



Case Presentation of Volvulus of Transverse Colon Along with Malrotation of Ileo-Ceacal Junction and Large Bowel

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ABSTRACT

Colonic volvulus is twisting of a portion of the colon around its mesentery, causing a colonic obstruction. The sigmoid colon and caecum are the most common portions of the colon involved. Transverse colon volvulus is a rare cause of intestinal obstruction. Very few reviews have been published in surgical literature. This is a case report with a structured review of literature of transverse colonic volvulus presenting as intestinal obstruction. Transverse colon volvulus is associated with both developmental abnormalities, such as a freely mobile right colon and associated conditions such as chronic constipation, distal obstruction, and autonomic dysfunction. Though rare, the possibility of a transverse colon volvulus must always be part of a differential diagnosis when dealing with an intestinal obstruction, as the mortality rate with transverse colon volvulus is much higher than with a volvulus in any other part of the large intestine.

KEYWORDS :

Introduction

Volvulus of the transverse colon is rare cause of intestinal obstruction. The sigmoid colon and caecum are most common portions of the colon involved in the United states and great Britain, volvulus accounts for approximately 1% to 7% of all cases of large bowel obstruction. Transverse colon and splenic flexure volvulus occurs but they represent less than 5% of cases in United states. It is associated with both development abnormalities, such as freely mobile right colon and associated conditions such as chronic constipation and distal obstruction and autonomic dysfunction. Such cases presented with abdominal pain and distension. The abdominal distension is very marked greater than usually seen in bowel obstruction or colonic obstruction due to malignancy. Some patients may present with signs of shock due to dehydration, bowel ischemia, or peritonitis. We report a case of transverse colon volvulus along with malrotation of bowel with ileocecal junction on left side of vertebral column, which presented as acute on chronic complete obstruction.

Case Report

A 34 year old female presented in the emergency with history of pain abdomen, obstipation and central abdominal distension for the past 6 days. She gave long history of similar symptoms since 2 years, which often resolved spontaneously. She also gave a history of chronic constipation and on abdominal examination revealed a tense, distended and tender abdomen. Bowel sounds were sluggish. The patient was put on conservative management and investigated. Abdominal radiographs were suggestive of both large and small bowel obstruction. The conditions of the patient did not improve, with increasing pain in abdomen and distension. She was immediately taken up for surgery.

Upon laparotomy, a volvulus of the transverse colon 180 degree clockwise with grossly distended and intact vascularity of mo-

bile caecum, ascending colon and proximal half of transverse colon with no hepatic and splenic flexure attachment was discovered. There was an associated malrotation of the large gut; the ileo ceacal junction was on left side of the vertebral column with an error in the attachment of mesentery. Detorsion of the transverse colon volvulus along with decompression by enterostomy along with colopexy and loop ileostomy was done. Post op period uneventful. Ryles tube removed on post op day 3 while drain and catheter removed on post op day 6.

Pre operative pictures:

Figure showing distended abdomen:





Figure showing Standing X-ray of Abdomen



Fig showing CT ABDOMEN (2 years back)
Intra operative Pictures



Discussion

Colonic volvulus is well recognized cause of intestinal obstruction. Approximately 3% to 5% of all cases of intestinal obstruction are caused

by colonic volvulus (5,6,7). Of all areas of colonic volvulus, only 4% involved the transverse colon (5,6,7). Volvulus of the transverse colon most often occurs in the second and third decades of life with additional peak in the seventh decades (4,6) and women outnumber men (2:14,5,7,8). The mortality rate of transverse colon volvulus is 33%, where sigmoid volvulus carries a mortality rate of 21% and cecal volvulus a rate of 10%(5).

Transverse colon volvulus has been reported to occur in higher incidence in eastern Europe and Scandinavia. The increased incidence is likely due to the high residue diets common to these areas (4,5). Volvulus of the transverse colon is a closed loop obstruction. The normal anatomy of the transverse colon typically prohibits volvulus in this area. The short transverse mesocolon and the hepatic and splenic flexure act to fix transverse colon in position. The etiologies of transverse colon volvulus may be grouped as mechanical, physiological and congenital.

Sigmoid colon, distal colonic obstruction, adhesions, malposition of the colon following previous surgery, mobility of the right colon inflammatory strictures, and carcinoma (5,6,7). The most common physiological condition which predisposes to volvulus is chronic constipation (5,6). Chronic constipation leads to elongation and redundancy of the colon, permitting volvulus even in the presence of a normal mesentery.

Two separate clinical presentations have been described: acute fulminating and subacute progressive. Patient with acute fulminating type of presentation typically have a sudden onset of severe abdominal pain, vomiting, mild distension and rapid clinical deterioration. Bowel sounds are initially hyperactive but later become absent. Laboratory studies may reveal a marked leukocytosis in acute form perhaps representing ischemia and gangrene. As many as 50% of patients with subacute form of transverse colon volvulus have reported with similar symptoms in the past as in our case the patient with the subacute form experience is more gradual and intermittent course of symptoms. Abdominal pain is less severe and vomiting is less or often absent however distension is often more prominent.

The diagnosis of transverse not commonly made preoperatively. Plain abdominal radiographs typically reveal colonic distension which may mimic cecal or sigmoid volvulus. The classic plain film description of transverse colon volvulus is dilated loop of bowel in the upper abdomen with two air fluid levels presents.

The dilated loop may appear as bent inner tube with a summation line along the inner margin of the loop. The classic birds beak deformity in the area of transverse colon seen in contrast enema is diagnostic. However in the acute situation surgery should not be delayed to perform the contrast study. Additionally a water soluble contrast media should be used to minimize the consequence of perforation. Whereas sigmoid volvulus can often be decompressed by sigmoidoscopy or colonoscopy, transverse colon volvulus must be surgically detorsion. Surgical options include - detorsion alone, detorsion with colopexy, resection with primary anastomosis, or resection with colostomy or ileostomy and mucus fistula. Both detorsion and detorsion with colopexy have a higher rate of recurrence than resection. Of course resection is indicated if there is any evidence of ischemic or necrotic bowel. Resection with anastomosis is the treatment for transverse colon volvulus to prevent recurrence. In the event of the bowel necrosis, resection with end colostomy or ileostomy and mucus fistula is the surgical procedure of choice due to risk of anastomotic leakage.

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