ORIGINAL RESEARCH PAPER

Volume-8 | Issue-5 | May-2019 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

SIGMOID VOLVULUS: A RARE COMPLICATION OF CROHN'S COLITIS.

Surgery

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ABSTRACT

Sigmoid volvulus is a life threatening condition requiring urgent detorsion of the twisted bowel. This condition is more common in elderly males.[3] It's etiology is multifactorial and controversial. Volvulus is likely to occur as a consequence of lengthening of sigmoid mesocolon, secondary to gradual elongation of sigmoid colon loop.[9] This sigmoid elongation may be due to prolonged periods of immobilisation or inhibition of colonic motility by certain drugs. In younger population, sigmoid volvulus is more often associated with megacolon and its etiologies, most often being Hirschsprung disease or Chagas disease.[10] We here report a case of Sigmoid volvulus in a 25year young gentleman associated with megacolon, etiology being Crohn's colitis which is very rare.

Summary: Volvulus of the sigmoid colon is a surgical emergency requiring prompt diagnosis and management.

KEYWORDS

Sigmoid Volvulus, Omega Sign, Crohn's Colitis, Megacolon

INTRODUCTION

Sigmoid volvulus is a condition in which the sigmoid colon wraps around itself and its own mesentery, causing a closed-loop obstruction which if untreated, often results in life threatening complications, like bowel ischemia, gangrene and perforation. It is an important cause of colonic obstruction all around the world.[1,2] The condition accounts for 2%-5% of colonic obstruction in western countries and 20%-50% of colonic obstructions in Eastern countries, African, Asian, Middle Eastern, South American, Eastern and Northern European Countries.[3] Sigmoid volvulus may present with acute sigmoid torsion, recurrent previous torsion or ileo-sigmoid knotting.[4]

CASE REPORT

A 25year gentleman presented to our casualty with complaints of pain abdomen, distension of abdomen and non-passage of flatus and faeces for 2 days. He was known case of Crohn's disease on Mesalazine. He had similar complaints of abdomen pain and distension twice, over the last 1 year for which he was managed at a nearby hospital. There was no history of vomiting or bleeding per rectum. He had no history of previous abdominal surgery.

On examination, patient was dehydrated, pulse – 100/min, B.P – 120/70 mm of Hg. Chest – air entry was decreased in bilateral infra-axillary and inframammary regions. Abdomen was distended, tenderness was present all over the abdomen, there was no guarding or rigidity or clinical evidence of free fluid and bowel sounds were normal. Per rectal examination – rectum was empty and mucosa was free.

X-ray Abdomen revealed hugely dilated large bowel loops and sigmoid colon with loss of haustrations (Figure 1). A diagnosis of acute large bowel obstruction was made and patient was resuscitated with i.v. fluids, and nasogastric tube was inserted. Flatus tube was also inserted suspecting Sigmoid volvulus following which he passed some amount of flatus. Contrast enhanced computed tomography (CECT) Abdomen done revealed massively dilated sigmoid colon with maximum diameter of 12.43 cm with whirl sign, small bowel and other solid organs were normal, features suggestive of Sigmoid volvulus (Figure 2). The tip of flatus tube in CT was found below the site of obstruction (Figure 3). Patient was taken for emergency laparotomy.

Intra-operatively, Sigmoid colon was hugely dilated and twisted 270 degrees anti-clockwise. There was no gangrene or perforation (Figure 4). Mesocolon fat was found creeping around the sigmoid colon and descending colon. Resection and anastomosis of the redundant sigmoid colon was done after detorsion and a diverting loop ileostomy was fashioned.

Figure 1: X-ray Abdomen (supine) showing dilated large bowel loops with loss of haustrations.

Figure 2: CECT Abdomen showing massively dilated sigmoid colon.

Figure 3: CECT Abdomen showing tip of flatus tube distal to the site of torsion

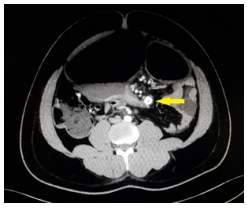

Figure 4: Intraoperative photograph showing hugely dilated sigmoid colon with no evidence of gangrene or perforation.

DISCUSSION

Volvulus occurs when colon twists on its mesenteric axis with a greater than 180º rotation, producing obstruction of intestinal lumen and mesenteric vessels.[1,2,5] The most common locations for volvulus to occur include the sigmoid colon, cecum, splenic flexure and transverse colon in order of decreasing frequency.[6] Sigmoid volvulus is one of the most common causes of large bowel obstruction in developing countries. It should be diagnosed and treated at early stages to prevent ischemia, necrosis, perforation and diffuse peritonitis.[5]

Sigmoid volvulus usually affects adults, with highest incidence seen in the 4th -8th decades of life. It is more common in males and occurs in ratios ranging from 2:1 to 10:1 compared to females.[7,8] The etiology is multifactorial and controversial. Volvulus is likely to occur as a consequence of lengthening of sigmoid mesocolon secondary to gradual elongation of sigmoid colon loop.[9] This sigmoid elongation may be due to prolonged periods of immobilisation and inhibition of colonic motility by certain drugs. In younger population, sigmoid volvulus is more often associated with megacolon and its etiologies, most often being Hirschsprung disease or Chagas disease.[10]

Abdominal pain, distension, and constipation form the paradigmatic triad of symptoms of acute sigmoid volvulus. Additional complaints include vomiting, nausea, diarrhea, anorexia, rectal bleeding, and hematemesis.[4,11,12] The most important diagnostic proceedings used for volvulus include physical examination, plain abdominal radiographs, endoscopic examinations, Computed tomographic scan, Magnetic resonance imaging (MRI), and barium enema. Plain radiographs show air fluid levels in the dilated small bowel loops, the omega sign or the coffee bean sign of the distended colon is seen in one third of the sigmoid volvulus cases.[13] A barium or water soluble contrast enema generally shows the obstructive lumen as a beak-like termination with or without the omega or coffee bean sign. Barium enema is diagnostic in 20%-30% of patients and should be used only in absence of peritonitis, bowel gangrene, or perforation. CT scan and MRI usually show a whirled sigmoid mesentery in addition to dilated sigmoid loops and small or large intestinal air fluid levels. Flexible endoscopy generally shows a spiral sphincter-like twist of mucosa in the obstructive sigmoid colon, usually 20 cm to 30 cm from the anal verge.[14]

The goals of treatment include resuscitation, electrolytes and acid-base imbalance correction, reduction of volvulus, relief of obstruction and prevention of recurrence. An endoscopic derotation followed by an elective surgical resection, has become the primary therapeutic modality. Detorsion can be performed with barium enema, rigid proctoscopy, flexible sigmoidoscopy, or colonoscopy. If gangrenous bowel is encountered, emergent exploration and resection should be done. If detorsion is successful and no ischemia or gangrene bowel is encountered, a rectal tube is left and elective resection is scheduled.[3]

After resection, the decision to create a primary anastomosis should be considered based on patient's nutritional status, adequacy of blood supply, presence of tension, presence of fecal peritonitis, and haemodynamic status. A Hartmann procedure should be performed, if there are any factors that may threaten the viability of a primary anastomosis.[14]

CONCLUSION

Volvulus of the sigmoid colon is a surgical emergency which requires prompt diagnosis and management. Sigmoid volvulus as a differential should be strongly suspected in patients with Crohn's colitis presenting with large bowel obstruction. Any delay in diagnosis and management may increase the morbidity and probability of mortality.

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