

THE MICROBIAL BIOGEOGRAPHY IN HUMANS IN HEALTH AND DISEASE, PROTON PUMP INHIBITORS AND GUT-BRAIN INTERACTIONS

Gerald J. Holtmann

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Poster

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Mucosa-associated microbiota composition varies across the gastrointestinal tract and is linked to inflammatory bowel disease subtype, proton pump inhibitor use, symptom severity, and visceral sensory responses in 134 subjects.

KEY POINTS

- Ulcerative colitis and Crohn's disease patients in remission showed relative and absolute depletion of butyrate-producing genera compared to 59 healthy controls, with *Faecalibacterium* most depleted in the lower gastrointestinal tract of Crohn's disease patients.
- Proton pump inhibitor therapy was associated with significant shifts in mucosa-associated microbiota composition and restored depleted *Faecalibacterium* levels to healthy-control levels in Crohn's disease patients.
- *Faecalibacterium* enrichment in inflammatory bowel disease patients was paradoxically associated with elevated symptom severity, while *Faecalibacterium* depletion was associated with greater symptom response to standardized nutrient challenge.
- Differences in relative abundance of mucosa-associated microbiota did not always correspond with differences in absolute abundance across gastrointestinal tract segments.
- This research may inform future microbiome-mediated therapies for inflammatory bowel disease and modulation of gut-brain interactions.

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