

A NOVEL LIQUID BIOMARKER GASTRIC ADEQUACY TEST FOR THE CAPSULE SPONGE

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Presentation

Digestive Oncology

Endoscopy

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Oesophagus

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A novel lectin-based assay using the cell-free liquid fraction of capsule sponge samples accurately identifies inadequate samples that failed to reach the stomach, potentially reducing recalls and laboratory costs.

KEY POINTS

- Lectin CSA demonstrated excellent classification of inadequate versus adequate capsule sponge samples with AUROC 0.94 (95% CI 0.88-1.0, $p < 0.0001$), sensitivity 87.96% (95% CI 80.49-92.83), and specificity 94.44% (95% CI 74.24-99.72) in a retrospective validation of 126 patient samples (18 inadequate, 108 adequate).
- The assay uses only the previously discarded cell-free liquid fraction of the sample, tested via a direct Enzyme Linked Lectin Assay with horseradish peroxidase conjugated CSA lectin.
- Cytisus scoparius lectin and Peanut Agglutinin lectin showed preferential binding to gastric cardia tissue in the apical mucin caps and foveolar cells of columnar epithelium in discovery screening of biopsy samples from 5 patients using 20 distinct fluorescein isothiocyanate conjugated lectins.
- Implementation could reduce the approximately 8% inadequate sample rate, decrease patient recalls to clinic, optimize laboratory processing, and reduce costs in capsule sponge-based Barrett's Esophagus screening programs.
- RCF is named on patents related to the Cytosponge-trefoil factor 3 test, the device is licensed to Medtronic and has CE mark and US FDA clearance, and RCF is a shareholder in Cyted.

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