Presentation on whole colon mobility and cecocolic volvulus and literature review

NETHERLANDS, AMSTERDAM
By Dr Biniam Ayele
General surgery resident, year 3
Bahir Dar university

- **A Case Report**
-
- **Title: whole colon mobility with cecocolic volvulus and literature review**

Name: Dr. Biniam Ayele
- Bahir Dar University School of Medicine and health science, Ethiopia
-
- Volvulus refers to torsion of a segment of the alimentary tract, which often leads to bowel obstruction. 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. Patients with a cecal volvulus are young, with a mean age varying from 33 years in India to 53 years in Western countries. In contrast, sigmoid volvulus usually occurs in elderly subjects with chronic constipation or distal colon obstruction. The common presentations are colicky abdominal pain, abdominal distention, constipation/obstipation and depending on vascular status, the patient may be febrile and tachycardic.
- Here I present a case of cecocolic volvulus involving cecum, ascending colon, transverse colon and distal ilium in a 13 years old girl after she presented with colicky abdominal pain, distension, failure to pass feces and flatus for three days. She had also previous history of similar complaint but was self limiting. She was febrile and tachycardic. Diagnosis was made by plain abdominal x-ray which shows air fluid level. She was prepared and operated and intraoperative finding was 360 degree clockwise rotated right colon and transverse colon along its mesentry which was ischemic, and the whole large bowel is mobile and redundunt with its own long mesentery. What we do was extended right hemicolectomy and iliotransverse anastomosis. The patient was followed for one week in the ward and discharged improved. Now she is being followed in the surgical referral clinic. Details of the pathology, diagnosis and management will be discussed.
-

- So, we will discuss about cecocoloic volvulus and the management as well whole colon mobility

Whole colon mobility

- INTRODUCTION
- Cecum is the widest part and it is intraperitoneal
- The ascending, descending colon are retroperitoneal, fixed but not 100%
- The transverse colon, cecum and sigmoid are intraperitoneal
- They are freely mobile

- Treves found ascending mesocolon in 12% of cadavers
- Descending mesocolon in about 22% of cadavers
- About in 14% of the cases, they can have ascending as well as descending mesocolon
- So, there is a probability that the whole colon can be mobile

Cecocolic volvulus

- It consists of an axial rotation of the terminal ileum, cecum, and ascending colon, with concomitant twisting of the associated mesentery
- This is a relatively rare condition, accounting for less than 2% of all cases of intestinal obstruction in adults and also about 25% of colonic obstruction in USA

- Cecocoliv volvulus is possible because of lack of fixation of the cecum to the retroperitoneum
- Studies on cadaver shows, 11% to 22% of people have a right colon that is sufficiently mobile to allow volvulus to occur
- Risk factors are, previous surgery, pregnancy, obstructing lesion in the left colon and malrotation

pathogenesis

- Cecocolic volvulus can be acute, chronic or recurrent by chronology
- By severity, cecocolic volvulus can be partial or complete with or without strangulation
- The predisposition to torsion is cecocolic mobility
- Normal anatomic rotation of 270 degree occurs and ends at the eighth month of intrauterine life

- And colon fixation ends at the 4th month post partum
- A normal rotation with deficient fixation or an elongation from over rotation of the cecolon results in cecocolic mobility
- Contributory factors to torsion are Jackson's membrane at the level of the cecum and the parietocolic band at the level of the ascending colon

- Its rare for cecocolic volvuls to strangulate because of profuse anastomsis between the ileocolic, right colic, anterior cecal, posterior cecal and appendicular arteries
- So, because of these extensive anastomosis, only prolonged cecocolic volvulus or ileo ceco colic volvulese do have a tendency to become gangrenous

incidence

- Its estimated that mobile cecocolon is present in 20 to 31% of the population
- Among these, 1 in 24,000 per year from the general population or 1 in 8000 from those with mobile colon develop the symptoms
- Cecocolic volvulus may start to become symptomatic during early childhood, but more commonly it starts to do so from the teenage years and persists throughout the life time of the patient

- Cecocolic volvulus is more common in women
- Where as sigmoid volvulus is equally common in men and women
- Cecocolic volvulus affects younger age groups than sigmoid volvulus

