

ESOPHAGUS STRING THEORY AIDS EOE MONITORING

A new minimally invasive test could be used to aid diagnosis of eosinophilic oesophagitis (EoE) and monitor treatment effects. The oesophageal string test (EST) can be used to collect samples from the oesophagus to analyse levels of eosinophil protein biomarkers, which indicate the extent of eosinophilic inflammation, according to researchers from the USA.

Currently, mucosal healing is assessed by endoscopy and mucosal biopsy, but this method is invasive, expensive and carries the risk of complications. “We sought to develop a cheaper, safer and easy-to-use device to avoid repeated endoscopy in assessment of mucosal healing after treatment of EoE,” explain researchers Glenn Furuta and Steven Ackerman.

The new method uses the Enterotest, which is a capsule containing 90 cm of string. The end of the string is taped to the patient’s cheek before the capsule is swallowed and dissolves. The string becomes coated with oesophageal secretions and is removed for analysis. “We tested samples from the oesophageal part of the string for eosinophil granule proteins to show evidence of eosinophilic inflammation,” say Furuta and Ackerman.

The researchers recruited 41 patients aged 7–20 years who were to undergo endoscopy and mucosal biopsy to investigate abdominal pain, vomiting, growth failure, dysphagia or EoE, or for treatment monitoring. Patient diagnoses were: active EoE, GERD, EoE in remission or histologically normal mucosae. Participants swallowed the capsule the night before endoscopy, and the string was removed prior to the endoscopic procedure.

The levels of eosinophil proteins detected by EST and biopsy correlated and were shown to accurately reflect disease activity. The EST was well tolerated by patients and has the potential to improve evaluation of patients who need repeated assessments of the oesophageal mucosa.

Furuta and Ackerman are trying to shorten the sample analysis time to make EST a practical test for the clinic. “In the future, this device could be used to capture luminal inflammatory molecules in health and disease to determine pathogenetic mechanisms and response of patients to new treatments,” they conclude.

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Original article Furuta, G.T. *et al.* The oesophageal string test: a novel, minimally invasive method measures mucosal inflammation in eosinophilic oesophagitis. *Gut* doi:10.1136/gutjnl-2012-303171