

Guiding diagnosis and therapy using proteomics

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Presentation

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The speaker presented proteomic approaches using mass spectrometry and interleukin-2 assays to guide coeliac disease diagnosis and monitoring, reporting that these methods may replace traditional biopsy interpretation and enable blood-based follow-up of disease activity.

KEY POINTS

- The speaker reported that mass spectrometry-based proteomics on formalin-fixed biopsies can detect thousands of proteins and generate a proteomic score to determine mucosal remodelling in coeliac disease, potentially replacing problematic biopsy interpretation.
- After gluten exposure, treated coeliac patients show an interleukin-2 signal in peripheral blood within two hours, and this response can distinguish biopsy-verified coeliac disease from other gluten sensitivity in both in vivo challenges and in vitro whole blood assays.
- The speaker presented unpublished Olink data showing that untreated coeliacs have a proteomic signature dominated by chemokines related to interferon gamma pathways, and that significant signals persist after one year on a strict gluten-free diet.
- The speaker stated that clinical relevance of these proteomic methods needs to be determined and that the field has not matured yet, but foresees these approaches may enable blood-based monitoring of patient compliance and disease activity.
- In the discussion, the speaker recommended traditional antibody testing for coeliac detection in patients on regular diets, suggesting interleukin-2 assays have a role primarily when individuals are already gluten-free.
- The speaker disclosed collaboration with Takeda in a clinical trial using proteomics as an effect measure and is active in the European Society for Studies of Coeliac Disease.

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