Large Colon Volvulus

Kseniya Roudakova, MD
CASE FROM KCH

- 31 AA F excruciating abdominal pain, emesis, obstipation x 1 day
- PMHx: chronic lower back pain treated with epidural injections
- PSHx: D&C
- Meds: none
- All: none
- SoHx: no toxic habits
- FHx: none
CASE FROM KCH

- VS: BP 131/81 P 70 RR 18 O2 Sat 100% on RA
- PE: AAOx3, NAD, abdomen distended, soft, with periumbilical tenderness, no stool in rectal vault
- Labs:
  - CBC 8.79>12.4/37.2<215
  - BMP 142/38/104/23/11/0.74<113
  - Lactate 0.4
CT A/P
CT A/P
CT A/P
CASE FROM KCH

• Intra-op findings:
  • transverse colon volvulus
  • massively dilated transverse colon and dilated right colon
  • no evidence of ischemia

• Procedure performed: transverse colon resection with side to side functional end to end colocolic anastomosis

• Post op course: uncomplicated

• Discharged on POD 6

• Pathology: large bowel with congestive vessels without evidence of tumor
OVERVIEW

• Transverse colon volvulus
• Sigmoid volvulus
• Cecal volvulus
• Splenic flexure volvulus
TRANSVERSE COLON VOLVULUS

- First described by Kallio in 1932 (Finland)
- 1-4% of all cases of colonic volvulus
- Mortality rate is 33%, greater than that of cecal or sigmoid volvulus
- Occurs in 2nd and 3rd decades of life
- More common in women
- Scandinavia, Eastern Europe, India, Africa
TRANSVERSE COLON VOLVULUS

- Predisposing anatomical factors
  - long mesentery
  - redundancy of colon
  - narrow mesentary/narrow base of fixation
  - lack of fixation at flexures
RISK FACTORS

• Constipation, high fiber diet
• Distal colonic obstruction
• Megacolon secondary to
  • Hirschsprung disease
  • Chaga’s disease
• Chilaiditi syndrome
• Malrotation
• Mental disability
• Early post op period
# CASE REVIEW

<table>
<thead>
<tr>
<th>No.</th>
<th>Author (et al)</th>
<th>Year</th>
<th>Age</th>
<th>Sex</th>
<th>Presentation</th>
<th>Past medical history</th>
<th>Degree and direction of rotation</th>
<th>Management</th>
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Goher et al. World Journal of Emergency Medicine, 2010
CLINICAL PRESENTATION

• Acute
  • epigastric pain
  • vomiting, obstipation
  • toxic appearance, fever, tachycardia, leukocytosis
  • tenderness, palpable mass

• Subacute
  • intermittent, crampy pain
  • mild symptoms
  • prior episodes are common
RADIOLOGIC FINDINGS

• Abdominal X-ray
  • Distention of proximal colon and collapsed distal colon
  • Two air-fluid levels due to “double closed-loop obstruction”
  • “Bird’s beak”
  • “Inverted coffee-bean sign”

• CT Abdomen and Pelvis
  • Torsed bowel loop
  • “whirl sign” of mesenteric vessels
MANAGEMENT

• Surgical resection
  • Anastomosis
  • Proximal stoma with mucous fistula
  • Resection with end colostomy

• Colopexy
  • recurrence rate 30-75%

• Surgical detorsion alone
Colopexy as a treatment option for the management of acute transverse colon volvulus: a case report

Mark J Sage*, Jenan Younis, Katie E Schwab and Keith A Galbraith

Abstract

Introduction: Transverse colon volvulus is an uncommon acute surgical presentation associated with a higher rate of mortality than volvulae at other locations along the colon. Surgical resection or correction is the only treatment, and various methods have been described in case report literature to relieve the volvulus and prevent recurrence.

Case presentation: We present the case of a 25-year-old Caucasian woman who was admitted with a three-day history of abdominal pain, absolute constipation and abdominal distension. Subsequent radiographic and computed tomography imaging revealed right-sided colonic dilatation suggestive of a volvulus. An emergency laparotomy was performed during which the dilated proximal bowel was decompressed and colopexy executed by using the greater omentum to fix the transverse colon at the hepatic and splenic flexures.

