



Cecal Bascule - An Unusual Onset Following Hysterectomy

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Submitted: 27 July 2024 Accepted: 29 July 2024 Published: 02 Aug 2024

Citation: Mohammad Ali Hassan, Neil Sungyao Hsu, Kevin Rui Tang, Nalin Ranasinghe, Leonard Ranasinghe and Mark Davidson (2024). Cecal Bascule - An Unusual Onset Following Hysterectomy. *J of Clin Case Stu, Reviews & Reports* 2(8), 1-8.

Abstract

Introduction

Cecal bascule is a rare manifestation of intestinal volvulus in which the cecum is folded superioanteriorly to the ascending colon [1].

Case Presentation

We present a 62-year-old female presenting to the emergency department with cecal bascule more than six months after a hysterectomy. She was treated conservatively and monitored with medication and IV fluids without any surgical intervention. Three weeks later, the patient returned with pain that migrated from the right upper quadrant to the mid-abdomen. Subsequent CT found the cecum dilated to 10 cm and gas buildup in the abdomen.

Discussion

Cecal bascule is rare, constituting about 5-20% of all cases of cecal volvulus [4]. The formation of cecal bascules largely relies on redundancy or hypermobility of the cecum [5]. The cecum will fold in a superior and anterior fashion relative to the ascending colon, potentially leading to a bowel obstruction [1]. Cecal bascules are usually diagnosed following surgical procedures involving the abdomen, where the diagnosis is often made within two weeks of the procedure [6-8]. This patient had a hysterectomy more than 6 months prior to developing the bowel obstruction, and a past surgical history of a cholecystectomy. This is an uncommon timeframe to develop a cecal bascule following a surgical procedure.

Significance

The majority of cecal bascules present within 14 days post-operation. The standard treatment of cecal bascule involves surgical intervention due to the high rate of recurrence associated with conservative treatment. We present a unique case of cecal bascule arising 6+ months post-hysterectomy, which was managed with conservative treatment.

Case Report

Introduction

Cecal bascule is a rare manifestation of intestinal volvulus in which the cecum is folded superioanteriorly to the ascending colon [1]. Unlike a cecal volvulus, a cecal bascule does not present with axial torsion [2]. As a result of the upward bend, the mucous membrane often occludes the lumen, disrupting the gaseous and fluid-emptying capabilities of the colon [1,2]. 2.8-7.1 million people are affected by cecal volvulus each year; cecal bascules constitute 5-20% of those cases [4]. We present a 62-year-old female presenting with cecal bascule in an unusual time frame following hysterectomy.

Case

A 62-year-old female with a past medical history of hypertension, overactive bladder, and restless leg syndrome presented to the emergency department (ED) with symptoms of nausea, vomiting, and right upper quadrant abdominal pain. She had a past surgical history of cholecystectomy and hysterectomy. The hysterectomy was completed over 6 months before she visited the emergency department. Upon physical examination, the patient was alert and oriented with a temperature of 36.7°C, heart rate of 78 bpm, respiratory rate of 16 breaths per minute, and oxygen saturation of 97%. Her blood pressure was elevated at 202/90, and 185/86 upon repeat measurement. The patient did not have abdominal tenderness or pulsatile masses, cervical-tho-

racic-lumbar spinal or next-to-spinal tenderness, or hip-knee tenderness or laxity. Her lungs were clear to auscultation, and she had good strength, sensation, range of motion, and capillary refill in both her upper and lower extremities.

Laboratory tests performed include a CBC with differential, CMP, lipase, troponin I, and urinalysis. Results were significant for relative and absolute neutrophils, red blood cell count, urine specific gravity, urine ketones, urine blood, and urine leukocyte esterase (Table 1). A computed tomography (CT) scan with IV contrast was performed, which showed a dilated cecum contain-

ing large fecal residue displaced towards the mid-abdomen with mild ascites in the pelvis. She was treated conservatively with IV fluids, IV Protonix, IV Zofran, and lactulose with improvement.

Three weeks following the initial visit, the patient presented to the emergency department reporting her right upper quadrant abdominal pain had migrated to the mid-abdomen. Repeat labs were performed with additional CK, protein-INR, and lactic acid (Table 1). A subsequent CT scan (Fig 1) showed similar findings with the cecum dilated to 10 cm.

Table 1: Patient’s Lab Results on Days One and Three During Her First Ed Visit, And on Her Second Ed Visit Three Weeks Later.

