

Case Report (10-2015)**Delayed Presentation of Sigmoid Volvulus**

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Abstract Sigmoid volvulus (SV) is an unusual condition in Libya, responsible for about 3-5% of all intestinal obstructions. SV is generally described as an illness in elderly patients, persons with psychiatric disorders, or persons living in nursing homes or mental institutions, multiple co-morbidities and an elongated mesosigmoid. The condition can be treated conservatively, but in the presence of fever, high WBC count, perforation, ischaemia and peritonitis, surgery is the best option. This report describes a case of a very large gangrenous sigmoid volvulus in a healthy 65-year-old male. A review of the diagnosis and management is subsequently described. Early identification and management are crucial in treating sigmoid volvulus before the appearance of gangrene, thereby avoiding further complications and associated mortality.

Our Case:

A sixty-five-years-old male, a case of HTN on treatment (adalat tab 30 mg), came to hospital complaining of abdominal distension and absolute constipation for 10 days.

The symptoms were associated with repeated vomiting and difficulty in breathing. He visited a physician in private clinic. Who described laxatives and antispasmodics drugs.

The patient followed the treatment for days, without any improvement.

After 10 days, he showed in hospital, and I saw him in our Emergency-Department (ED).

He had no previous history of the same illness, no H/O surgeries, no family H/O malignancies or the same illness.

Other systemic reviews were insignificant.

Clinical examination on admission:

The patient was conscious, oriented dyspnoic and tachypnic was RR was 38/min, a febrile T was 36.5 c, PR was 92 /min and BP was 110/70 .

Abdominal Examination: showed huge distended abdomen, tender all-over, tense and hyper resonance on percussion. The bowel sound was negative.

The laboratory results of the patient's were notable for a Leukocytosis of 28.2 mm³ with a neutrophilic predominance, Haemoglobin was

14.3 gm and Platelets was 221, sodium levels of 131 mEq/L, potassium levels of 3.2 mEq/L and bicarbonate levels of 21 mEq/L. Total bilirubin was 1.7 u/ml. UREA was 74 mg/dl, creatinine was 1.9 mg/dl. Liver function test was within normal range and viral screen was negative.

Abdominal Ultrasound showed mild free fluid collection and distended bowel with gases but no peristalsis.

Plain-Film abdominal X-Ray showed massively dilated colon, multiple air fluid levels with a classical "bent inner tube", and coffee-bean sign Kaffeebohnenzeichen".

The patient was taken to the operating room for exploratory laparotomy and was found to have gangrenous 50 cm of dilated sigmoid colon and Hartmann's procedure was performed (Fig. 1-5).

No intra-operative complications were noted, and the patient was transferred to the surgical intensive care unit. The patient had an uneventful postoperative course and was discharged on postoperative day 12.

Four months later, closure of colostomy and Re-anastomosis of bowel were done and the patient was discharged on postoperative 11 with uneventful postoperative period and he resumed his normal- life.



Fig. 1: Plain abdominal X-Ray



Fig. 2: Intraoperative findings: hugely distended gangrenous sigmoid volvulus



Fig. 3: Intraoperative findings: hugely distended gangrenous sigmoid volvulus.



Fig. 4: months postoperative: midline scar and colostomy-site



Fig. 5: Intraoperative photo during colostomy closure



Fig. 6: Intraoperative photo during colostomy closure

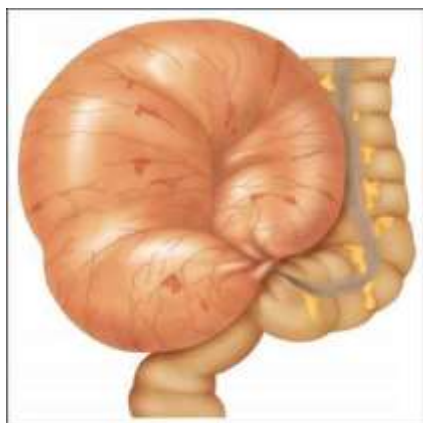
Discussion:

Volvulus occurs when the colon twists on its mesenteric axis with a greater than 180-degree rotation, producing obstruction of intestinal lumen and mesenteric vessels.

The most common sites of volvulus are the sigmoid colon and cecum. Volvulus of other portions of the alimentary tract, such as the

stomach, gallbladder, small bowel, splenic flexure, and transverse colon, are rare.

