

STRATEGIES FOR IMPROVING INTER-READER VARIABILITY OF VILLUS HEIGHT AND CRYPT DEPTH MEASUREMENTS ACROSS DIFFERENT INSTITUTIONS

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Poster

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A study of 236 duodenal biopsy slides from 28 patients with coeliac disease found that quantitative measurements of villus height, crypt depth, and their ratio show improved inter-reader agreement when using a common digital pathology platform and standardized measurement criteria compared to traditional ocular microscopy.

KEY POINTS

- Initial comparisons between institutions using ocular microscopy versus digital pathology revealed systematic differences in villus height and crypt depth measurements, partially due to differences in identifying the crypt-villus border.
- Implementation of a common digital pathology software platform and agreed-upon scoring criteria greatly improved inter-reader correlations, even when measurements were performed by a non-pathologist.
- Assessment of change from baseline after gluten challenge was highly concordant between readers using the standardized digital approach, with villus height decreasing and crypt depth increasing as expected.
- The authors conclude that quantitative histology in coeliac disease is reliable when using digital pathology with standardized methods, and may be feasible outside clinical trial settings given the ease with which untrained pathologists can produce results comparable to experienced central laboratories.
- The study used slides from 28 patients on a gluten-free diet who underwent gluten challenge in trial NCT03738475, and was sponsored by Takeda Development Center Americas, Inc.

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