

pregnancy, colitis), it can rotate, leading to a closed loop obstruction, gangrene or even perforation in neglected cases.²⁻⁵

The diagnosis is rarely made preoperatively. Plain abdominal X-rays may show massive dilatation of the proximal colon with an empty distal bowel and two air-fluid levels caused by double closed-loop obstruction (at the level of the transverse colon and cecum), or a 'bent inner tube appearance'; however, plain X-rays are not very sensitive, and may not contribute to the diagnosis. In such cases, a barium enema study may help in the diagnosis by showing the typical 'bird's beak' appearance.^{4,6} Computerised tomogram scan (CT scan) has the highest sensitivity, and will help delineate the closed loop obstruction, marked dilatation of the proximal colon and collapse of the distal portion of the transverse/descending colon, as well as the twisting of the mesenteric vessels, all of which suggest a TCV.^{3,7} Although there are occasional reports of successful conservative management⁸ of TCV, surgery is usually required in the vast majority of cases. Depending on the status of the colon, the surgical options may vary from simple derotation (and colopexy) in patients with a viable colon, to resection (with or without primary anastomosis) in the presence of gangrene or perforation. Resection of the redundant transverse colon has the least chance of recurrence.

ROBIN KAUSHIK
MAYANK JAYANT

Correspondence: Dr. Robin Kaushik
Department of Surgery
Government Medical College and Hospital,
Chandigarh, India
Email: robinkaushik@yahoo.com

References

- Booij KAC, Tanis PJ, van Gulik TM, Gouma DJ. Recurrent volvulus of the transverse colon after sigmoid resection. *Int J Colorectal Dis.* 2009; **24**:471–2.
- Newton NA, Reines HD. Transverse colon volvulus: case reports and review. *AJR Am J Roentgenol.* 1977; **128**:69–72.
- Younes N, Al-Ardah MI. Transverse colon volvulus: case report and review of literature. *Pak J Med Sci.* 2010; **26**:716–9.
- Ciraldi A, Thomas D, & Schmidt S. A case report: transverse colon volvulus associated with chilaiditis syndrome. *The Internet Journal of Gastroenterol.* 2000:1.
- Houshian S, Sorensen JS, Jensen KE. Volvulus of the transverse colon in children. *J Pediatr Surg.* 1998; **33**:1399–140.
- Mortensen NJ, Hoffman G. Volvulus of the transverse colon. *Postgrad Med J.* 1979; **55**:54–7.
- Matsushima K, Suzuki Y. Transverse colon volvulus and associated Chilaiditi's syndrome. *Am J Surg.* 2006; **192**:203–4.

Caecal volvulus: a cause for intestinal obstruction

Introduction

Caecal volvulus is a rare clinical condition causing intestinal obstruction. It is responsible for 1% of all adult intestinal obstructions and 30% of all cases of volvulus involving the colon. The most common signs associated with it are abdominal pain, constipation and vomiting; none of which are specific for the condition.¹ Abdominal radiography permits diagnosis in 70% of cases by 3 typical signs: caecum dilatation, a single air-fluid level in the right lower quadrant, and absence of gas in the colon.² The CT scan typically shows a massively dilated caecum with associated small bowel dilation. The twisted or "whirl" mesenteric configuration around the ileocolic artery is pathognomonic of axial caecal volvulus. Overall, radiographic studies confirm the diagnosis of caecal volvulus 90% of the time. The remainder are diagnosed at surgery.³ In this report we present the case of a 70-year-old woman with caecal volvulus.

Case report

A 70-year-old woman presented with acute pain abdomen, vomiting and constipation since one day. The pain was diffuse and colicky in nature. She had no co-morbid illness and no history of surgery in the past.

X-ray abdomen (erect and supine) (**Figure 1**) showed a loop of dilated large bowel on the right side with multiple loops of dilated small bowel showing air fluid levels. CT abdomen and pelvis (**Figure 2**) revealed a large caecal volvulus with an obstructed proximal bowel and a decompressed distal colon with malrotation of the gut.

An emergency laparotomy was performed which confirmed the presence of caecal volvulus and malrotation of the gut. The caecum was massively dilated with a few gangrenous patches (**Figure 3**). Detorsion and a right hemicolectomy with primary anastomosis using a stapler was performed.

The post-operative recovery was uneventful and the patient was discharged after 8 days.