Sigmoid volvulus has a variable geographic distribution, it is extremely common in developing countries, where it affects young patients, with a lower incidence in Western countries where it predominantly affects the elderly.

**Aetiology:**

There is a wide range of causes; some are geographically-specific:

- chronic constipation and/or laxative abuse
- fibre-rich diet (especially in Africa)
- A longer sigmoid colon and mesentery in males (especially in Africans)
- Chagas disease (especially in South America)

Associations:

- chronic neurological conditions (e.g. Parkinson disease, multiple sclerosis, pseudobulbar palsy)
- medications from chronic psychiatric conditions (e.g. chronic schizophrenia)

Sigmoid volvulus has been reported in younger patients and in children in association with abnormal colonic motility ('Colonic dysmotility'). It has been reported in patients with Crohn's disease, pregnancy, and Chagas disease.

Sigmoid volvulus has been classically divided into two types, by clinical course:

Acute fulminating volvulus, caused by a complete obstruction, has a clinical presentation of sudden onset periumbilical pain with emesis and constipation. Patients frequently show peritoneal signs on examination. Gangrene and perforation are commonly early complications with this type of volvulus. Conversely, with subacute progressive volvulus, patients have only partial obstruction and therefore have a more insidious onset. The subacute form is frequently seen in older patients, with a more subtle clinical picture, described as poorly characterized abdominal cramping, often worse on the left side of the abdomen. The clinical symptoms in subacute progressive volvulus often lead to delay in diagnosis.

On physical examination, upper abdominal distention with associated tenderness, tympany, an empty rectum, and visible peristalsis are all associated with both forms of sigmoid volvulus.

Plain abdominal radiographs may help in the diagnosis. However CT, magnetic resonance imaging, and flexible endoscopy are more accurate.

Several radiologic diagnostic signs are described, such as omega or horseshoe sign, bird's beak

sign, Y sign, northern exposure sign, coffee bean sign, bent inner tube or ace of spades sign, left pelvic overlap or left flank overlap sign, liver overlap sign, the whirl sign, and empty left iliac fossa sign.

Abdominal radiographs will show a large, dilated loop of the colon, often with a few air-fluid levels

Management:

The initial management of sigmoid volvulus involves preparing the patient for intervention. Typically, patients are volume depleted and may have electrolyte abnormalities. A nasogastric tube and urinary catheter should be inserted. Broad spectrum antibiotics are recommended due to the potential for bacterial translocation through the compromised bowel wall. Depending on the severity of systemic manifestations, central venous pressure (CVP) monitoring should be considered to help guide the resuscitation.

Sigmoidoscopy is the initial treatment for those patients without peritoneal signs.

Decompression rates vary, with 70% to 90% success. Insertion of a rectal tube should follow to further decompress the viable bowel.

Barium enema has been described as another alternative when attempting to untwist a volvulus and is successful in about 5% of patients.

The disadvantage of sigmoidoscopic decompression includes risk of perforation.

Expectant management is not recommended, as spontaneous reduction is found in only 2% of patients and recurrence is high in this group.

Urgent laparotomy is recommended when decompression is unsuccessful or if the patient is felt to be at high risk for gangrene or perforation. When gangrenous bowel is discovered, immediate resection is necessary.

After resection, colostomy and mucous fistula, or Hartmann procedure is recommended.

In cases for which viable colon is encountered, the decision of whether or not to resect must be made. When resected, there is controversy regarding restoring intestinal continuity.

Generally, if the colon is viable, evidence favors primary anastomosis when feasible.

Nonsurgical detorsion offers the flexibility of scheduling surgery at the next available date.

Some authors suggest a 4-weeks delay before definitive surgery. Traditional operation is resection of at least the sigmoid colon.

Laparoscopic resection of the sigmoid colon is growing in popularity and may have a role for high-risk patients, or those who may not tolerate conventional surgery.

Although there are reports describing non-resectional operations for sigmoid volvulus such as colopexy, mesosigmoidoplasty and laparoscopic fixation in patients without peritonitis or without signs of bowel ischemia, but they are not considered standard.

This report describes sigmoid volvulus in a 65-years-old hypertensive patient with considerable delay in definitive diagnosis.

The case emphasizes the importance of early identification before the appearance of twisted loop gangrene in order to optimize patient management.

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