

Editorial on quality standards in upper gastrointestinal endoscopy: a position statement of the British Society of Gastroenterology (BSG) and Association of Upper Gastrointestinal Surgeons of Great Britain and Ireland (AUGIS)

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Comment on: Beg S, Raganath K, Wyman A, *et al.* Quality standards in upper gastrointestinal endoscopy: a position statement of the British Society of Gastroenterology (BSG) and Association of Upper Gastrointestinal Surgeons of Great Britain and Ireland (AUGIS). *Gut* 2017;66:1886-99.

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Upper gastrointestinal (GI) endoscopy was generally considered as a simple investigation which does not require much skills to learn. Usually, it is considered as one of the first endoscopic procedures to be learned by trainees. Conventional diagnostic upper GI endoscopy is performed with white light endoscopy. However, with the recent advances in imaging technologies, image enhance endoscopy (IEE) has been increasingly applied especially during surveillance upper GI endoscopy. A systematic review of 22 studies showed that the missed rate of gastric cancer during upper endoscopy amounts to 9.4% (1). Missed cancers are usually located in gastric body both from Eastern and Western studies. Another systematic review on 24 studies focused on missed esophageal adenocarcinoma after diagnosis of Barrett's esophagus, and the results showed 25% of adenocarcinoma diagnosed had received an upper GI endoscopy within 1 year (2).

There is an unmet demand for better quality and key performance indicators during upper GI endoscopy. Beg *et al.* reported the position statement of the British Society of Gastroenterology (BSG) and Association of Upper Gastrointestinal Surgeons of Great Britain and Ireland (AUGIS) on quality standards for upper GI endoscopy (3). The standard of practice for diagnostic upper GI endoscopy

is listed within the position statement, which aimed to establish the standards to allow quality assurance for upper GI endoscopy. A total of 38 statements were included with voting from panel members on the strength of recommendation, as well as the grade of evidence. These statements were developed according to the patient management pathway, including pre-procedure, procedure, disease specific and post-procedure management issues.

Especially important in this statement are the recommendations related to clinical practice of upper GI endoscopy to enhance detection of early upper gastrointestinal neoplasia. These included photos documentation at relevant anatomical landmarks and any detected lesions, adequate mucosal visualization, as well as inspection time during a diagnostic oesophagogastroduodenoscopy (OGD) to be recorded for surveillance procedures. These are important steps to ensure that those areas which are easily missed during diagnostic endoscopy will be inspected. The quality will be assured even when the experience in performing upper GI endoscopy and diagnosis of early upper GI neoplasia varies between trainees and specialists. Yao *et al.* proposed the performance of systematic screening of stomach (SSS) protocol where 22 pictures should be taken during upper

endoscopy in stomach to avoid blind spots (4). Teh *et al.* in a single-center retrospective trial showed that endoscopists with mean EGD time longer than 7-minute were twice as likely to detect high-risk lesions (OR 2.50; 95% CI: 1.52–4.12) and three-fold as likely to detect neoplastic lesions (OR 3.42; 95% CI: 1.25–10.38) (5). A standard protocol for upper GI endoscopy is essential to ensure good quality, and not missing all the precancerous and early cancers in esophagus and stomach (6). Typically, these early neoplasias demonstrated subtle changes in the mucosa, represented by changes in microvascular and microstructural patterns in stomach and changes in intrapapillary capillary loops (IPCL) in squamous mucosal of esophagus.

A significant number of statements focused on need to take biopsies for various lesions detected during upper endoscopy (3). The diagnostic process of upper GI neoplasia includes detection upon ordinary white light endoscopy or IEE, followed by characterization with recognition of microstructural and microvascular features observed under magnification (7-9). With regards to the disease specific quality standards, the guidelines proposed adoption of numerous classification to describe various disease pathologies during endoscopy. The Prague classification was recommended to describe length and circumferential extend of Barrett's segment, which has high interobserver agreement (10). Paris classification is recommended upon detection of a suspicious neoplastic lesion of the gastrointestinal tract (11). Paris classification served as a universal description for macroscopic appearance of the lesion, thus assisting in standardization of understanding the morphological appearance and enhance communication. Taking biopsies at suspicious lesions will improve the process of endoscopic diagnosis even for endoscopists without knowledge on characterization under magnifying endoscopy. In one of the statements, the authors recommended for a malignant looking lesion, a minimum of six biopsies should be taken. There was 100% agreement with strong recommendation, though grade of evidence was weak. The authors argued that minimum six biopsies allowed prompt establishment of the diagnosis without the need for repeated examination. Though this approach would be appropriate for an obviously malignant tumor with invasion to muscularis propria or beyond, taking six biopsies from an early gastrointestinal cancer would induce significant fibrosis in submucosal plane, leading to a more difficult endoscopic resection in future (12).

The guidelines also proposed to set up an audit on the rate of failure to diagnose cancer at endoscopy up to 3 years

before an oesophago-gastric cancer was diagnosed. Though there is minimal evidence in literature, the statement is strongly supported by the panel. Retrospective studies have shown that the rate of post-OGD Upper GI cancer (POUGIC) ranges between 4.6% and 14.4% (13,14). The panel recommends that individual endoscopy unit should audit performance data to ensure that POUVIC rates should not exceed 10%. Though a wide range of parameters existed in missing an upper GI cancer, an audit will contribute to improvement through the process of identifying root cause of missing the upper GI cancer.

In summary, this positional statement of the BSG and AUGIS serves as an important guide to ensure a good quality of upper gastrointestinal endoscopy, which fills the important gap between the high technical success of upper GI endoscopy and the relatively low diagnosis of early upper GI cancers in most countries.

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Footnote

Conflicts of Interest: The author has no conflicts of interest to declare.

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