

Response to the recently published guidelines on lower gastrointestinal bleeding

In response to the recently published national guideline on lower GI bleeding written by Oakland *et al*,¹ we have audited our practice at the Queen Elizabeth Hospital, Birmingham (QEHB). We were most interested by the general recommendation for CT angiography and for the use of 'Shock Index' to select patients for CT angiography, with the aim to identify the source of bleeding.

When retrospectively analysing 4 years of admissions (905) for lower GI bleeding, we found that 74 patients underwent CT angiography, with a total of 91 scans. This 8% rate is higher than the national 5.9%.¹

Our most interesting finding was the identification of bleeding points on these studies. Only 6.6% of CT angiograms performed at QEHB yielded a positive 'blush' or identification of bleeding point. The figure quoted in the national audit is 49.7%.² We are conducting further investigations to explain the stark difference between our figures and those from around the country. Part of the explanation is ease of access to CT imaging leading to overuse. Without any formal clinical scoring to assess the likelihood of a positive result, there has been no guidance to help clinicians decide who should undergo CT angiography.

The shock index is a measure used for prediction of critical bleeding in trauma, with some studies applying this to acute GI haemorrhage.^{3 4} However, the majority of patients presenting with lower GI bleeding are over the age of 70 nationally² and this is reflected in our patient group (median age: 71 years). The shock index agreeably is an easy and quick score to calculate but questions have been previously posed about its use in an ageing population in relation to trauma. These same questions should be posed to its use in GI haemorrhage. Certainly our initial data have shown that half of our positive CT angiograms were for patients presenting below the cut-off of 1. We hope to perform further analysis in this patient group to create an evidence-based pre-test likelihood score for CT angiography.

Furthermore, Oakland *et al*'s proposed algorithm does not incorporate the use of repeat CT angiography; there is also no discussion of this in the national guideline. Over our 4-year audit period at QEHB, 11 repeat CT angiograms were performed on patients whose previous imaging was negative. No repeat scan positively identified a bleeding point, which would highlight the need to move to other investigations (such

as endoscopy) in order to identify clinically significant bleeding.

In summary, our local audit assessing the positive predictive value of CT angiography in patients presenting with lower GI bleeding is significantly at odds with the results from national data. These data have been used to inform the recently published national guideline. We feel that further research is required to establish the pre-test likelihood of positive CT angiography and to determine whether early endoscopy may be a more appropriate modality of investigation.

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REFERENCES

- Oakland K, Chadwick G, East JE, *et al*. Diagnosis and management of acute lower gastrointestinal bleeding: guidelines from the British Society of gastroenterology. *Gut* 2019;**68**:776–89.
- Oakland K, Guy R, Uberoi R, *et al*. Acute lower GI bleeding in the UK: patient characteristics, interventions and outcomes in the first nationwide audit. *Gut* 2018;**67**:654–62.
- Tullius T, Finkle J, Funaki B, *et al*. Does shock index correlate with extravasation on CT angiography for suspected gastrointestinal hemorrhage? *J Vasc Interv Radiol* 2017;**28**.
- Nakasone Y, Ikeda O, Yamashita Y, *et al*. Shock index correlates with extravasation on angiographs of gastrointestinal hemorrhage: a logistics regression analysis. *Cardiovasc Intervent Radiol* 2007;**30**:861–5.