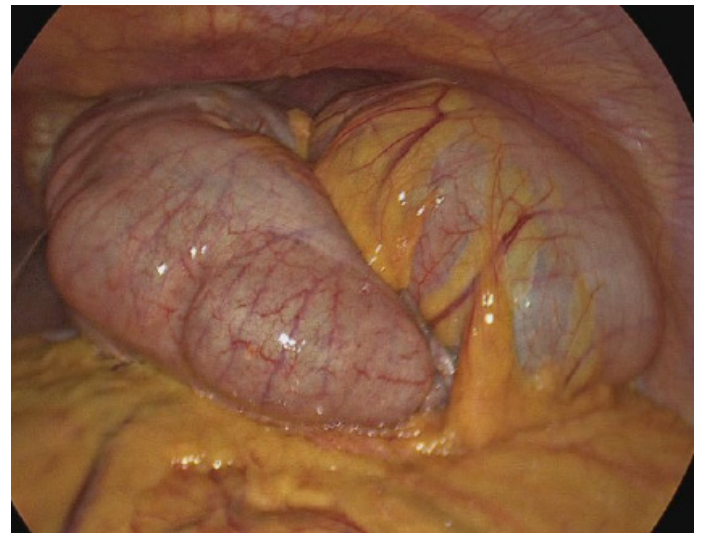


Figure 3: Intraoperative photo of splenic flexure volvulus.

Disclosure statement

The authors are not research scholarship recipients and have no conflict of interest to declare. Informed consent has been obtained from the patient for journal publication.

Conflict of interest and sources of funding: None declared.

References

1. Hsueh CC, Jaw TS, Lin JY, Chan HM. Splenic Flexure Colonic Volvulus: A Pediatric Case Report. *The Kaohsiung Journal of Medical Sciences*. 2007; 23: 207-210.
2. Umbu L, Muttana S, Best K, Kamagate N, DeVito P. Splenic flexure volvulus: a rare case report. *Journal of surgical case reports*. 2022; 2022: 354.
3. Kachare M, Jaisinghani P. Torsion of a Wandering Spleen Involving the Pancreatic Tail and Splenic Flexure and Isolated Left-Sided Portal Hypertension due to Chronic Splenic Vein Thrombosis. *Journal of Gastrointestinal and Abdominal Radiology*. 2022.
4. Havenstrite KA, Harris JA, Rivera DE. Splenic flexure volvulus in association with Chilaiditi syndrome : Report of a case. *The American Surgeon*. 1999; 65: 874-876.
5. Knight PJ, Morse TS. Splenic flexure volvulus. *Journal of Pediatric Surgery*. 1981; 16: 744-746.
6. Atamanalp SS. Endoscopic Decompression of Sigmoid Volvulus: Review of 748 Patients. *Journal of Laparoendoscopic & Advanced Surgical Techniques*. 2022; 32: 763-767.
7. Consorti ET, Liu TH. Diagnosis and treatment of caecal volvulus. *Postgraduate Medical Journal*. 2005; 81: 772-776.