A rare case of synchronous double volvulus of the sigmoid colon and cecum-A Case Report

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Introduction

- Volvulus is rotation of the bowel along its supporting mesentery.
- Most common locations of volvulus are sigmoid (75%) and cecum(15%).
- Sigmoid volvulus is usually seen in the elderly where as cecal volvulus presents in younger populations {1].
- **Sigmoid volvulus is characterized by coffee bean appearance in the left upper quadrant on abdominal X-Ray where as cecal volvulus presents as dilation of bowel extending from right lower quadrant to left upper quadrant of abdomen.**
- Abdominal X-Rays are sufficient to make a diagnosis of sigmoid volvulus, however additional imaging like CT scan is required for diagnosis of cecal volvulus.
- **Concurrent cecal and sigmoid volvulus is a rare finding.**

Case Presentation

A 67-year-old female with past medical history of chronic constipation presented with diffuse abdominal pain associated with nausea and vomiting for 5 days. Her last colonoscopy performed four years ago was normal. On presentation she was afebrile, with normal vitals signs. The abdomen was softly distended, devoid of any scars and bowel sounds were auscultated in all quadrants but decreased in lower quadrants bilaterally. X-ray of the abdomen showed pneumoperitoneum and dilated bowel possibly related to stercoral colitis(Fig 1,2). Subsequent CT abdomen showed small volume ascites, hollow perforated viscus, markedly distended cecum with peri-cecal inflammatory changes, significant wall thickening with inflammation in the sigmoid colon secondary to concurrent cecal and sigmoid volvulus(Fig 3,4). The patient immediately underwent exploratory laparotomy and had ileocecectomy with primary anastomosis, sigmoidectomy with primary anastomosis, and an abdominal washout was performed.

