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Cecal bascule with a mesenteric band acting as a 'point of basculation'

Jashodeep Datta, Joseph V Sakran

CASE REPORT

A 72-year-old female with a past history of cesarean section presented with a three day history of right-sided abdominal pain and distension. She had a low-grade fever, was normotensive, and without leukocytosis or metabolic acidosis. Her exam revealed moderate abdominal distension with rebound tenderness localized to the right lower quadrant. An abdominal X-ray showed significant cecal distension without small bowel dilatation (Figure 1). Given her worrisome clinical picture, the patient was emergently taken for an exploratory laparotomy. There was anteromedial folding of a massively distended cecum about a mesenteric band traversing the terminal ileum extending to the ascending colon (Figure 2; arrow). This created a closed-loop obstruction of the ascending colon. There was no axial torsion of the cecal mesentery. There was no colonic perforation or feculent spillage noted. After lysis of this band, inspection of the cecum demonstrated that it was not only severely dilated but also tethered in its abnormal anteromedial position by multiple adhesions. These adhesions were lysed and a right hemicolectomy with primary anastomosis was performed. The patient had an uneventful postoperative course, with return of bowel function prior to discharge.

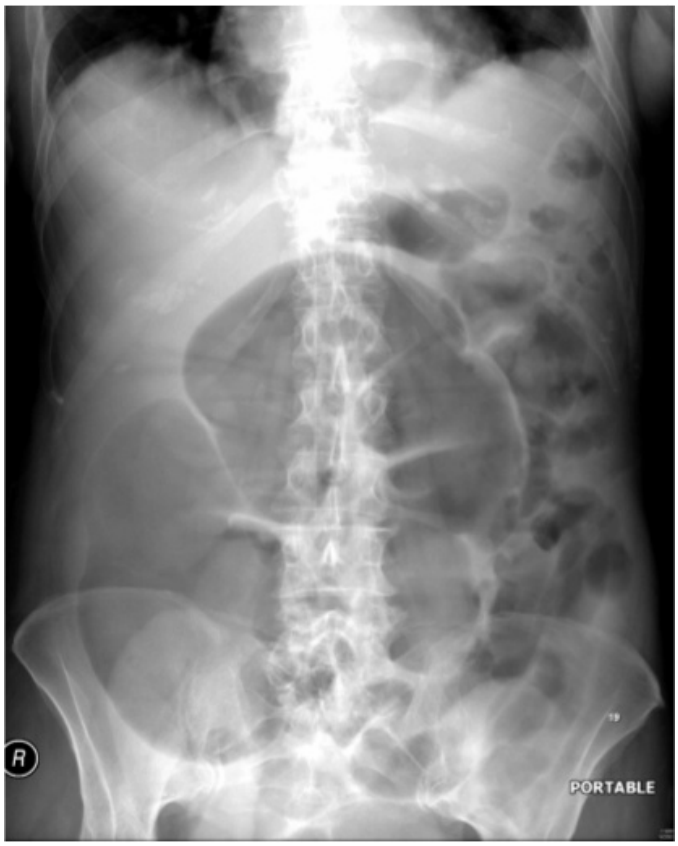

Figure 1: Abdominal X-ray showing massively distended and anteromedially positioned cecum without appreciable small bowel dilatation.

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DISCUSSION

Although the cecal bascule was first described by Treves in 1899, Weinstein characterized it as a subtype of cecal volvulus in 1938 [1]. Cecal bascule—which in French means seesaw—accounts for only 5–10% of all cecal volvulus cases and has been reported in elderly patients, in postpartum women, and in those with prior abdominal surgery [2, 3]. Unlike the classic volvulus, basculation does not occur via axial torsion of the mesentery. Rather, the cecum folds upon itself about an acquired inflexion point or as a result of congenital hypofixation. This results in a 'flap-valve' occlusion

