Beware the Bright Bowel: An unusual case of massive GI haemorrhage

Jia Zhe Su, Manan Patel, Tanzeel Hussain, Adnan Hubraq, Michael Steward, Neil Davies

NHS
Royal Free London
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Whittington Health
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Clinical Presentation

- 60-year-old female brought to the Emergency Department of a district general hospital as a major haemorrhage call.

- Presented with pre-syncopal episodes, severe abdominal pain and profuse bleeding from her end-ileostomy, with an estimated 2.5 litres of frank red blood loss.

- Importantly, the patient's medical history included metastatic bowel cancer with a complex surgical background. Additionally, she was on long-term anticoagulation for SVC and SMV thrombosis.

Examination and Biochemistry

- Clinically she had an unrecordable blood pressure and was tachycardic (HR 135).
- Laboratory findings indicated a 2-unit drop in haemoglobin.
- Bloods: Hb 105 (128), MCV 95, WCC 11, CRP 8, INR 1, eGFR 54 (90), Lactate 3.5.

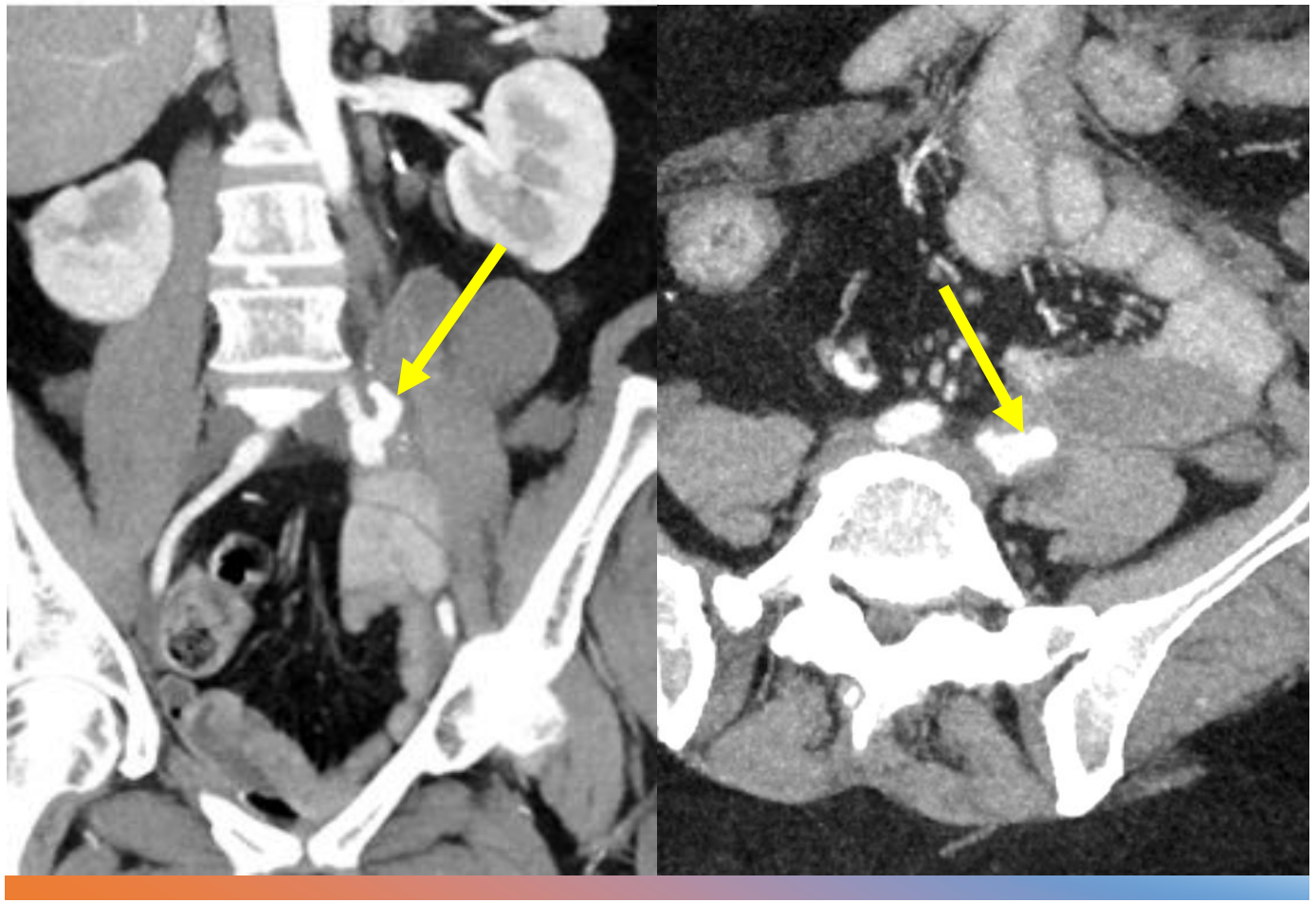
Initial CT report (outsourced to teleradiology overnight)

