A Turn For The Worse

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Case Synopsis

Presentation:

An 82-year-old lady with no relevant past surgical history presented to the emergency department with severe lower abdominal pain, multiple episodes of vomiting and a 2-day history of constipation. The initial biochemical/haematological results showed a mildly raised CRP with compensated metabolic acidosis and lactate of 8.02.

Radiology:

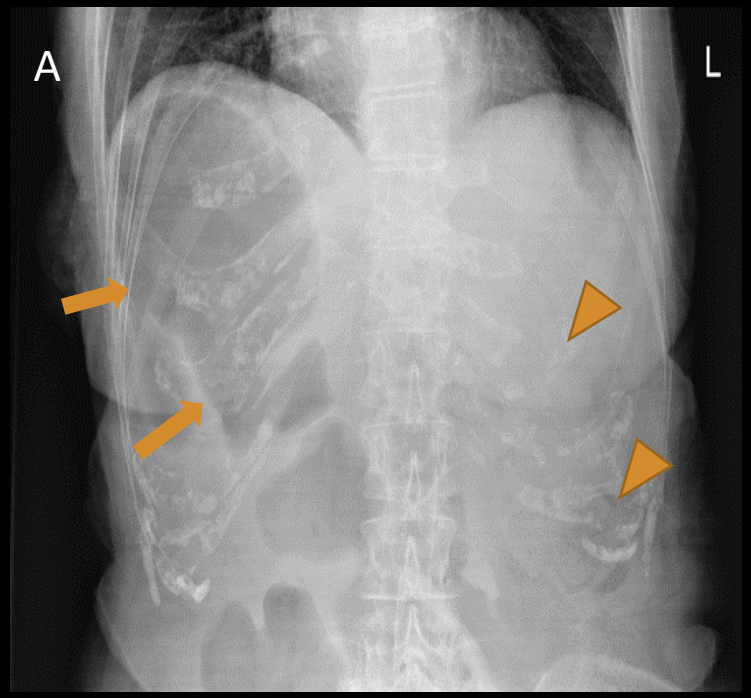
- Abdominal radiograph: revealed features of large bowel obstruction with a distended gas filled hollow viscus within the right abdomen without signs of bowel perforation on the accompanying erect chest radiograph.
- CT abdomen and pelvis :which demonstrated a twirl of the mesentery and a twist of the mid transverse colon with proximal colon and small bowel dilation. In addition, there was complete extrinsic superior mesenteric vein (SMV) compression which raised concern for colonic ischaemia. There was no pneumoperitoneum but free fluid was identified.
- A note was made of a prior CT abdomen and pelvis (two years before) which had showed atypical features of colitis with right colonic mural thickening, oedema but formed stools within the colonic lumen. In hindsight, the previous colonic appearances could be due to a resolving episode of volvulus.

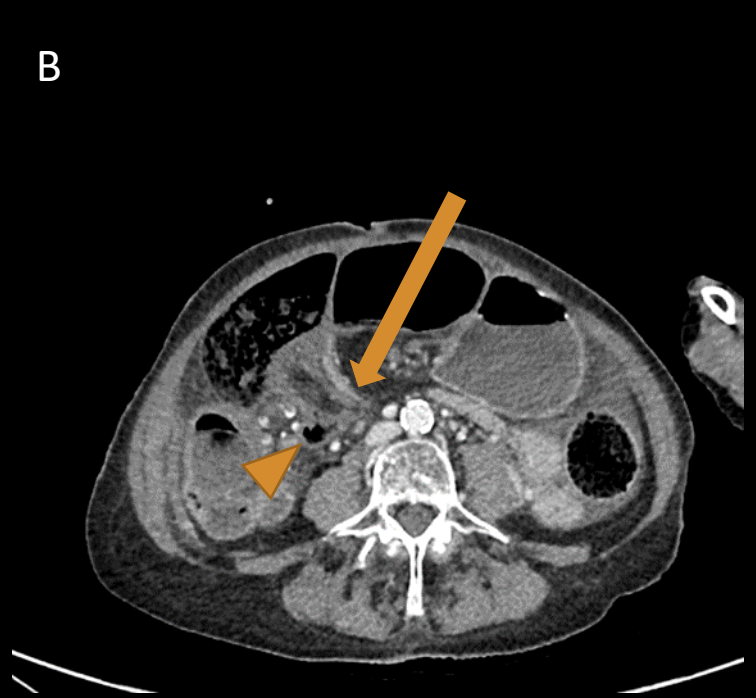
Surgical Operative notes:

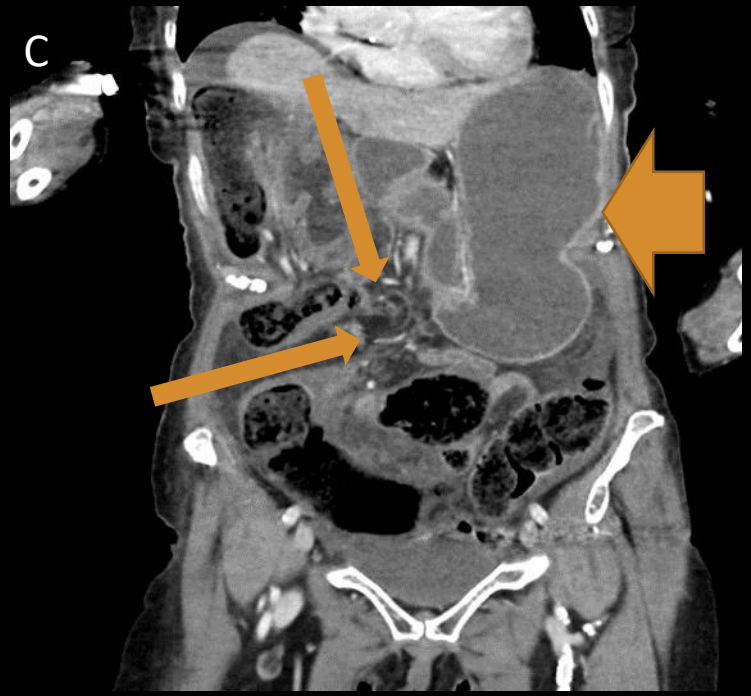
The patient was subsequently taken to the operating room where she underwent an extended right hemicolectomy with ileostomy formation due to necrotic right and transverse colon which had volvulated. Histopathology confirmed colonic ischaemia with no evidence of neoplastic lesions.

