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Case Report

Cecal bascule as a cause of postoperative nausea and abdominal pain

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ARTICLE INFO

Article history:

Received 30 October 2018

Revised 9 February 2019

Accepted 11 February 2019

Available online 27 March 2019

Keywords:

Cecal bascule

Cecal volvulus

ABSTRACT

Cecal bascule is a unique form of large bowel volvulus in which the cecum folds anterior to the ascending colon and generates a flap valve which impairs cecal emptying and results in cecal dilation [1]. Presenting symptoms include nausea, vomiting, abdominal pain, distension, and constipation. We report a case of a 74-year-old male who developed abdominal pain and nausea after a coronary artery bypass graft surgery. Imaging demonstrated an enlarged cecum measuring up to 17.7 cm as well as upstream small bowel dilation. The patient underwent nasogastric tube and endoscopic decompression, relieving his cecal dilation and symptoms.

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Case report

A 74-year-old white male with history of chronic obstructive pulmonary disease, peripheral arterial disease, transient ischemic attack, and coronary artery disease was admitted for coronary artery bypass graft surgery. On postoperative day 2 he developed ileus that resolved with conservative management which included a NPO diet, intravenous fluids, nasogastric tube decompression, and withholding narcotic medication.

The patient subsequently developed an increased white count and a sternal infection with wound dehiscence. Cultures of the sternal fluid were positive for *Escherichia Coli* and *Escherichia Faecalis*. In addition to treatment with intravenous

antibiotics, the patient underwent a sternal wound exploration, washout, and closure with a pectoralis muscle flap and wound vacuum.

During this second postoperative period, the patient developed nausea, abdominal distension, and right lower quadrant tenderness. The patient was kept on a NPO diet, intravenous fluids, and nasogastric tube decompression which only mildly improved the patient's symptoms. Abdominal radiographs and a computed tomography (CT) scan demonstrated a gas-filled, distended, and abnormally positioned cecum measuring up to 17.7 cm (Figs. 1 and 2). The following day the patient underwent decompressive sigmoidoscopy. Following the procedure, an abdominal radiograph demonstrated a cecal diameter of 11 cm. The patient's symptoms resolved and the diameter of the cecum progressively decreased in size (Fig. 2). The

Declaration of Interest: The authors declare no relevant financial disclosures. No grant funding has been received for the development of this manuscript. This information has not been presented elsewhere.

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<https://doi.org/10.1016/j.radcr.2019.02.010>

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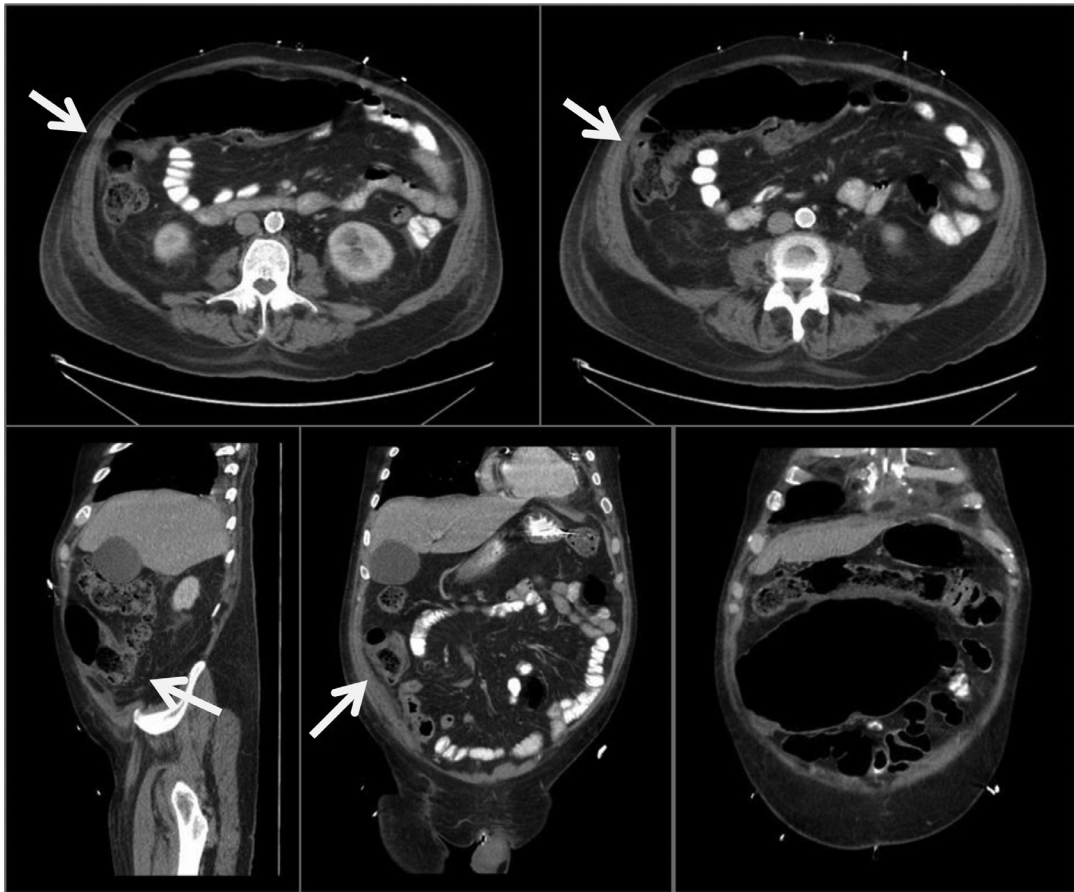


Fig. 1 – Multiplanar computed tomography images demonstrating cecal volvulus, with a markedly dilated cecum which is folded on the ascending colon, resulting in a transition point (arrow).