- *"Suspicion of ileitis in the loop ileostomy - ? Ischemic in aetiology. Differential is infection or inflammation"*

- *"Atypical appearance in the left common iliac artery, as described. It is unclear whether this represents is saccular aneurysm or vascular blush within the bowel. This needs correlation with the surgical notes and vascular opinion"*

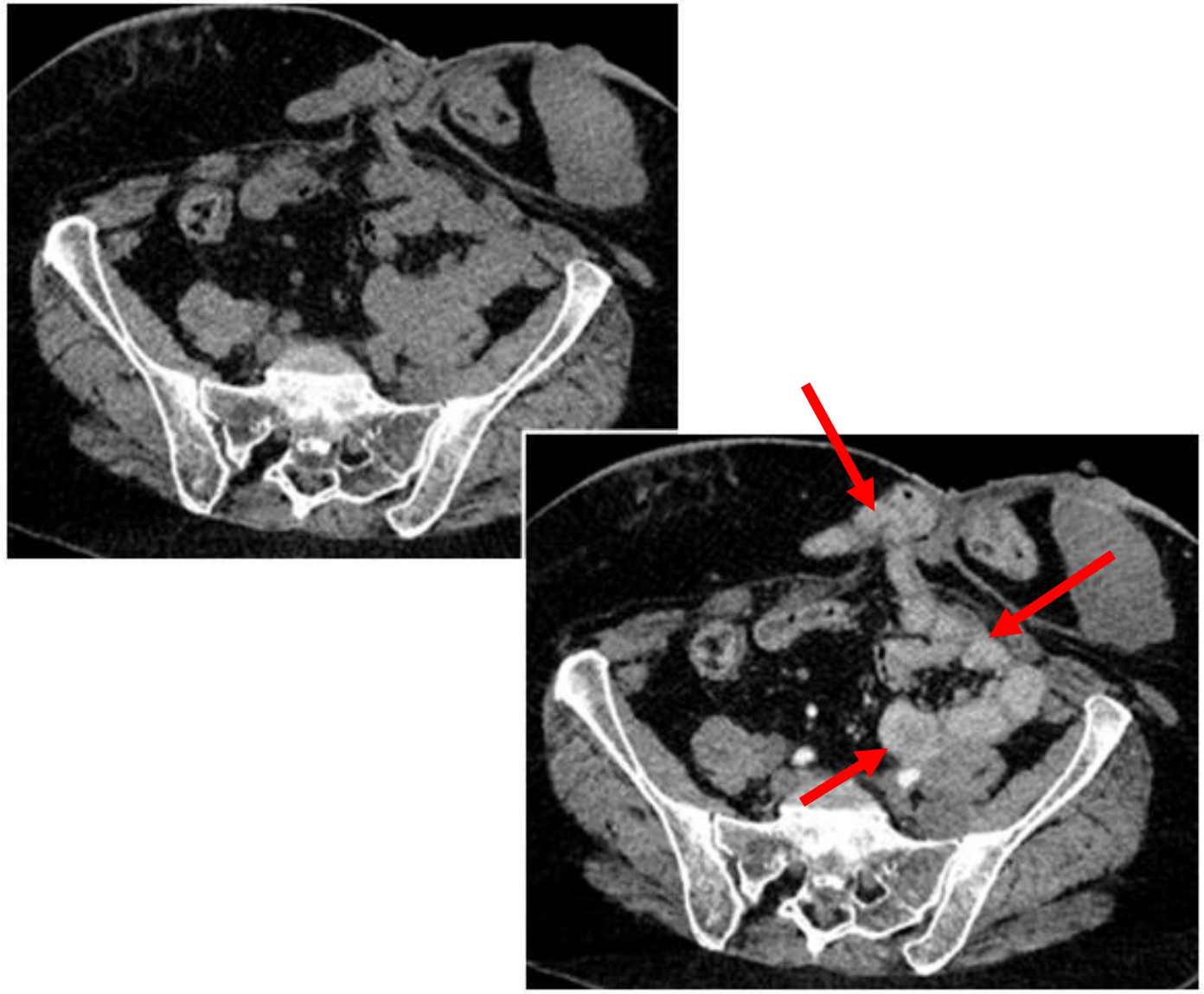
Imaging findings

