

## A RARE METACHRONOUS COLONIC VOLVULUS

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### ABSTRACT

**Introduction:** Colonic volvulus is a common cause of large bowel obstruction with the sigmoid colon most commonly affected. Volvulus of the transverse colon is an uncommon occurrence. Rarer still is a transverse colon volvulus developing after surgery for a sigmoid colon volvulus. Early diagnosis is critical as delay in detection and intervention is associated with the risk of complications – perforation, peritonitis, and death.

**Case presentation:** We report the case of an 86-year-old man who presented with features of large bowel obstruction 14 months following a sigmoid colectomy for a sigmoid colon volvulus.

**Conclusion:** A metachronous transverse colonic volvulus is uncommon. Pre-operative diagnosis is challenging as there are no defining radiographic features compared to the volvulus of the sigmoid colon with the classical omega sign. Most cases are diagnosed intra-operatively. Bowel resection and anastomosis in a single stage is a safe option.

**Keywords:** Metachronous, Sigmoid colon, Transverse colon, Volvulus.

### INTRODUCTION

Colonic volvulus is the torsion of the colon on its mesentery, with the sigmoid colon the most affected (75%).<sup>1,2</sup> There are a few cases of volvulus reoccurring in the same patient after treatment for an initial one.<sup>3</sup> We share our experience in the management of a patient with metachronous colonic volvulus.

### CASE PRESENTATION

A 86-year-old man, with no known comorbidity, presented with a five-day history of colicky abdominal pain, worsening abdominal distension, and associated constipation which progressed to obstipation. The pain worsened significantly but with no associated vomiting. His last bowel movement was 4 days before presenting to the hospital. There was no history of fever, jaundice, early satiety, spurious diarrhea, the passage of pellet-like stools, or weight loss.

Past medical history revealed a similar presentation fourteen months prior to the onset of present problem with clinical and radiological features revealing a sigmoid volvulus, and a one-stage sigmoidectomy with end-to-end anastomosis was performed. (Figure 1 & 2)

Examination findings included palor, tachycardia (pulse rate of 120 per minute) and an elevated blood pressure even though he has never been diagnosed as hypertensive. He has severe abdominal distension with

a midline longitudinal scar and hypoactive bowel sounds. There was no rebound tenderness. A digital rectal examination revealed scanty hard feces.

On this current admission, a provisional diagnosis of adhesive bowel obstruction was made and he was resuscitated with intravenous fluids and antibiotics while a nasogastric tube passed for immediate decompression of the abdomen and a trial of enema done with minimal improvement. Further evaluation of the patient was done to rule out the possibility of a



**Fig. 1:** Plain abdominal x-ray showing dilated loops of large bowel with omega sign



**Fig. 2:** Intraoperative image of markedly dilated sigmoid colon

second volvulus or Ogilvie syndrome as a second alternative.

Laboratory investigations revealed a normal white cell count with a neutrophil predominance of 80.6%, hematocrit of 39.3% and hypokalaemia of 3.0mmol/L which was corrected before surgery. Viral markers were all negative and the clotting profile was not deranged. Urinalysis showed proteinuria, ketonuria, and haematuria. Erect plain abdominal radiograph revealed multiple air-fluid levels and a gasless pelvis while a supine view revealed massively dilated (>10cm) bowel loops peripherally located, with haustra markings (Fig. 3).



**Fig. 3:** Erect plain abdominal x-ray showing dilated loops of large bowel with no classical omega sign

He underwent an exploratory laparotomy and findings included a massively dilated transverse colon that was twisted 540° in the anticlockwise direction. A perforation was noted in the descending colon at the distal point of the torsion with spillage of intestinal contents (Fig. 4). The transverse and descending colon were viable and a left hemicolectomy was performed with one-layered end-to-end anastomosis. The post-operative recovery was uneventful and he was discharged home 8 days after surgery.



**Fig. 4:** Intra-operative image showing markedly dilated loops of transverse colon

## DISCUSSION

Colonic volvulus is the third leading cause of large bowel obstruction.<sup>1</sup> The sigmoid colon is the most affected site.<sup>2</sup> Though relatively uncommon, cases of recurrence of a colonic volvulus have been reported, particularly among younger age groups.<sup>3,4</sup>

Synchronous colonic volvulus is when different segments of the colon are affected simultaneously.<sup>5,6</sup> Few cases have been reported.<sup>7,8,9</sup> Metachronous colonic volvulus affects another segment of the colon at least six months after surgical resection of the previously affected segment of the colon in the same patient.<sup>10</sup> Faranisi reported a similar presentation in a 28-year-old man who presented with volvulus of the transverse colon 3 years after an initial treatment for sigmoid volvulus.<sup>11</sup>

The major risk factor in our patient was a long mesentery. Similarly, in the patient reported by Faranisi, the transverse colon also had a long mesentery. Besides, his ascending and descending colons were notably very

mobile' – described by the author to be 'almost as if they had a mesentery'.<sup>11</sup> Both the congenital failure of the right and left colons to be fixed retroperitoneally and his long transverse mesocolon were thought to be probable causative factors.<sup>11</sup>

Several surgical options endoscopic detorsion and laparoscopic surgery might be considered in the management of a metachronous volvulus.<sup>12</sup> The patient described here had a decompression with a flatus tube at the initial facility where he received care before subsequent sigmoidectomy at his first presentation at our facility and left hemicolectomy after his second presentation.

The management of colonic volvulus depends on the clinical status of the patient.<sup>12</sup> The decision to do a left hemicolectomy following representation with a transverse volvulus, in this case, was because of the patient's age and the need to reduce the risk of short bowel syndrome.

An initial attempt at non-operative treatment might be unsuccessful. The patient presented had a decompression with flatus tube which failed. Several authors also report failed attempts at non-operative management.<sup>3,4,11</sup> As such, the definitive treatment of metachronous volvulus should always be surgical and one-staged.<sup>13</sup> Non-operative treatment should not be considered beyond the emergency.

## CONCLUSION

A metachronous transverse colonic volvulus is uncommon. Pre-operative diagnosis is challenging as there are no defining radiographic features compared to the volvulus of the sigmoid colon with the classical omega sign. Most cases are diagnosed intra-operatively. Bowel resection and anastomosis in a single stage is a safe option with operative treatment offering the best outcomes.

## Consent

Written informed consent was obtained from the patient's daughter and next of kin for the publication of this case report with associated images.

## Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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