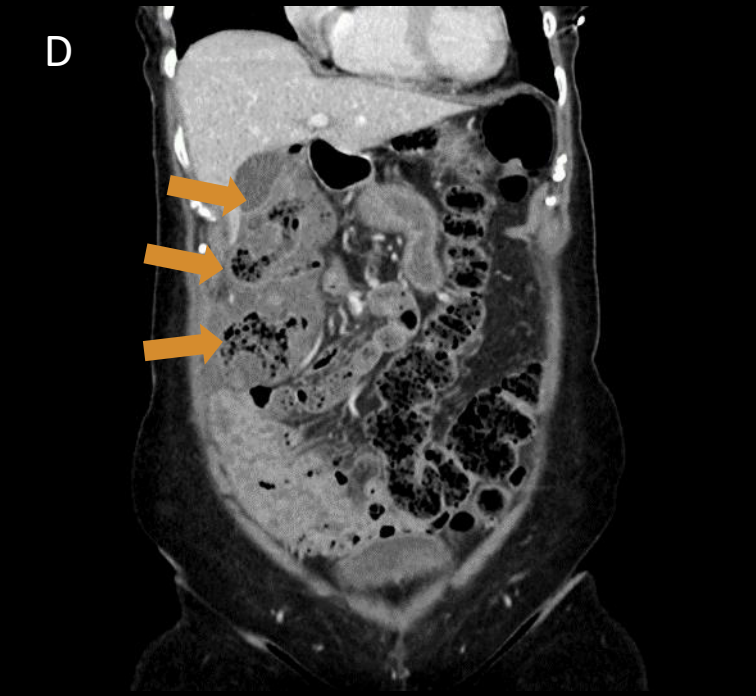
Diagnosis:

Mid transverse colon volvulus with SMV compression.









- Figure A. Non-specific large gas-filled bowel loop (arrows) projecting over the right upper quadrant suggestive of large bowel obstruction. Note the presence of faecal content and absence of dilation in the descending colon (arrow heads).
- Figure B. Axial view: mid colonic volvulus with a twist of the mid transverse colon and features of large bowel obstruction. Note the proximal (arrowhead) and the distal transition points (thick arrow).
- Figure C. Coronal view: whirl in the mesentery (thick arrows) and its vessels. Note the distended stomach (broad arrow) and the dilated small bowel (not shown) suggestive of large bowel obstruction with incompetent ileo-caecal valve.
- Figure D. Coronal view: previous CT abdomen and pelvis demonstrating extensive mural thickening of the caecum and ascending colon which contain formed faeces. Appearances are atypical for colitis. In hindsight, such appearances may be resultant from a resolving colonic volvulus.

Background

- Volvulus of the transverse colon represents one of the rarest forms of large bowel mechanical obstruction in normally developed colons (1).
- 3 to 5% of cases of bowel obstruction are caused by colonic volvulus (2).
- Limited number of cases in literature (up to 100 cases up to 2012) (3).
- No consensus in literature regarding epidemiology or pathogenesis.

Predisposing factors

- Predisposing factors are congenital, physiological and mechanical (4).
- Congenital: redundancy and non-fixation of the transverse colon (5).
- Physiological: high-residual diet and chronic constipation (usually associated with psychiatric or neurologic disease) (6).
- Mechanical: previous volvulus, distal colonic obstruction, adhesions, inflammatory strictures, and tumours (4).

Discussion

- Our patient presented with an acute surgical abdomen which was supported by clinical examination and biochemistry.
- The findings at the initial abdominal radiograph raised concerns for large bowel obstruction but these were non-specific and could not indicate a precise transition point or aetiology.
- The diagnosis of transverse colon volvulus could only be achieved on CT having identified the transition points, the “closed-loop obstruction” pattern and the twisting of the mesentery.
- These findings were subsequently confirmed intra-operatively.

Discussion

- We noticed that our patient had presented before with non-specific abdominal pain and constipation.

- CT findings at that time had demonstrated non-specific inflammation of the ascending colon which were attributed to colitis despite the presence of formed stools.

- In hindsight, the appearances might have been related to subacute transverse colon volvulus with spontaneous detorting of the colon.

Discussion

- Patients presenting with acute transverse colon volvulus may experience rapid clinical deterioration due to its surgical complications, including bowel obstruction, infarction and peritonitis.

- Colonic resection represents the treatment of choice for transverse colon volvulus (4).

- Subtotal colectomy should be considered in the presence of megacolon (6)

Conclusion

- Transverse colon volvulus is rare and difficult to diagnose in the context of non-specific clinical history and/or imaging findings.

- Emergency surgical intervention is pivotal to achieve a successful outcome.

References

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