COILED OESOPHAGEAL STRING TEST BIOMARKERS CORRELATE WITH DISEASE ACTIVITY IN EOSINOPHILIC OESOPHAGITIS

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A swallowed coiled oesophageal string test (CEST) measuring eosinophil cationic protein (ECP) showed modest but significant correlation with histological and endoscopic disease activity in 70 adults with eosinophilic oesophagitis, offering a potential non-invasive alternative to gastroscopy for monitoring.

KEY POINTS

- ECP independently predicted active disease defined as >15 eosinophils/0.3mm^2 with an odds ratio of 2.59 (95% CI 1.44–4.67, p=0.002) and moderate discrimination on ROC analysis (AUC 0.64, p=0.007).
- ECP correlated significantly with peak eosinophil count (r=0.27, p<0.0001), EoE Histology Scoring System (r=0.33, p=0.0002), and EREFS endoscopic severity (r=0.31, p<0.001), outperforming eosinophil-derived neurotoxin, periostin, and plasminogen activator inhibitor-1.
- Biomarkers correlated more closely with histological and endoscopic activity than with patient-reported symptom scores (RDQ, HODQ, EoE-QoL), which showed weak or absent associations with objective disease measures.
- The string test involved swallowing a 1mm rayon coil, leaving it in situ for 30 minutes for oesophageal luminal sampling, followed by ELISA quantification of inflammatory and fibrotic biomarkers.
- Changes in ECP correlated with changes in EREFS score but not with changes in eosinophil counts in 46 patients undergoing repeat testing after treatment, suggesting ECP may track endoscopic activity over time.

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