Clinical presentation

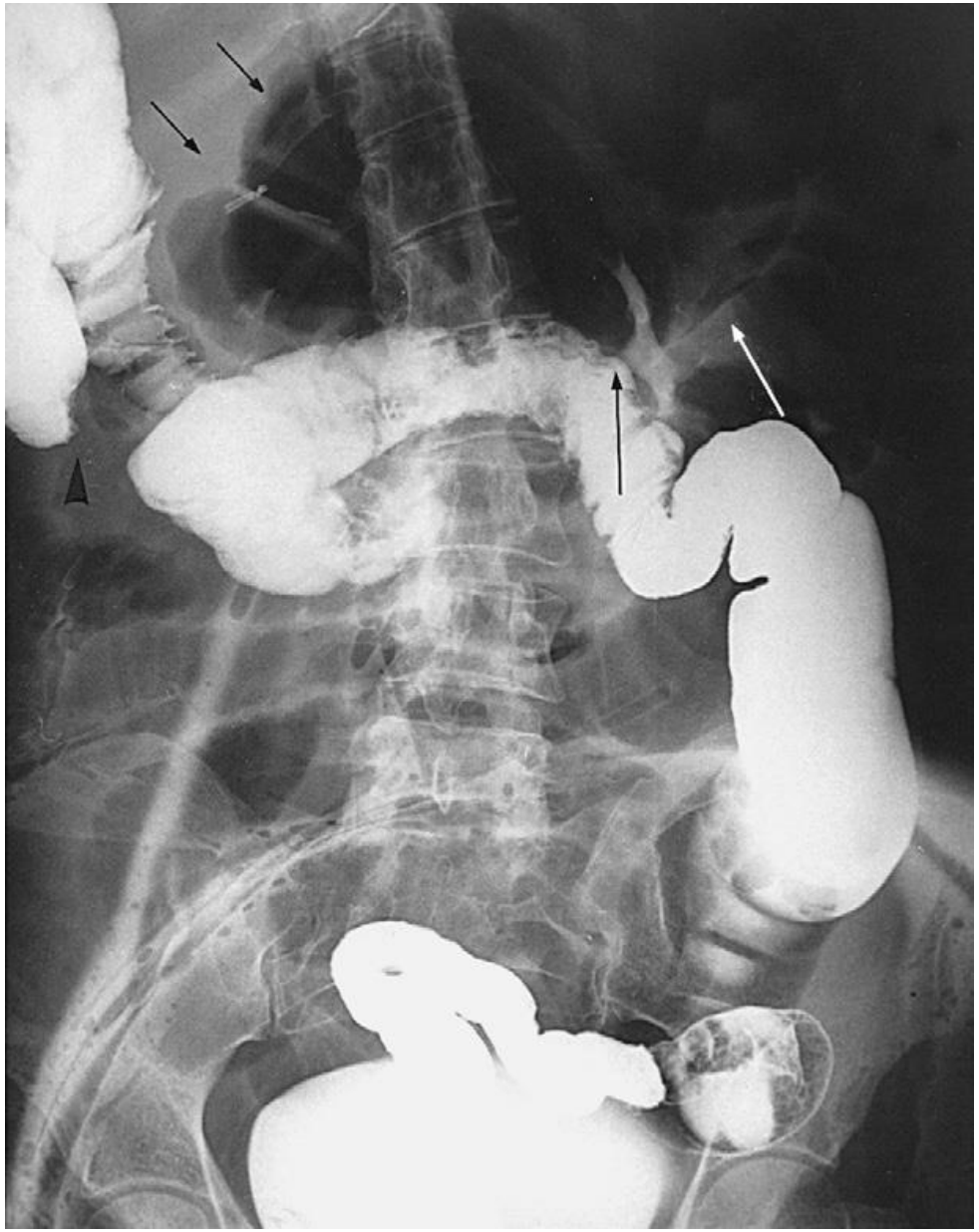
- The typical presentation is sudden onset abdominal pain and distension
- In the early phase of cecocolic volvulus the pain is mild to moderate in intensity
- If the condition is not relieved then ischemia will occur and the pain intensity will increase very much.