Lab Finding	Value on Day 1	Value on Day 3	Value on 3-week repeat visit	Reference Range
WBC (x103/ μ L)	8.9	10.3	9.7	3.7-10.6
RBC (x106/ μ L)	4.77	5.14	4.82	3.70-5.10
Hgb (g/dL)	13.4	14.8	13.7	11.5-15.5
Hct (%)	39.6	43.6	40.7	34.0-46.0
Platelet count (x103/ μ L)	291	326	292	140-425
Neutrophils, relative (%)	81.8	78.6	84.8	40.0-70.0
Neutrophils, absolute (/ μ L)	7,260	8,070	8,250	1,500-7,400
Lymphocytes, relative (%)	11.7	13.3	9.9	12.0-50.0
Lymphocytes absolute (/ μ L)	1,040	1,370	960	950-3,500
Creatinine (mg/dL)	0.8	0.8	0.8	0.6-1.2
AST (U/L)	16	N/A	15	13-39
ALT (U/L)	12	N/A	9	7-72
Alkaline Phosphatase (U/L)	74	N/A	48	34-104
Lipase (U/L)	45	N/A	49	11-82
CK (U/L)	N/A	N/A	51	67-95
Troponin I (pg/mL)	5.7	N/A	9.9	\leq 15.0
Prottime (seconds)	N/A	N/A	11.8	9.9-12.6
INR	N/A	N/A	1.0	0.9-1.1
Lactic acid, plasma (mmol/L)	N/A	N/A	0.7	0.5-2.2
Urine clarity	Clear	N/A	Slightly cloudy abnormal	Clear
Urine specific gravity	1.025	N/A	1.025	1.003-1.024
Urine pH	6.0	N/A	6.0	5.0-8.0
Urine ketone (mg/dL)	40.0	N/A	15.0	Negative
Urine blood	Small	N/A	Small	Negative
Urine leukocyte esterase	Trace	N/A	Small	Negative

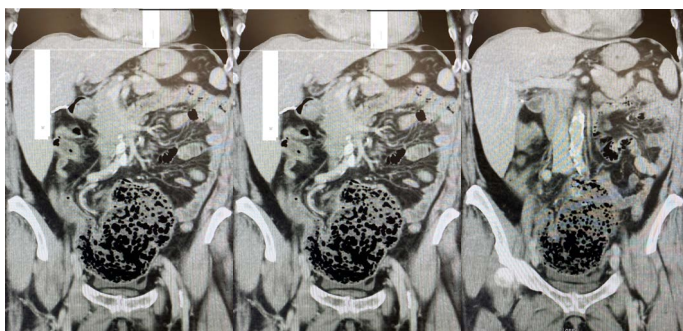


Figure 1: (A). CT of Abdomen and Pelvis with Contrast. Anterior view/Coronal plane. All CT scans at this Facility Use At Least One of These Dose Optimization Techniques: Automated Exposure Control; mA and/or kV Adjustment Per Patient Size (Includes Targeted Exams Where the Dose Is Matched to Clinical Indication); or Iterative Reconstruction. Contrast Material: OMNIPAQUE 350; Contrast Volume: 100 ml; Contrast Route: INTRAVENOUS (IV).

The patient underwent ileocecectomy with primary anastomosis. Due to the obstruction, there was little room for laparoscopic instruments, therefore going to an open colectomy was deemed appropriate. Intraoperative findings revealed dense bands of adhesions across the cecum distal to the ileocecal valve, causing near-complete obstruction and kinking of the cecum with distention. Lysis of these bands resulted in hypermobility of the cecum. There were no signs of perforation or ischemia, though serosal tears were present at the ileocecal valve. Mild inflammation of the colon was present at the site of compression by the bands. The cecum was distended over 10 cm.

There was no evidence to suggest malignancy as mechanical extrinsic compression clearly was causing the patient's obstruction. A side-to-side functional end-to-end anastomosis was created using a GIA stapler and a TA 60 stapler. The patient tolerated the surgery well and was determined to be safe for discharge to home on POD 2. Subsequent colonoscopy 4 months after discharge yielded only internal hemorrhoids.

Discussion

Cecal bascule is an uncommon presentation of cecal volvulus involving the folding of the cecum in a superior and anterior fashion relative to the ascending colon, potentially leading to a bowel obstruction [1]. The normal adult cecum is typically less than 9 centimeters in diameter, however, in this patient, the cecum was dilated to 10 centimeters. This enlargement can increase the risk of ischemia and necrosis [9]. The formation of cecal bascules largely relies on redundancy or hypermobility of the cecum, which can arise due to a congenital lack of or abnormality in the fixation of the cecum to the retroperitoneum [5]. Further risk factors include laxative use, high fiber intake, and peritoneal adhesions, either acquired congenitally or through prior abdominal surgeries [4]. Clinical bowel conditions such as chronic constipation, ileus, distal bowel obstruction, and colon pseudo-obstruction can also contribute to susceptibility [4].

Cecal bascules that have been diagnosed following surgical pro-

cedures include cholecystectomy, cesarean sections, hysterectomy, laparoscopic Nissen fundoplication, and lung transplant [6-10]. This patient had a hysterectomy more than 6 months prior to developing the intestinal obstruction, as well as a past surgical history of a cholecystectomy. This is an uncommon timeframe to develop a cecal bascule following a surgical procedure, as most cases report bowel obstructions emerging within 14 days post-operation [6-10].

Surgical intervention is the preferred treatment of cecal bascule with the standard being right hemicolectomy with anastomosis [3]. While right hemicolectomy has a near-zero recurrence rate, other surgical interventions such as cecopexy and cecostomy tube are viable but with a recurrence rate of 28% [3]. Cecal volvulus and bascule have been known to occasionally resolve spontaneously, therefore symptomatic treatment is an option [12,13]. However, non-surgical intervention for cecal bascule has shown a recurrence rate reaching close to 95% [3].

Conclusion

Cecal bascule is a rare cecal volvulus manifestation, presenting subacutely post-abdominal operation. This patient presents with cecal bascule more than 6 months after her last abdominal intervention. This is an unusual onset for the development of cecal bascule and reveals an insidious onset for the bowel obstruction.

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