

Transcriptomic dive into microscopic colitis

Ahsen Ustaoglu

Podcast Episode

IBD

December 8, 2024

RNA sequencing reveals two transcriptionally distinct subtypes of lymphocytic colitis—a channelopathy form driven by ion transport dysregulation and an inflammatory form with additional immune activation—that may represent progressive stages of microscopic colitis.

KEY POINTS

- The study identified two lymphocytic colitis subtypes: channelopathy lymphocytic colitis, characterized by dysregulation of ion channels and protein transport, and inflammatory lymphocytic colitis, which additionally shows inflammation intermediate between channelopathy and collagenous colitis.
- Both lymphocytic colitis subtypes are clinically indistinguishable, presenting with watery diarrhea and lymphocytic infiltration, and all samples were treatment-naïve with no data yet on differential treatment responses.
- Epithelial homeostasis is disrupted across subtypes, with altered tight junction protein distribution, abnormal proliferation patterns extending beyond crypt bases, and non-specific downregulation of multiple aquaporins.
- The researchers used DESeq2 for differential expression, gene ontology enrichment via clusterProfiler, and CiberSort for cell-type deconvolution, validating select targets by immunohistochemistry.
- Future work will validate these subtypes in multi-center cohorts and explore microRNA signatures and aquaporin-8 as a potential therapeutic target, though increasing its expression poses drug development challenges.

VIEW THIS CONTENT ON GUTFLIX

<https://gutflix.eu/search/d/9fc82e70-eae5-11ef-939d-0242ac140006>



AI-generated summary

This summary was generated by an AI large language model based on the content transcript. It is for informational purposes only and should not be considered a substitute for clinical judgment. Always rely on your professional expertise and the full clinical context when making clinical decisions.