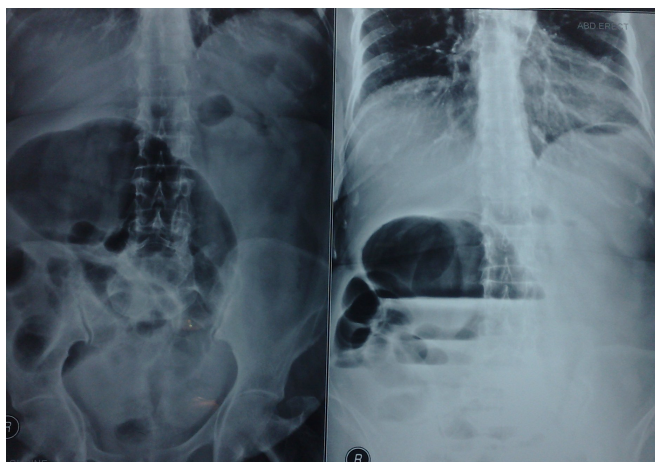


Figure 1: X-ray abdomen-supine (left) and erect showing large air fluid levels

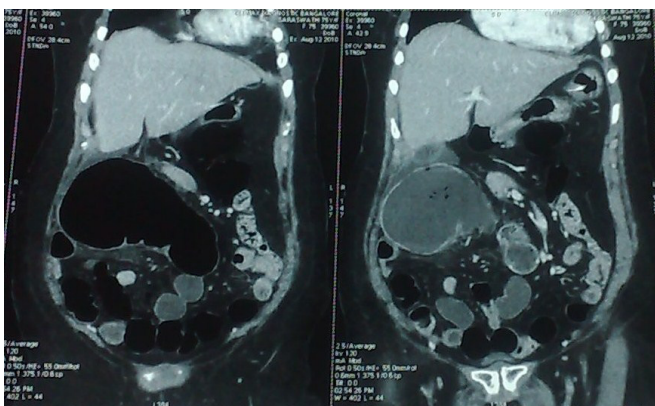


Figure 2: CT abdomen and pelvis showing massively dilated caecum with associated small bowel dilation

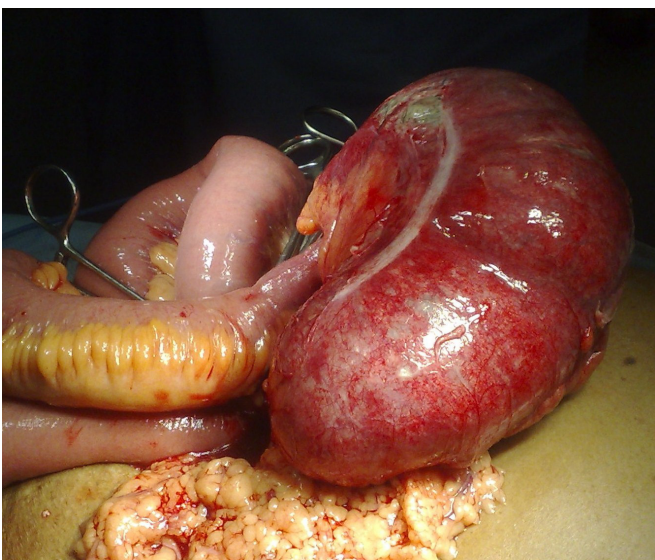


Figure 3: Image depicting massively dilated caecum with gangrenous patches (peroperative)

Discussion

Patients with volvulus are commonly elderly, debilitated, and bedridden. It has also been postulated that postsurgical adhesions contribute to the formation of fixation points, thus

promoting volvulus development. Other conditions, such as late-term pregnancy, high-fiber intake, adynamic ileus, chronic constipation, and distant colon obstruction, have also been implicated in caecal volvulus.² It is imperative to distinguish a caecal volvulus from a sigmoid volvulus. Caecal volvulus is more common in women, rotates in a clockwise direction, and is best treated by primary right colectomy. Sigmoid volvulus on the other hand, is more common in men, rotates in a counter-clockwise direction, and is often treated by intubation through the sigmoidoscope.⁴⁻⁵

Rapid diagnosis, resuscitation and surgery are imperative as the mortality rate in gangrenous caecal volvulus is 17-40%.⁶ Surgery is the treatment of choice and intervention is advised as soon as the diagnosis is made. Ileocolic resection without detorsion (eventually with pexy of the remnant colon) is the standard treatment and offers a low mortality rate with zero recurrence. Other contemporary surgical options include manual detorsion, caecopexy, caecostomy, and colectomy by open or laparoscopic approaches.⁷ Attempts at reduction by colonoscopy or barium enema are anecdotal methods with a risk of dangerous delay before surgery.