- Physical examination may reveal asymmetric abdominal distension with a tympanic mass palpable in the left upper quadrant or mid abdomen
- Plain radiograph of the abdomen shows dilated cecum which is and usually displaced to the left

X ray of barium in a patient with cecal volvulus.

The contrast stops abruptly at the proximal end of the hepatic flexure

The dilated air filled cecum crosses the mid line of the abdomen towards the left upper quadrant



management

- Although there have been reports of detorsion of the cecocolic volvulus with a colonoscope, most cases require surgery to correct the volvulus and prevent ischemia
- If ischemia occurred immediate operation is needed
- Contrast enema may be needed to confirm the diagnosis and to exclude carcinoma of the distal bowel as a precipitating factor

- There are reports of endoscopic detorsion of cecal volvulus but with success rate significantly lower than sigmoid volvulus
- The procedure is associated with increased distension because of air insufflations
- So, surgical intervention is recommended for all cases of cecocolic volvulus
- Right colectomy is a procedure of choice and primary anastomsis is done

- There are some reports of correcting cecocolic volvulus with cecocolopexy
- It avoids the risk of anastomsis but the procedure is extensive because it needs flap of peritoneum over the cecum and ascending colon
- But the recurrence rate is high

Literature review

- Journal of Indian Association of pediatric surgeons on rare case of pediatric cecal volvulus, 2009 jul-sep14<3>; 110 -112
- 11 year old female child presented with abdominal pain, vomiting and constipation
- Explaratomy laparatomy revealed a cecal volvulus due to a congenital band and malfixation of the cecum

- This was treated by excision of the band, derotaion and decompression of the cecum through an appendiceal stump suction

discussion

- In this child under report, symptoms were mild and no evidence of ischemia or peritonitis was observed, authors recommended contrast study.
- In a comprehensive review of 48 adult patients different treatment modalities including conservative management, untwisting alone, untwisting with cecopexy, cecostomy and resection with anastomsis have been suggested

- However, the best long term result have been with resection and primary anastomsis
- Laparascopic cecopexy has been described more recently

Journal of the society of laparascopic surgeons

- Recommended an out patient laparascopic cecocolpexy for cecocolic torsion
- A minimum of three interrupted non absorbable sutures should anchor the tinea libera to the parietal peritoneal wall at the right iliac fossa in association with an indicated appendectomy

- Indication for ileocolectomy are the following
- A, too thin wall for stitch
- B, irreversible strangulation
- C, questionable viability
- D, elongated, over rotated, and heavy cecocolon that may tear loose
- E, pseudotumor that is heavy, dilated, hypertrophied, and decompensated

- Jackson’s membrane and parietocolic band should be released
- The surgeon who performs negative laparatomy for right lower quadrant pain should always see for the presence of mobile cecocolon
- If it is present the surgeon should perform indicated cecocolopexy, indicated appendectomy, jackson’s membrane and parietocolic ligament resection

conclusion

- Cecocolic torsion is a class of right colon obstruction which involves the cecum and ascending colon
- It has variable chronology and severity
- Diagnosis in all forms depends on clinician awareness
- Besides the above management, during performance of another operation, an indicated resection of the parietocolic band

- And Jackson's membrane, in the presence of a mobile cecocolon, is recommended
- Bowel resection is reserved for specific indications

Discussion and conclusion

- In our case, the patient usually presents late after they develop peritonitis
- And the presentation is similar to other case reports, abdominal distension and abdominal pain
- Its very rare in our country
- We have also one adult case with cecocolic volvulus for whom, right hemicolectomy with ileotransverse anastomsis was done

- Still we are using plain x- ray as diagnostic investigation modality
- We are doing right hemicolectomy with ileotransverse anastomsis for hemodynamically stable patients

- So, in our setup, patients present late
- Diagnosis is mainly made intra operatively
- Resection and anastmosis is the preferred treatment

references

- Journal of the society of laparascopic surgeons from page 1 to 8
- Journal of indian association of pediatric surgeons
- Shaklefords surgery of the alimentary canal, 5th edition, volume 1
- Sabistone 19th edition

- Thank you