Conclusion: Volvulus of the transverse colon is rare but must form part of the clinician’s differential diagnosis when encountering a patient with suspected bowel obstruction, especially if younger patients with no previous surgical history. Laparotomy is the treatment of choice and the technique of using the greater omentum as a fixation point for redundant bowel to the lateral abdominal wall is an option that may be considered especially when the bowel appears viable.
Decompression with delayed laproscopic colopexy

Transverse Colonic Volvulus in a Child: Successful Management with Decompression and Delayed Laparoscopic Colopexy

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Abstract

We report a case of colonic volvulus in a 7-year-old child with normal development. Operative findings at laparotomy showed a 270-degree transverse coionic volvulus (TCV), with colonic ligamentous attachment abnormalities. A loop ileostomy was formed following detorsion, with delayed laparoscopic colopexy. This is the first case to describe decompression by diversion ileostomy as acute management of TCV with delayed laparoscopic colopexy, so avoiding unnecessary bowel resection.
PRINCIPLES OF RESECTION

• If bowel is compromised resect without reducing the volvulus
• Resect the mesentery before the bowel
• Choice of primary anastomosis vs Hartmann’s or mucous fistula is based on patient’s clinical status
• Oren et al.: Mortality after Hartmann’s 22% versus resection with primary anastomosis 19%
• Intra-operative colonic lavage decreases mortality by 9%
SIGMOID VOLVULUS

- Most common type of large colon volvulus, 60-75% of cases

- Western countries
  - frail, elderly (age >70)
  - psychiatric medications

- non-Western countries
  - children, young men
  - Hirschsprung’s disease
  - Chagas’ disease, parasitic infections

- Sigmoid volvulus is the most common cause of bowel obstruction in pregnancy!
CLINICAL PRESENTATION

- Gradual, insidious in onset
- Vague lower abdominal fullness
- Explosive, large volume bowel movements
- Recurrent episodes
- PE: distended abdomen, labored breathing, mild tenderness
  - fever, leukocytosis, peritoneal signs
RADIOLOGIC SIGNS: “bent inner tube”
RADIOLOGIC SIGNS: “coffee bean”
MANAGEMENT

• Detorsion with rigid or flexible sigmoidoscopy
  • success in 70-80% of patients
  • recurrence rate varies from 45% to 71%

• Pexy of sigmoid to sidewall
  • 30-50% recurrence rate

• Resection with
  • primary anastomosis
  • colostomy with Hartmann’s or mucous fistula

• Subtotal colectomy
  • presence of megacolon is a risk factor for recurrent volvulus
LETTER TO THE EDITOR

Recurrent volvulus of the transverse colon after sigmoid resection

K. A. C. Booij • P. J. Tanis • T. M. van Gulik • D. J. Gouma
PEC: AS A TREATMENT OPTION
CECAL VOLVULUS

• 25-40% of cases
• Patients are younger (age ≤60)
• Women
CECAL VOLVULUS

ileocecal volvulus  cecal “bascule”
RISK FACTORS

- Anatomic
  - lack of parietal fixation
- Previous colonoscopy
- Laparoscopy
- Pregnancy
TREATMENT

• Endoscopy has no role

• Detorsion and colopexy
  • 30-40% recurrence rate

• Cecectomy

• Ileocolic resection with primary anastomosis is the procedure of choice
SPENIC FLEXURE VOLVULUS

- Extremely rare - 1%
- 40 reported cases since first described in 1954
- Congenital absence of splenic flexure
  - phrenicocolic ligament
  - gastrocolic ligament
  - splenocolic ligament
- Prior surgery
- Malrotation
- Band adhesions
- Treatment is surgical with resection or by colopexy
NON-OPERATIVE MANAGEMENT

CASE REPORT

Splenic flexure volvulus in which posture advice was effective

Takeshi Ueda, Takaaki Katsurai

SUMMARY

A previously healthy 35-year-old woman suffered from recurrent abdominal pain which had occurred once a week since the age of 23 years. Abdominal CT showed splenic flexure volvulus. Therapeutic colonoscopy was performed successfully, but the frequency of pain attacks remained at once a week. The attacks began after she started to work mainly in a standing position, and never happened while lying down. Therefore, we thought they were induced by forward sigmoid flexure due to gravity. Posture advice, including the knee-chest position and abdominal compression using colonic intraluminal pressure for the resolution of incomplete volvulus during pain attacks, was effective. The severity and frequency of the pain attacks decreased from once a week to once a month. This is the first report of splenic flexure volvulus in which posture advice was effective. Posture advice as a measure to resolve recurrent splenic flexure volvulus should be attempted before surgery.

BACKGROUND

Splenic flexure is a rare site for volvulus. Incomplete volvulus of the splenic flexure is a cause of recurrent abdominal pain, but no effective treatment other than surgery is known. We encountered a patient with splenic flexure volvulus in whom postural advice was effective.

CASE PRESENTATION

A previously healthy 35-year-old woman came to our hospital with a recurrent abdominal pain. The pain occurred once a week since starting to work as a nurse from the age of 23 years.

The pain was located in the left upper quadrant, and one attack lasted a few seconds to 10 min. It was sometimes so severe that she could not maintain a standing position, but it never occurred while sleeping. She had no history of constipation.

This time, the abdominal pain started at the same site and with a similar severity, but it lasted...
Works Cited


• Cameron, J., et al. Current Surgical Therapy. Elsevier. 2010


Thank you!