- Coronal and axial CT demonstrating a pseudoaneurysm arising from the left common iliac artery (yellow arrow);
- No fat plane between CIA and adjacent loops of small bowel;



Imaging findings

- Unenhanced and arterial axial images;
- Downstream bowel loops demonstrate intraluminal contrast opacification in keeping with active large volume haemorrhage (red arrows)



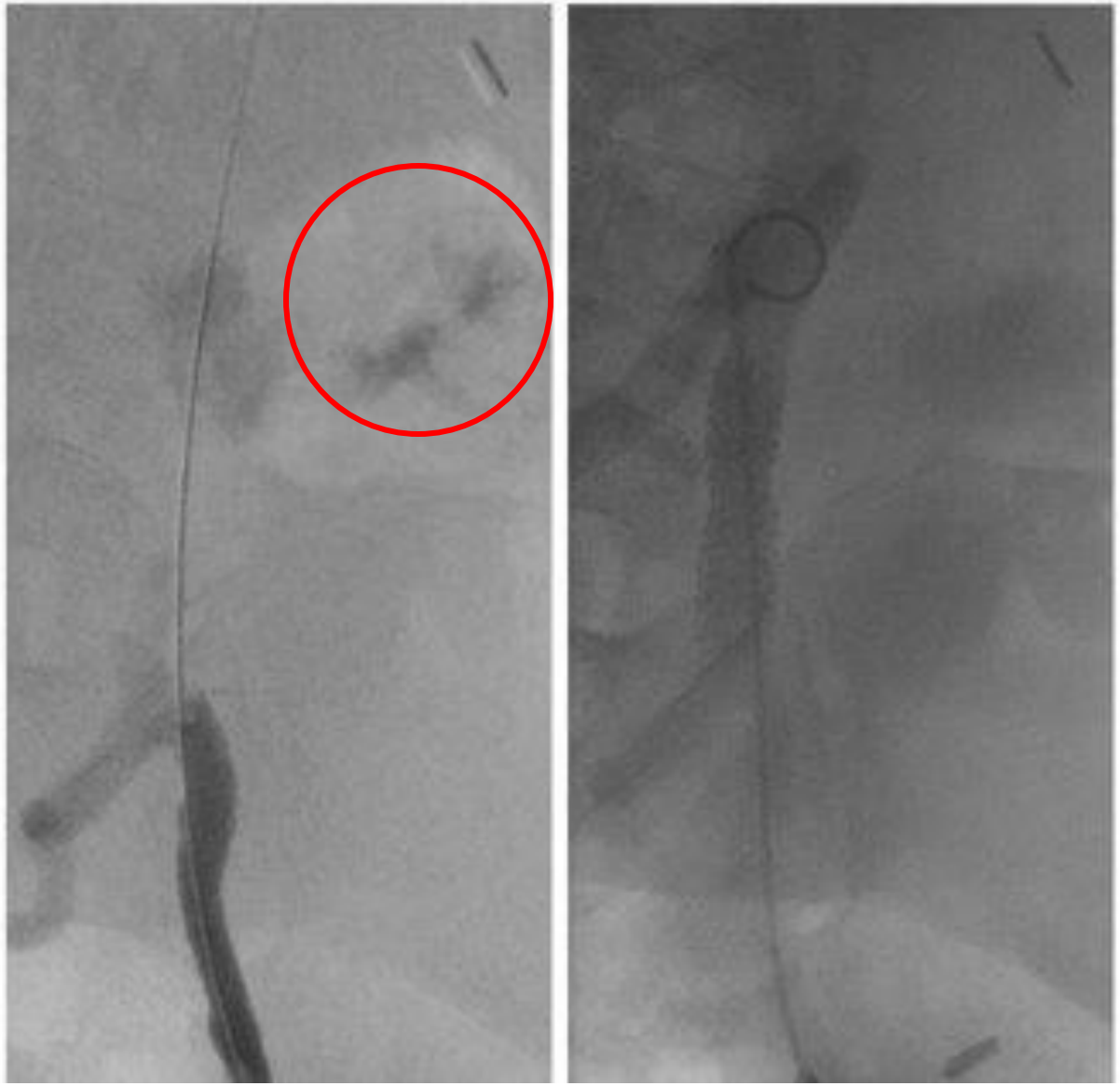
Report addendum (in-hours)