Radiological findings

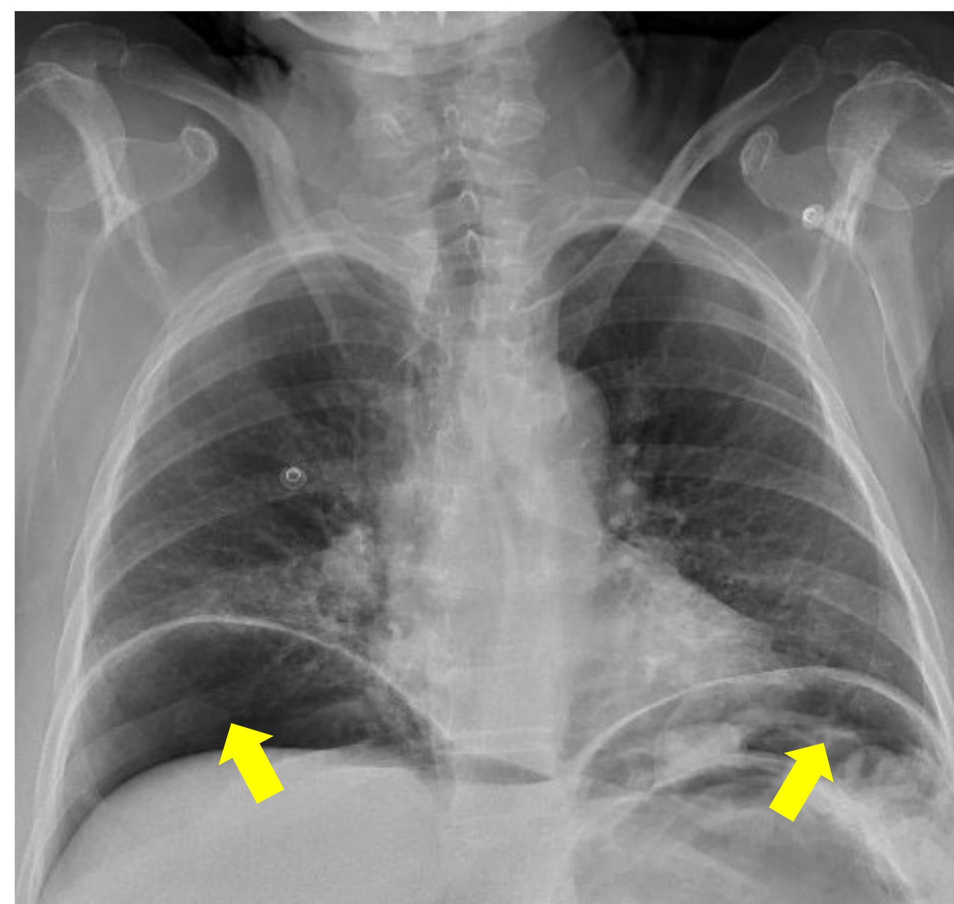

Fig 1: CXR showing air under the diaphragm indicating perforated hollow viscus (yellow arrows).

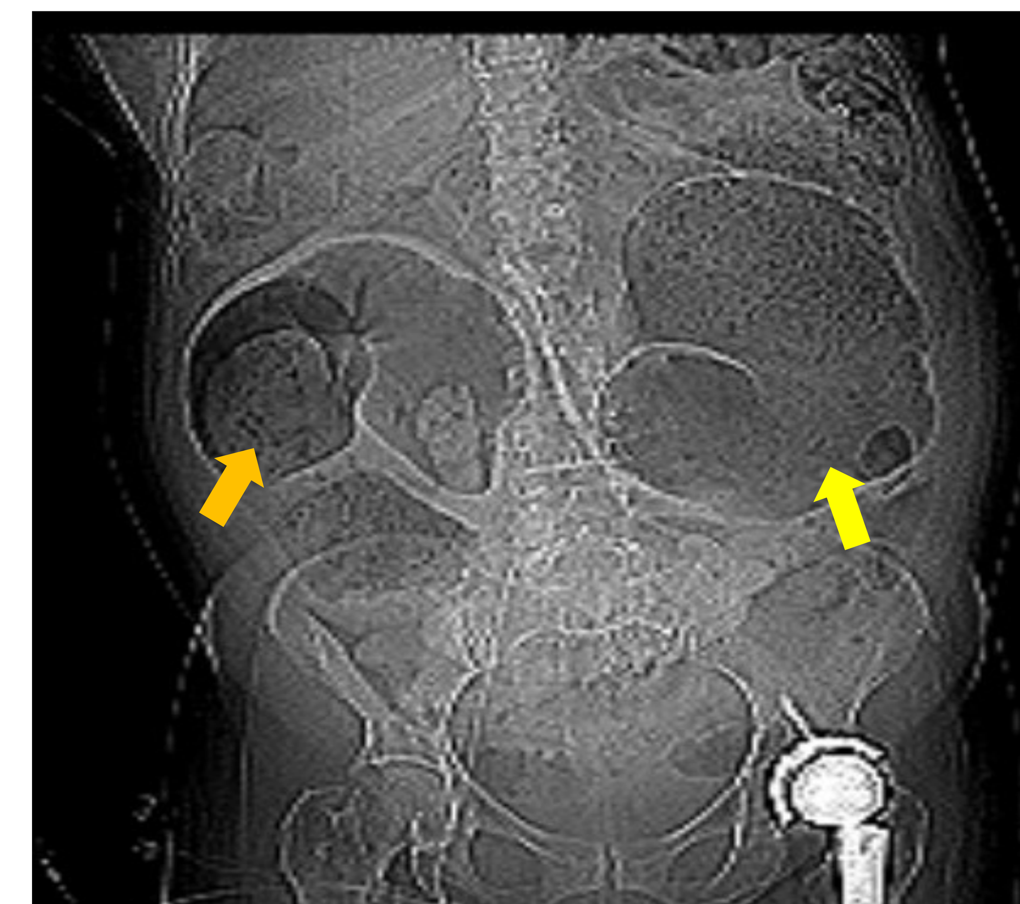

Fig 3: CTAP showing markedly distended cecum (orange arrows) and sigmoid (yellow arrows).

