

# Diaphragmatic Richter's hernia causing large bowel obstruction

Authors: Dr Ayaz Dabivala<sup>1</sup>, Dr Richard Beable<sup>2</sup>,

<sup>1</sup>Consultant Radiologist, Isle of Wight NHS trust

<sup>2</sup>Consultant GI Radiologist, Portsmouth Hospitals University NHS trust

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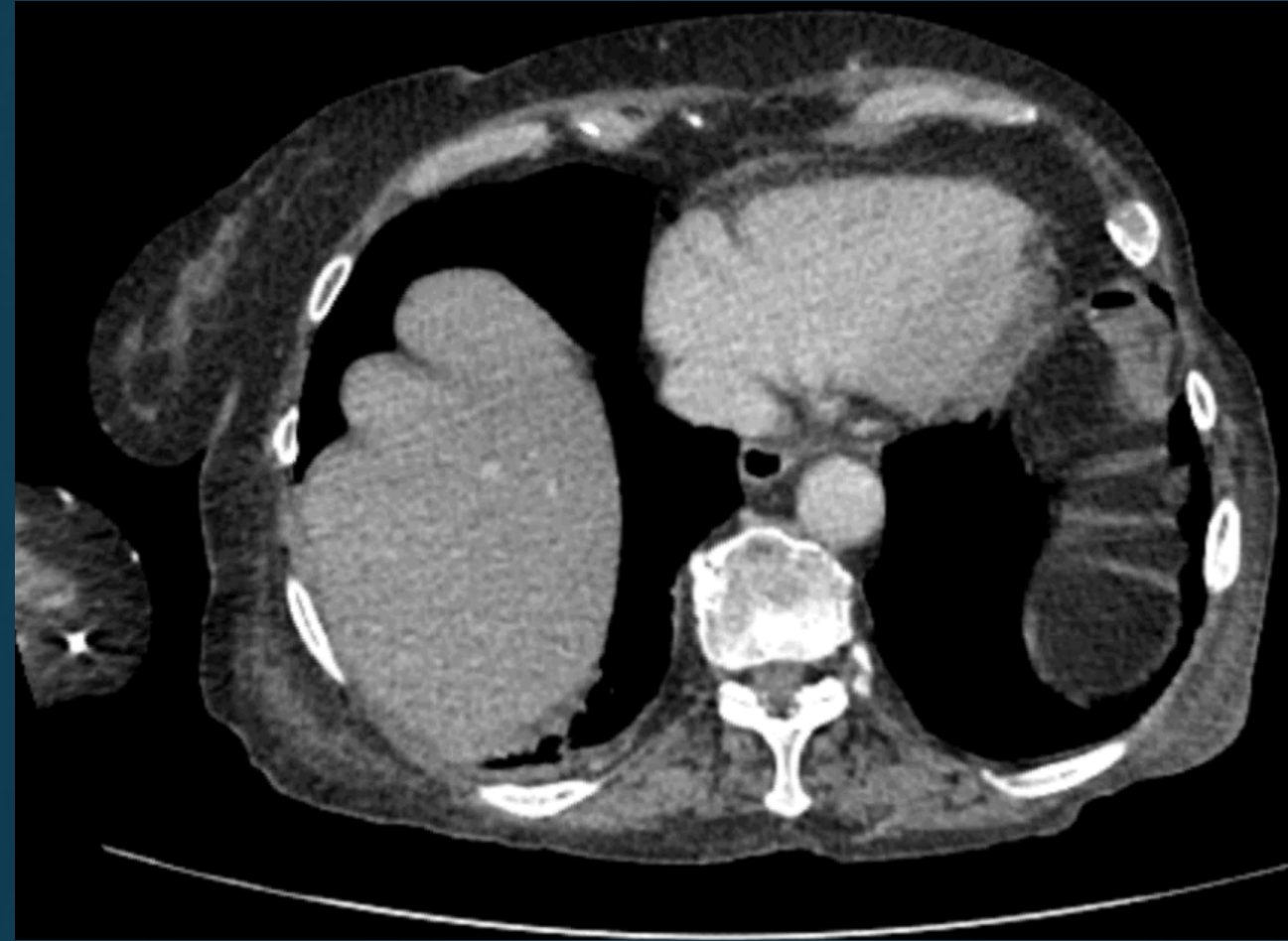


- A 67 years old female presented to ED with acute abdominal pain, distension, and vomiting. On P/A examination, guarding and generalised tenderness was observed but there were no signs of peritonitis. A CT abdomen was performed to rule out intestinal obstruction.
- The CT abdomen showed few prominent distal ileal loops along with dilated right colon and transverse colon with transition point at splenic flexure. Rest of the left colon was collapsed.

