Diagnostic upper GI endoscopy: can less mean more?

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In the UK and other western countries, dyspepsia and upper gastrointestinal (GI) symptoms are common and usually lead to upper GI endoscopy (OGD), yet the incidence of non-cardia gastric cancer is relatively low and declining.[1] Despite this, the widespread use of 'test and treat' for *Helicobacter pylori*, and guidelines recommending against OGD for young patients with dyspepsia in the absence of 'alarm' features, diagnostic OGD remains the cornerstone of assessing such patients.

In Gut, Beaton *et al* present an analysis of the UK National Endoscopy Database (NED).[2] NED captures automatic uploads from endoscopy reporting software systems from 95% of endoscopy units in the UK and is a powerful, validated resource for audit, research and quality assurance.[3] The authors investigated 382 370 first diagnostic OGDs performed for symptoms in the 12 months up to March 2020. The primary aim was to study the diagnostic yield overall and by specific symptoms, as well as by age and sex. The positive predictive value (PPV) of different symptoms for cancer or Barrett's oesophagus was calculated in different patient groups with the goal of trying to identify opportunities to refine referral pathways and improve service capacity. Patients with multiple symptoms were combined into major categories and those with multiple diagnoses were grouped by severity into five categories: cancer; Barrett's; ulcers; major findings (eg, stricture, varices); and minor findings (eg, gastritis).

What were the key findings? Cancer was found in 1% overall, was three times more common in men than women and the OR of cancer was, unsurprisingly, 10 times higher for dysphagia than dyspepsia. Equally obvious, the PPV for Barrett's or cancer increased with age and male sex. In contrast, the adjusted PPVs for cancer in patients undergoing OGD for anaemia, dyspepsia or reflux were 0.4%, 0.3% and 0.2%, respectively, and 48% of procedures were performed for dyspepsia or reflux. Three-quarters of procedures were performed in patients with an adjusted PPV for cancer of <1% and 30% occurred in people under 50 years old. Only 5% of these revealed anything more than minor findings and, in total, 90% of OGD were normal or had only minor findings. The take-home messages are that OGD is still frequently performed outside of guidelines, in young people whose cancer risk is extremely small and that many potentially unnecessary procedures are being performed.

The strengths of this study are its size, comprehensive coverage of the UK and rigorous data scrutiny. There are, however, limitations, for example, around 20% of procedures were excluded because of incomplete data. NED collects endoscopic data only and there is no linkage to histology results and having this available would have made the quoted PPV for Barrett's or cancer more reliable. Analysing findings by the symptom indication listed in endoscopy reports relies on accurate data entry by endoscopists and ideally, this would need some form of corroboration. The impact would be boosted further if it could now be linked to cancer registries as it is 4 years or more since these procedures were performed and an accurate post-endoscopy upper GI cancer (PEUGIC) rate could be determined. This, however, would be a major endeavour and difficult to achieve with anonymised source data.

Can we take these findings forward into daily practice? With the exception of dysphagia, upper GI symptoms lack specificity for cancer and this drives the justification for diagnostic OGD, usually performed to 'rule out cancer', but we know the reassurance value of a negative endoscopy is relatively short-lived and medical defensiveness, although understandable, is both financially and environmentally costly and potentially delays the diagnosis of patients who do have serious conditions by increasing waiting times, especially in pressurised public healthcare systems. Add to this that we may not be as good at OGD as we think we are, with PEUGIC rates of 7–9% in many countries,[4] and it is sobering to contemplate that many of us are not following our own guidelines, performing OGD for weak indications, with very low yields of serious pathology and at the same time failing to identify cancer or premalignant precursors in some of our patients. This of course may not apply in other parts of the world where non-cardia gastric cancer remains more common and systems are in place for high-quality endoscopy, whether screening or symptom based.

The direction of travel seems clear—we need to 'do less and find more'. Doing less requires better triage of referrals, more rigorous application of guidelines and maybe decision-aid tools. Alternatives to OGD include, for example, oesophageal cell collection devices such as Cytosponge,[5] adherence to *Helicobacter* test and treat protocols and specialist clinics to communicate effectively with and positively manage patients with functional dyspepsia (FD). The Rome IV criteria require a negative OGD before a diagnosis of FD can be made[6] and the time seems right to question this—a negative colonoscopy is not a prerequisite for a diagnosis of functional bowel disorder and the data presented here indicate that it is reasonable to ask whether Rome criteria for FD should be updated. For those who do require a procedure, emerging data on fully automated magnetically controlled capsule endoscopy, being developed in China, is intriguing[7] and deserves evaluation in western populations. Finding more requires continuous education, training and upskilling in lesion recognition and a greater emphasis on high-risk groups, for example, those known to have Barrett's, chronic atrophic gastritis or a family history of relevance. Continuing as we currently practice diagnostic upper endoscopy is not good for patients, taxpayers, healthcare providers or the environment and the data presented here by Beaton *et al* needs to be used as a positive driver for change.

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