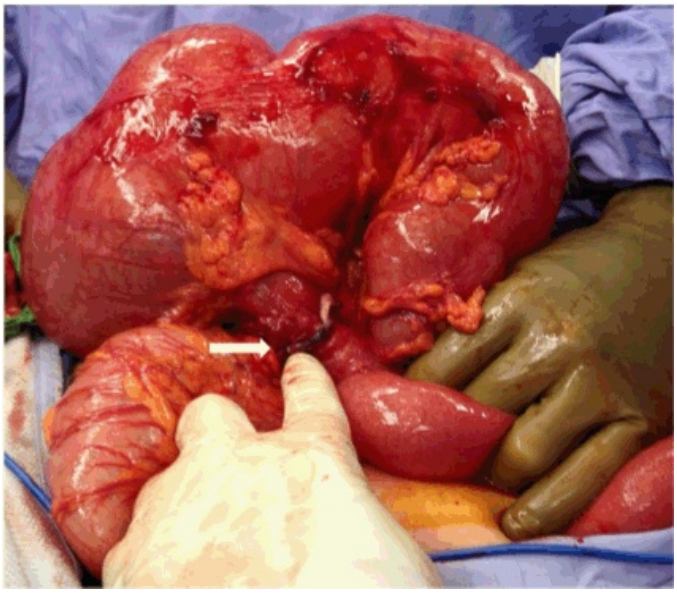

Figure 2: Intraoperative photograph of a cecal bascule with massive cecal distension and 'flap-valve' obstruction of the ascending colon. Demonstrated is a characteristic mesenteric band (arrow) traversing the terminal ileum and extending to the ascending colon, about which the cecum has folded upon itself.

of the ascending colon, impeding anterograde cecal emptying. Retrograde decompression is impossible because of a competent ileocecal valve, and gas production from bacterial metabolism compounds cecal distension [3]. Adhesions form between the anterior cecal wall and the ascending colon, reinforcing the malpositioned cecum anteromedially across the proximal colon. Progressive cecal distension precipitates venous outflow obstruction, bowel ischemia and subsequent perforation. Cecal bascule is under-recognized because it mimics other conditions such as volvulus, Ogilvie syndrome, and cecal obstruction [3]. Lack of awareness of this entity preoperatively may lead to confusion in correlating clinical, radiographic, and operative findings. More importantly, it may delay intervention and increase mortality [4].

AXR is the diagnostic modality of choice and typically demonstrates marked cecal distention. Often, the 'comma' or 'coffee bean' signs associated with the classic volvulus are not seen [1]. Non-surgical treatment options such as colonoscopic detorsion with minimal air insufflation have been advocated if basculation is detected early. Since only 5% of colonoscopic attempts are successful, the majority of patients will require urgent surgical exploration. While open detorsion with cecopexy or cecal decompression with tube cecostomy have been described as surgical options, they are infrequently practiced owing to the high rates of recurrence and complications. Detorsion alone is associated with a 30% recurrence rate, while cecostomy drainage results in tube leakage, colocutaneous fistulization, intra-abdominal infection, and recurrent basculation [2]. Consequently, most cases benefit from right hemicolectomy and primary anastomosis. If colonic perforation or feculent spillage is found at laparotomy, a diverting ileostomy with ileocolonic anastomosis or end ileostomy can be considered. At laparotomy, a constricting band—similar to that seen in our patient—is classically found traversing the ascending colon acting as a point of basculation [5]. These bands are hypothesized to be inflammatory, congenital, or related to prior surgery [3]. Our patient had a history of cesarean section, lending credence to our hypothesis that postoperative changes had contributed to the formation of this band.

CONCLUSION

Cecal bascule is a rare subtype of cecal volvulus. A 'point of basculation,' classically a constrictive mesenteric band, causes a distended cecum to fold upon itself resulting in closed loop obstruction of the ascending colon. Prompt diagnosis and urgent intervention can prevent the high rates of morbidity and mortality associated with this condition.

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Author Contributions

Jashodeep Datta – Conception and design, Acquisition of data, Drafting the article, Final approval of the version to be published
Joseph V Sakran – Analysis and interpretation of data, Critical revision of the article, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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