- *"The luminal opacification of small bowel is altered from the unenhanced to the arterial phase indicating active haemorrhage."*

- *"There is a pseudoaneurysm of the left common iliac artery which appears to have eroded into the adjacent small bowel loop (iliac-enteric fistula) with active haemorrhage from this."*

Management

- Subsequent interventional radiology
- Fluoroscopy confirmed active bleeding into small bowel (left image- red circle) which resolved upon deployment of a covered stent (right image).



Discussion

- Arterio-enteric fistulae are rare and can affect different sites (e.g aorto-gastric, aorto-enteric, iliac-enteric)
- Patients often present with life-threatening GI tract haemorrhage and will invariably require CT angiography for assessment
- Risk factors include:
  - Abdominal aortic aneurysm
  - Aorto-iliac grafts (infected)
  - GI malignancy
  - Large vessel vasculitis
  - History of abdominopelvic radiotherapy

Discussion

- This patient had a history of colorectal Ca, treated surgically with no radiotherapy, and no other risk factors
- CT appearances can be unusual but may show a pseudoaneurysm and arteriographic contrast blush into the bowel lumen
- In cases of active arterial intraluminal haemorrhage, use of unenhanced imaging with later phases (arterial and portal venous) are important for clarification

Learning Points

Iliac-enteric fistula is rare but life threatening cause of GI bleeding. (1)

Risk factors include pelvic surgery, pelvic malignancy and pelvic radiotherapy (2)

CT angiogram is gold standard for diagnosis(1)

Definitive management will involve interventional radiology and vascular surgeons - Stent Vs Open (3)

References

- (1) Malik, M., Ucbilek, E. and Sherwal, A., 2015. Critical gastrointestinal bleed due to secondary aortoenteric fistula. Journal of Community Hospital Internal Medicine Perspectives, 5(6), p.29677.
- (2)Vetto J.T., Culp S.C., Smythe T.B., Chang A.E., Sindelar W.F., Sugarbaker P.H., Heit H.A., Giordano J.M. Kozloff L Iliac arterial-enteric fistulas occurring after pelvic irradiation. *Surgery.* 1987;101(5):643–647
- (3) Kakkos S.K., Antoniadis P.N., Klonaris C.N., Papazoglou K.O., Giannoukas A.D., Matsagkas M.I., Kotsis T., Dervisis K., Gerasimidis T., Tsolakis I.A., Liapis C.D. Liapis CD Open or endovascular repair of aortoenteric fistulas? A multicentre comparative study. *Eur. J. Vasc. Endovasc. Surg.* 2011;41(5):625–634. doi: 10.1016/j.ejvs.2010.12.026.