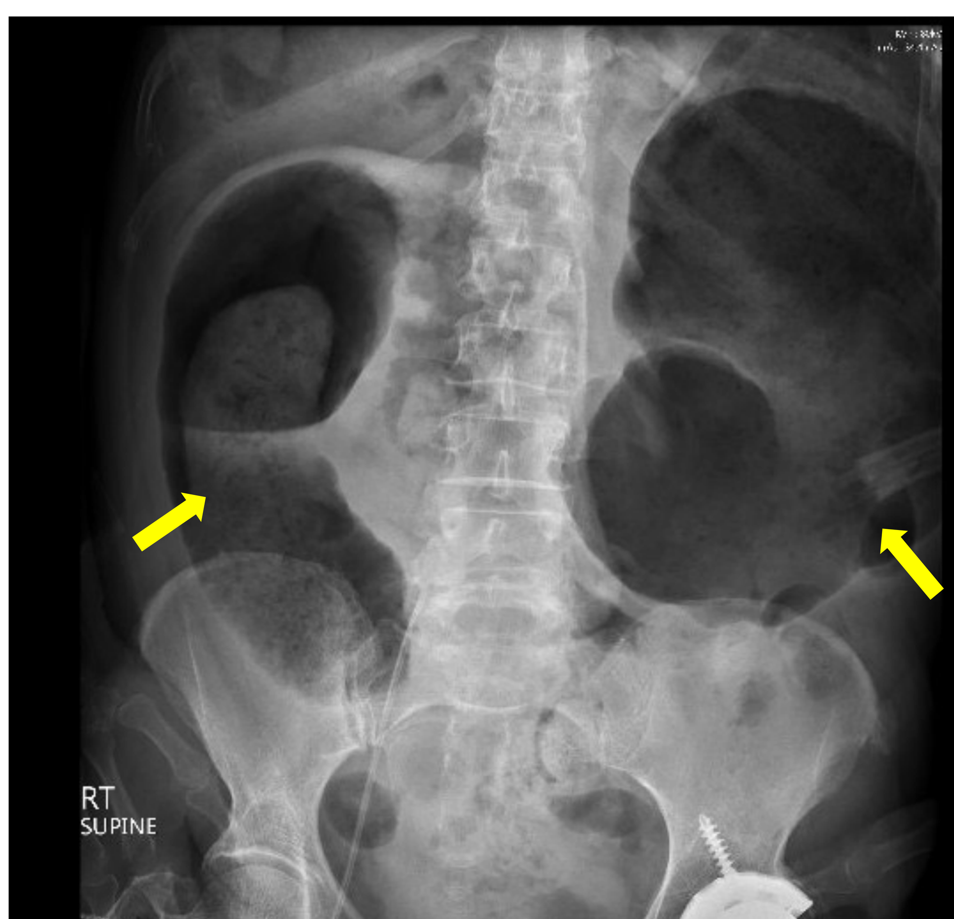

Fig 2: Xray Abdomen showing dilated bowel (yellow arrows) possibly related to stercoral colitis.

