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A REVIEW ON SIGMOID VOLVULUS

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ABSTRACT

Sigmoid volvulus is an emergency condition in which the sigmoid colon twists around the mesentery. It is most common in males. Certain diseases, chronic constipation, neuropsychiatric disorders and bed ridden conditions are the common etiologic factors of Sigmoid volvulus. Major clinical presentations of sigmoid volvulus include abdominal pain, distension and constipation. CT scan and X rays are the most important tools for the diagnosis of sigmoid volvulus. Barium enema and sigmoidoscopy also helps in the diagnosis. Management of Sigmoid volvulus include both resectional and nonresectional procedure. Gangrene, perforation and peritonitis are the main complications of untreated sigmoid volvulus.

KEYWORDS: Sigmoid volvulus, Etiology, clinical presentation, complication, management.

INTRODUCTION

Sigmoid colon is the S- shaped terminal portion of large intestine. The term “sigmoid colon” is derived from the Greek letter “*sigma*”. Volvulus refers to the twisting of a part of gastrointestinal tract. The term “volvulus” is derived from the Latin word “*volvere*” meaning twist. Sigmoid volvulus (SV) is the most common type of colon volvulus. It occurs when a loop of the sigmoid colon which contains air twist around the mesentery.

Etiology

SV occurs most commonly in elderly, institutionalized, bed ridden and chronically constipated person. Acquired causes of SV include chronic constipation, infections, neuropsychiatric disorders, intra-abdominal adhesion secondary to surgery and electrolyte abnormalities.

Anatomical factors like narrowing of base of sigmoid mesentery and dolichomesentery may lead to SV. It is more common in males. Pregnancy makes twisting of colon common in females wherease in males it may be due to smaller pelvic inlet. High altitude lead to high colonic pressure and high fiber vegetable diet may also be a risk factor for SV. Certain diseases like appendicitis, carcinoma may lead to SV.

Pathophysiology

Volvulus is an example of large bowel closed loop obstruction. In sigmoid volvulus, both the inward and outward movement of colon is obstructed. As a result of obstruction, large mount of gas forming bacteria will get trapped inside and will cause the blocked colon to distend which will result in the perforation of the sigmoid colon.

The obstructed colon also have decreased supply of blood which leads to ischaemia and further progresses to necrosis and perforation of the colon.

Clinical Presentation

Abdominal pain, distention and constipation are the classic symptoms of SV. Other symptoms such as vomiting, nausea, diarrhea, loss of appetite, rectal bleeding and hematemesis may also occur.

Diagnosis

Abdominal radiographic methods: X-ray and computed tomography are used to diagnose SV. In most of the cases, physical examination and abdominal radiograph is adequate. The classic sign observed in radiographs is coffee bean sign.

Contrast Enema: A barium enema may also help in diagnosis. The classical signs seen are ace-of-spades sign or bird's beak due the blockage at rectosigmoid at the neck of volvulus.

Sigmoidoscopy: It also helps in the diagnosis of SV. It helps to directly view the bowel mucosa. The main complications of sigmoidoscopy are sigmoidoscopy related death, perforation, peritonitis, fluid electrolyte imbalance, shock, cardiopulmonary problems.

Laparoscopy: It is a surgical procedure used in the diagnosis of SV. Methods for preventing the recurrence of SV include endoscopic decompression of the volvulus followed by either resection or sigmoidopexy.

Management

Conservative Management

Sigmoid volvulus management include obstruction relief and recurrent attack prevention. Sigmoidoscopy is the procedure of choice in patients with viable bowel. This procedure only helps in temporary management Barium enema may help in the reversal off abnormal twists. Decompression of SV with soft rectal flatus tube is also done.

Surgical Management

Acute Sigmoid Volvulus

Fever and leukocytosis persisting after decompression are the indications for urgent laparotomy. Gangrenous colon require immediate excision. Viable colon is encountered more frequently and re-sectional or non re-sectional procedures are employed.

Elective surgery for Decompressed Sigmoid Volvulus

Although definitive surgery can be delayed upto 4 weeks, many patients may fail to do the surgery and may become fatal for the patients. Atleast resection of the sigmoid colon is mandatory. If sigmoid volvulus is associated with megacolon, total colectomy or subtotal colectomy is done.

Laparoscopic Resection

This is a useful alternative for high risk patients or elderly who cannot tolerate conventional colonic surgery. This procedure is not recommended for obese patients and those with multiple previous abdominal procedure.

Non -Resectional Proccedure

There are a variety non resectional procedures for the management of sigmoid volvulus.

Colopexy do not require resection of sigmoid colon and do not require bowel preparation.

Mesosigmoidoplasty is a procedure where one leaf of the long sigmoid mesocolon is incised longitudinally, and the two flaps are raised and sutured transversely. It is difficult to perform if mesentry is thickened and oedematous.

Other non resectional procedures include percutaneous endoscopic colopexy using colonoscopy and percutaneous endoscopy gastrotomy kit, laparoscopic fixation, extra-peritonealisation of sigmoid colon and mesenteropexy.

COMPLICATIONS

If volvulus is not treated, it may lead to bowel strangulation, gangrene, perforation and peritonitis. Complications of surgery include Recurrence of volvulus, anastomotic leak, pelvic abscess, sepsis, fecal fistula and complications of colostomy.

CONCLUSION

Sigmoid volvulus is a condition that has an impact on the health of many peoples. But the recent studies and researches conducted on sigmoid volvulus is few in number. Complete understanding of the presentation of sigmoid volvulus helps in the differential diagnosis of SV. Management include resectional and non resectional procedures which can be further developed in future.

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