SANGEETHA SIVA
N. SATISH
H.V. SHIVARAM

Correspondence: Dr. H.V. Shivaram
Department of General Surgery,
St. Philomenas Hospital, Mother Teresa Road,
Bangalore, India
Email: hvshivaram@gmail.com

References

1. Consorti ET, Liu TH. Diagnosis and treatment of caecal volvulus. *Postgrad Med J*. 2005;**81**:772–6.
2. Habre J, Sautot-Vial N, Marcotte C, Benchimol D. Caecal volvulus. *Am J Surg*. 2008;**196**:e48–9.
3. Pulvirenti E, Palmieri L, Toro A, Di Carlo I. Is laparotomy the unavoidable step to diagnose caecal volvulus? *Ann R Coll Surg Engl*. 2010;**92**:W27–9.
4. Hiltunen KM, Syrja H, Matikainen M. Colonic volvulus. Diagnosis and results of treatment in 82 patients. *Eur J Surg*. 1992;**158**:607–11.
5. Meyers JR, Heifetz CJ, Baue AE. Cecal volvulus: a lesion requiring resection. *Arch Surg*. 1972;**104**:594–9.
6. Joosse P, Vrouwenraets BC, Scholten P, van Tets WF, Steller EP. Colonic obstruction due to volvulus of the sigmoid colon or caecum. *Ned Tijdschr Geneesk*. 2010;**154**:A863.
7. Ruiz-Tovar J, Calero Garcia P, Morales Castineiras V, Martinez Molina E. Caecal volvulus: presentation of 18 cases and review of literature. *Cir Esp*. 2009;**85**:110–3.

‘Myiasis-in-ano’

Introduction

Myiasis has been reported all around the world, but is more common in the tropical region. Anal myiasis is rare and there are only a handful of reports in the literature.^{1–4} We present a case of ‘myiasis-in-ano’ where the patient had no obvious pre-existing anal pathology.

Case report

A 72-year-old lady presented to our Emergency Department, referred by a general practitioner for further management of a cerebrovascular accident which occurred two weeks ago. History revealed that she was bedridden for the last two weeks and was put under the care of a home nurse. Examination revealed a conscious and oriented lady with poor hygiene, adequate nourishment and mild pallor. Neurological examination revealed right hemiplegia. A surgical consultation was sought on finding blood stained faecal soiling on her clothing.

Inspection of the perianal region revealed an anal canal infested with maggots and active oozing of blood from multiple linear fissures (**Figure 1**). There was no growth or ulcer in the region. On digital rectal examination, there was no sphincter spasm or obvious rectal pathology. External genitalia and urethral opening were normal. A flexible sigmoidoscopy revealed normal rectum and sigmoid, with no maggots within the lower intestinal tract.

The patient was treated with local instillation of mineral turpentine (MT), followed by manual removal of maggots. A

few maggots were seen migrating into the rectum and vagina following MT application. A cleansing enema instituted immediately following MT application helped expel around 2–3 maggots. The external genitalia were protected by using a tampon prior to application of MT. She was given oral antibiotics to prevent secondary infection. Two of the extracted maggots were sent to a medical entomologist and were identified as larvae of *Chrysomya bezziana*. After six days of treatment, there were no further maggots visible and the fissures were healing. She was discharged on the 10th day and referred for rehabilitation, with advice to care givers on hygiene and good nutrition.

Discussion

Myiasis has been reported from all around the world, but is more common in the tropical region. The incidence and the site of invasion are dependent on the health of the host, hygiene, sanitation and other environmental factors. Myiasis usually occurs at sites of natural (orifices) and unnatural (wounds) openings in the body. The commonest site of myiasis is the foot.⁵ Anal myiasis is rare and there are only a handful of reported cases; most in pre-existing carcinomatous ulcers, condyloma accuminata, fistula-in-ano and gangrenous haemorrhoids.

The term myiasis was coined by Hope⁶ in 1840 to refer to diseases of humans originating specifically due to dipterous larvae. In 1965, Zumpt⁷ defined myiasis as ‘the infestation of live vertebrate animals with dipterous larvae, which, at least for a certain period, feed on the host’s dead or living tissue, liquid body substances or ingested food’. It may be deleterious when the obligate and primary species attack the host’s healthy tissues or it may be benign, as when secondary species attack only the diseased and dead tissue. Controlled myiasis has been used as scavengers to clean up necrotic material in wounds in olden days and ‘maggot therapy’⁸ has evoked interest in the recent past as well.

MT and low aromatic white spirits, the main ingredient of MT, are effective in killing the *Chrysomya larvae*.⁹ Commercially available MT is being used widely in hospitals of the tropical region for treatment of myiasis. MT is cheap and does not have any reported adverse effects; however, there are potential risks in using commercially available MT. Other topical agents used include chloroform, ether, ethanol, dextrose and oil. Surgical debridement is usually not necessary.¹⁰ Ivermectin has been reported to be effective in treating wound myiasis, but it is expensive and is not available in most tropical



Figure 1: ‘Myiasis-in-ano’: The anal canal of the patient revealed maggots with cylindrical bodies and dark peritremes at the caudal end