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Gastroenterology Today

18 Week Support Gastroenterology:
Partnering to Succeed

18 WEEK SUPPORT

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ENDOSCOPY ALTERNATIVES AT A TIME OF COVID

In last Autumn's edition of Gastroenterology we commenced a short series of articles looking at how new technologies could replace endoscopy to achieve quicker and cheaper diagnoses. This is a key requirement at the present time given the impact of Covid on diagnostic as well as treatment waiting times. Indeed, the latest NHS England statistics for December 2020 show that, compared to December 2019, the diagnostic test type with the largest increase in the proportion of patients waiting six weeks or more was Endoscopy, with an increase of 38.7 percentage points. New technologies have a clear role to play in delivering faster and more efficient diagnoses.

In the Autumn issue our focus was on transnasal endoscopy, a technology that can be deployed safely and easily in hospital settings, delivering the early diagnoses needed to drive the best positive outcomes for gastrointestinal tract diseases while keeping patients and surgical teams separate from hospital red zones. In this edition we consider the use of cytosponge for the detection and risk stratification of Barrett's oesophagus.

Cytosponge

Clinical guidelines recommend routine referral for endoscopy for patients with symptoms of gastro-oesophageal reflux that persist despite recommended lifestyle and pharmacological treatment, and those with multiple additional risk factors for the disease. Urgent referral is recommended for an endoscopy in patients with warning upper gastrointestinal symptoms, such as dysphagia and weight loss. In those who are diagnosed with Barrett's oesophagus, guidelines recommend endoscopic surveillance intervals between 6 months and 4 years and early treatment to avoid the progression to cancer. Current evidence has shown that treatment of dysplastic Barrett's oesophagus prevents progression to adenocarcinoma; however, the optimal diagnostic strategy for Barrett's oesophagus is unclear. These indications place a significant burden on endoscopic services. A new device, Cytosponge®, has been shown to reliably diagnose Barrett's oesophagus, and also provide some information on the risk of progression to oesophageal adenocarcinoma. Studies has shown the device to be safe, acceptable, accurate, and cost-effective.

Gelatin capsule

Cytosponge® (Medtronic) is a Class I, CE marked device consisting of a tethered sponge enclosed in a gelatine capsule. This capsule is swallowed by the patient while the operator holds the string outside the patient. Once in the stomach, the gelatine dissolves and the unfolded sponge is retrieved pulling the string. During passage in the oesophagus, the sponge collects oesophageal cells. The sample is then analysed for molecular (i.e. TFF3, P53 abnormality) and cellular (i.e. glandular atypia) alterations. This procedure is well tolerated, does not require any sedation and patients can be discharged immediately. The test can be administered in a clinic room away from endoscopy.

A twenty minutes slot is sufficient for each patient and up to ten cases can be performed in a single session by one operator.

A recent randomised controlled study demonstrated that in a General Practice setting, Cytosponge offered to patients taking acid-suppressant therapy for symptoms of gastro-oesophageal reflux, improves the detection of Barrett's oesophagus and early cancer when compared with usual clinical practice (Fitzgerald et al. 2020). Of 1654 participants who swallowed the Cytosponge successfully, 221 (13%) underwent endoscopy after testing positive for TFF3 and 131 were diagnosed with Barrett's oesophagus or cancer. 4 patients had dysplasia and 5 had early (potentially curable) stage cancer. Although this technique improves the detection of Barrett's and cancer, widespread use is likely to increase the number of endoscopies if used in a Primary Care setting. Its use in a secondary care setting for symptomatic patients has not been investigated in a randomised study and thus the impact on endoscopy referrals is not known. This device may also be useful to stratify the risk of progression of Barrett's oesophagus to cancer. This stratification could individualise surveillance strategies and in turn reduce direct and indirect procedural risks allowing for prioritisation of high-risk patients. Low risk patients could have their endoscopic assessment postponed by 12 months when there will be a relaxation of the current diagnostic restrictions.

Bibliography

Fitzgerald, R.C., di Pietro, M., O'Donovan, M., et al. 2020. Cytosponge-trefoil factor 3 versus usual care to identify Barrett's oesophagus in a primary care setting: a multicentre, pragmatic, randomised controlled trial. *The Lancet* 396(10247), pp. 333–344.

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