SEARCH FOR A SEROLOGICAL SIGNATURE OF COLONIZATION BY ADHERENT INVASIVE ESCHERICHIA COLI IN PATIENTS WITH CROHN'S DISEASE

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UEG Week Barcelona 2026 Poster

IBD

October 18, 2026

A peptide microarray study sought to identify a serological antibody signature for adherent invasive E. coli colonization in Crohn's disease patients but the signature identified in a discovery cohort failed to validate in an independent patient cohort.

KEY POINTS

- Adherent invasive E. coli colonize the ileal mucosa in a subset of Crohn's disease patients but detection currently requires invasive biopsy with bacterial culture and in vitro characterization.
- Researchers designed peptide microarrays from 68,947 15-mer peptides shared by at least 95% of 64 AIEC proteomes and screened sera from AIEC-positive and AIEC-negative patients from the CEALIVE cohort.
- A candidate antibody signature comprising 11 IgG and 10 IgA epitopes distinguished AIEC-positive from AIEC-negative patients in the discovery cohort of 30 individuals.
- The antibody signature did not perform well when tested in 141 samples from the independent POP-REMIND validation cohort, possibly because serological reactivity varies with disease progression or the validation cohort included patients at more severe disease stages.
- The authors suggest AIEC may not carry dominant antigens eliciting consistent antibody responses across patients or that antibody reactivity changes over time, and further validation in additional cohorts is needed.

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