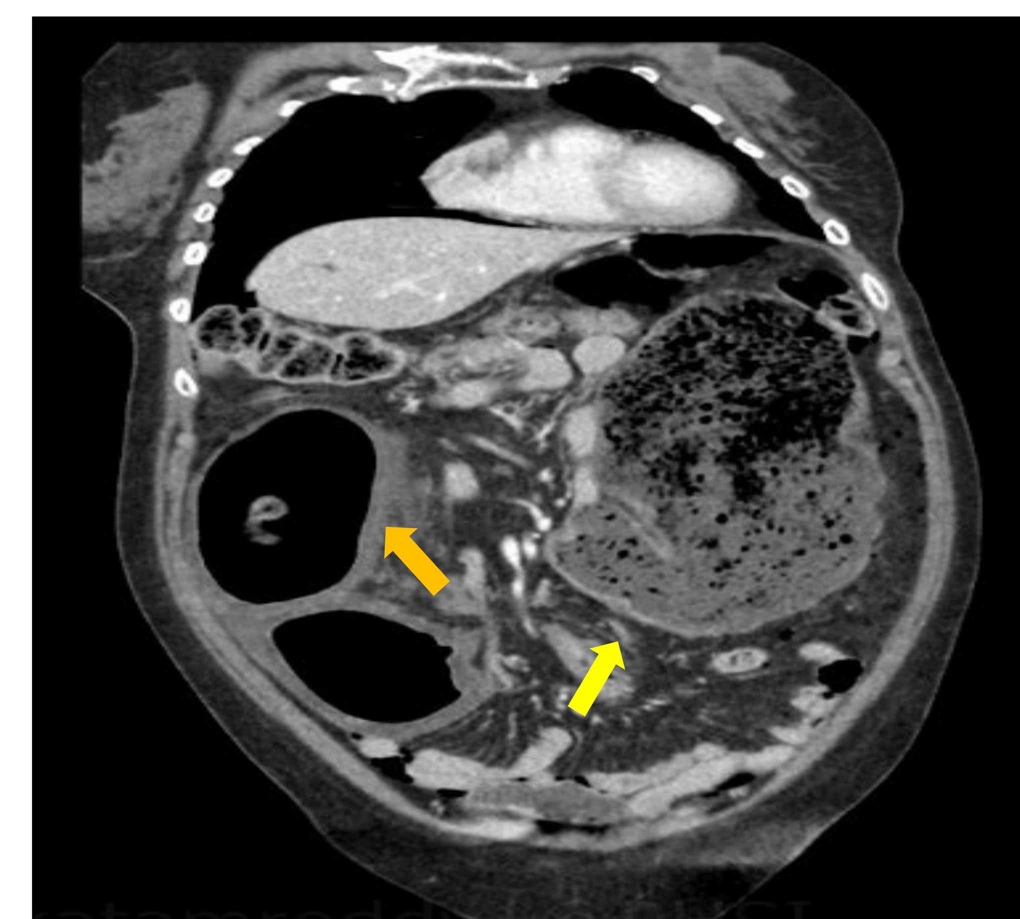

Fig 4: CTAP shows peri-cecal inflammatory (orange) changes, significant wall thickening with inflammation in the sigmoid colon (yellow) secondary to concurrent cecal and sigmoid volvulus.

Discussion

Colonic volvulus is one of the leading causes of large bowel obstruction. Sigmoid volvulus accounts for 75% of cases, whereas cecum 15%, transverse colon 3% and splenic flexure 2% [3]. Synchronous double volvulus of colon involving cecum and sigmoid colon is extremely rare [1,3,4,5,6]. It is easy to diagnose sigmoid volvulus due to characteristic radiologic findings of coffee bean appearance. Cecal volvulus is a rarer and is seen as significant dilation of bowel from the right lower quadrant extending to the left upper quadrant. Sometimes, sigmoid volvulus masks the simultaneous occurrence of cecal volvulus even with detailed cross-sectional imaging like CT scan.

The management of sigmoid volvulus depends on the clinical status. In a stable patient conservative management with non-surgical decompression via flexible sigmoidoscopy is preferred but has increased risk of recurrence [3]. The treatment of cecal volvulus typically involves surgical resection as non-operative interventions have risk of failure [2]. The preferred treatment of synchronous cecal and sigmoid volvulus includes total or subtotal colectomy with or without anastomosis. The decision to form an ileostomy vs ileorectal anastomosis is weighed on case-to-case basis [3]. Total or subtotal colectomy is the most favored approach due to the advantage of avoiding risk of recurrence [1].

Conclusions

We discussed the classic radiologic findings of both sigmoid volvulus with coffee bean appearance and cecal volvulus with dilation of the colon from the right lower quadrant extending to the left upper quadrant. Due to challenges of X-Ray, visualizing volvulus in multiple areas can be easily missed and adds to the rare nature of this case. The scarcity of synchronous cases brought about the clinical question regarding the best approach in management when dealing with both intraabdominal pathologies. The surgical approach has thus far proven to the most formidable clinical intervention.

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