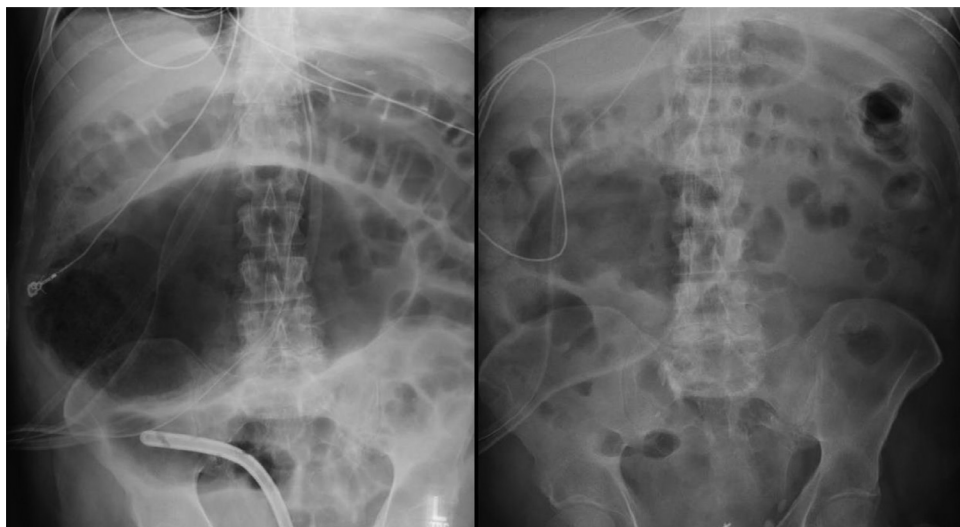


Fig. 2 – Supine radiographs demonstrating a dilated cecum which markedly improved after colonoscopic decompression.

patient ultimately tolerated a regular diet and had return of normal bowel function.

Discussion

Cecal volvulus accounts for 1%-1.5% of all adult intestinal obstructions and, specifically, 25%-40% of all volvuli involving the colon [1]. A unique variation of cecal volvulus is the cecal bascule, which is characterized by the cecum folding anterior to the ascending colon and generating a flap valve impairing cecal emptying and subsequently resulting in cecal dilation. The cecal bascule lacks the axial torsion of the classic cecal volvulus [2]. As with all volvuli, possible clinical consequences of untreated cecal bascules include ischemia, necrosis, perforation, hemorrhage, and death. Literature suggests that cecal volvuli usually occur in patients with congenital failure of the fusion of the right colon mesentery to the retroperitoneal structures resulting in increased cecal mobility [1]. Risk factors for developing cecal volvulus include previous abdominal surgery, high fiber intake, and chronic constipation [3]. The exact etiology of our patient's postoperative cecal bascule is unclear, although potentially the anesthesia and pharmacologic agents used in the perioperative period could have affected the autonomic nervous system resulting in an atonic distal colon and proximal hypermobility.

Abdominal radiographs and increasingly CT can be utilized to diagnose cecal bascule. Classic findings include a rounded loop of air-distended bowel accompanied by haustral markings directed toward toward the left upper quadrant, mimicking the “coffee bean sign” of the sigmoid volvulus [4]. CT findings of the “X-marks-the-spot” sign, “split wall” sign, “whirl” sign, and ileocecal twist are specific but not sensitive for cecal volvulus. Conversely, distal colonic decompression with a single transition point at the cecum is more sensitive for cecal volvulus [4].

Operative management is the mainstay for treatment of cecal volvulus, with ileocectomy being the preferred treatment due to a low rate of recurrence [2,6-7]. Cecopexy is occasionally performed, but has higher mortality rates when compared to colonic resection [5]. Cecostomy tube placement is

reserved for patients who are poor surgical candidates, and complications include leakage, infection, colocutaneous fistulas, recurrent torsion, and the need for repeat interventions [6]. Nonoperative colonoscopic decompression has a relatively low success rate of approximately 30% [5], and comes with a risk of colonic perforation and delay in treatment. However given our patient's comorbidities and lack of findings of colonic ischemia, endoscopic treatment was utilized successfully. Awareness and early diagnosis of cecal bascule, as well as an understanding of optimal treatment strategies, are necessary for the appropriate management of cecal bascule.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.radcr.2019.02.010](https://doi.org/10.1016/j.radcr.2019.02.010).

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