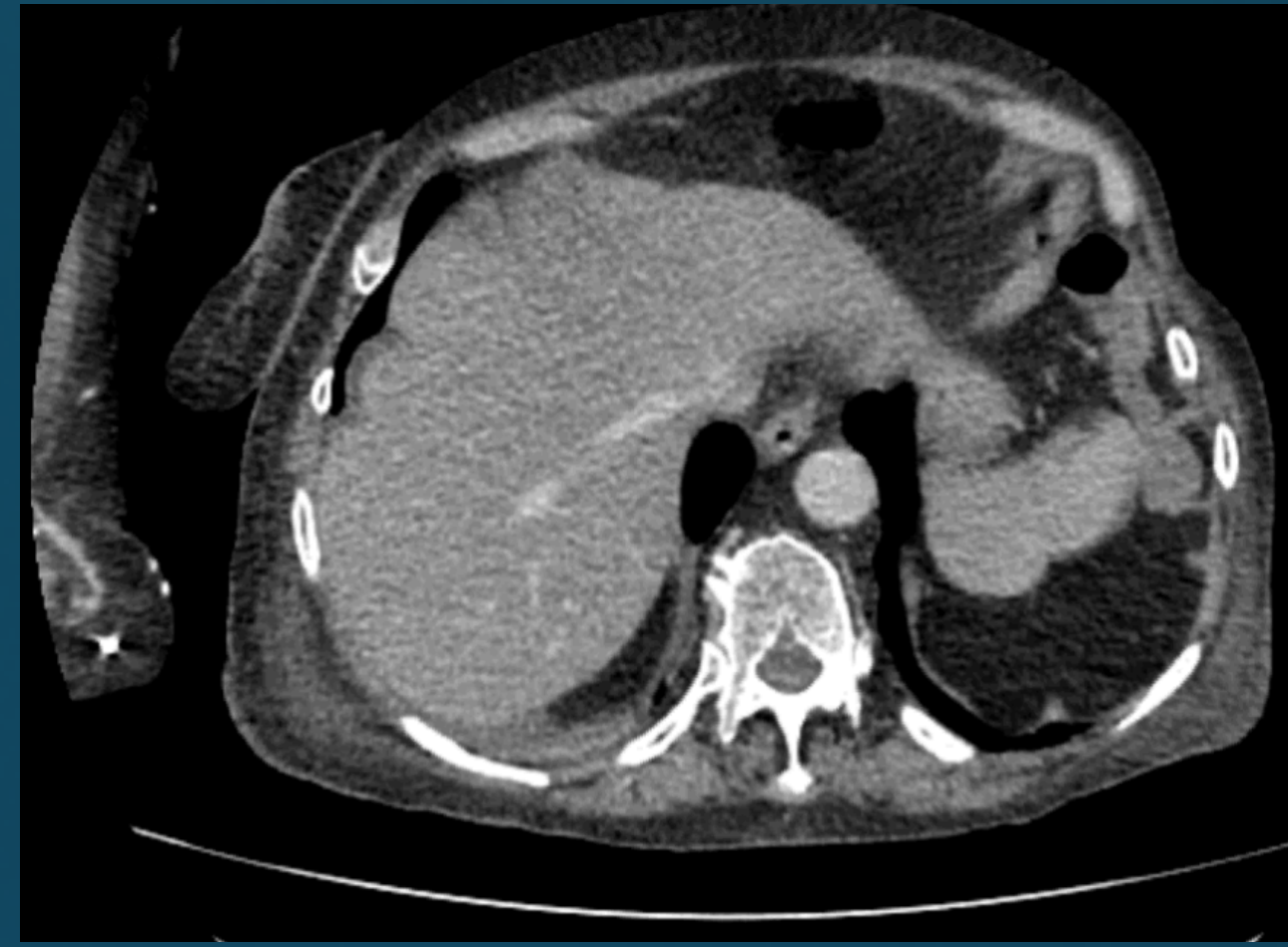
- Further review revealed the transition at splenic flexure was secondary to a diaphragmatic hernia of the colonic bowel wall.
- The hernia was well visualised on Coronal MPR views which demonstrated a defect in anterior left hemidiaphragm and herniating anti mesenteric bowel wall with resultant proximal obstruction(no bowel wall ischemia on CT).
- The managing team was informed for surgical intervention.



