

New minimally invasive test identifies patients for Barrett's esophagus screening

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A new minimally invasive cell sampling device coupled with assessment of trefoil factor 3 expression can be used to identify patients with reflux symptoms who warrant endoscopy to diagnose Barrett's esophagus, according to a study published by Rebecca Fitzgerald and colleagues from the MRC Cancer Unit, UK, in this week's *PLOS Medicine*.

To evaluate the safety, [acceptability](#), and accuracy of the minimally invasive test compared with endoscopy for the diagnosis of Barrett's esophagus, the researchers enrolled 1110 individuals attending 11 UK hospitals for investigational endoscopy of [dyspepsia](#) and reflux symptoms. They found that the [new test](#) correctly identified 79.9% of the 647 individuals with endoscopically diagnosed Barrett's esophagus, and that 92.4% of 463 individuals unaffected by Barrett's esophagus were correctly identified as being unaffected. The sensitivity of the test increased to 87.2% for patients with circumferential Barrett's segments more than 3 cm, which are known to confer a higher cancer risk. Nearly 94% of the participants swallowed the sampling device (Cytosponge) successfully, there were no adverse effects attributed to the device, and participants who swallowed the device generally rated the experience as acceptable.

While the findings indicate that this new cell sampling device might provide a simple, minimally invasive way to identify those patients with reflux symptoms who warrant endoscopy to diagnose Barrett's esophagus, randomized controlled trials of the test are needed to assess its suitability for clinical implementation. Moreover, because most people with Barrett's esophagus never develop esophageal cancer, additional biomarkers ideally need to be added to the test to identify those individuals who have the greatest risk of esophageal cancer, and thereby avoid overtreatment of Barrett's esophagus.

The authors say: "The Cytosponge-TFF3 test can diagnose [Barrett's esophagus] in a manner that is acceptable to patients and logistically feasible across multiple centers. This test may substantially lower the threshold for investigating patients with reflux, as part of a strategy to reduce population mortality from esophageal adenocarcinoma."

More information: Ross-Innes CS, Debiram-Beecham I, O'Donovan M, Walker E, Varghese S, Lao-Sirieix P, et al. (2015) Evaluation of a Minimally Invasive Cell Sampling Device Coupled with Assessment of Trefoil Factor 3 Expression for Diagnosing Barrett's's Esophagus: A Multi-Center Case-Control Study. *PLoS Med* 12(1): e1001780. [DOI: 10.1371/journal.pmed.1001780](https://doi.org/10.1371/journal.pmed.1001780)

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