a



b



c

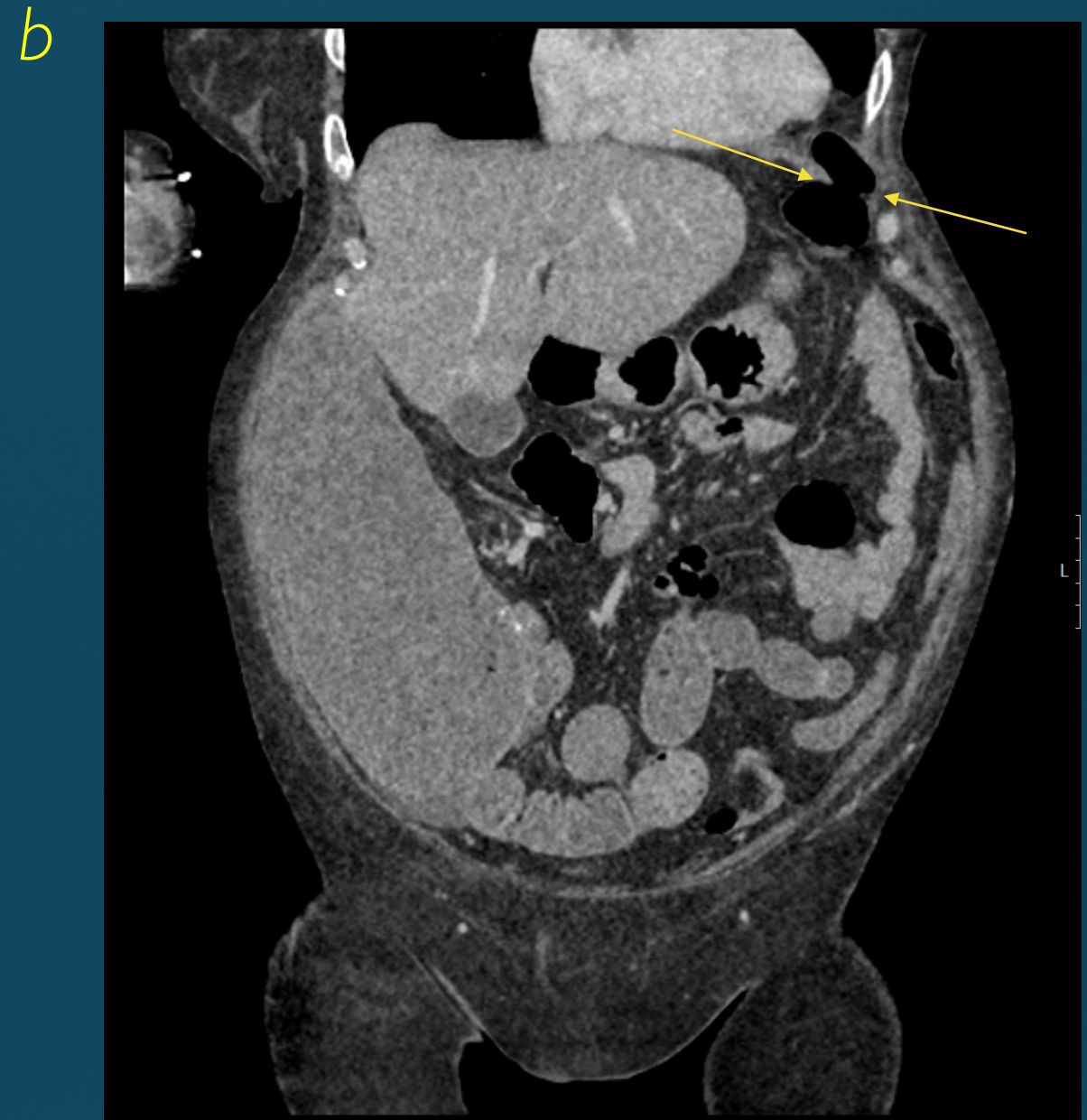


d



Figure 1 c) Axial image shows the splenic flexure bowel wall herniating through left anterior diaphragmatic defect. The remaining images show corresponding proximal large bowel dilatation.





a-c) Coronal MPR showing a left anterior diaphragmatic defect(annotated with arrows in a & b) with herniation of anti-mesenteric wall of splenic flexure, dilated right colon and few prominent distal ileal loops.  
c,d) Collapsed large bowel distal to splenic flexure.  
*As can be seen from the images, it was difficult to appreciate the defect and hernia on axial slices and hence the need for coronal MPR review.*





- Final diagnosis: Acute large bowel obstruction secondary to Richter's hernia of splenic flexure through diaphragmatic defect.
- Discussion<sup>1</sup>:
  - a) Richter's hernia/parietal hernia: Only portion of bowel wall herniates(anti mesenteric wall),
  - b) Defects could be : femoral ring(most common), inguinal ring, abdominal wall incisional hernia; rare: umbilical, ventral, Spigelian, supramesic, sacral foramen, triangle of Petit, retrosternal, and diaphragmatic hernias; trocar ports for laparoscopic surgery (port site hernia).



- b) More prone to strangulation and gangrene but less likely to obstruct.  
Treatment: surgical.
- c) Complications: bowel infarction, gangrene, entero-cutaneous fistula, abscess formation, peritonitis.
- d) Tip: MPR views to evaluate transition points will aid in better diagnosis as only a portion of bowel wall herniates as in this case.

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Thank you

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