

PREDICTIVE BIOMARKERS OF THERAPEUTIC RESPONSE IN INFLAMMATORY BOWEL DISEASE: A STEP TOWARDS PERSONALIZED MEDICINE

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A multiomic study in 103 IBD patients identified candidate predictive biomarkers of response to biologics and JAK inhibitors at 14 weeks, with proteins achieving AUC values of 0.81 and 0.96 for anti-TNF response in Crohn's disease and ulcerative colitis respectively.

KEY POINTS

- The study analyzed 53 Crohn's disease and 50 ulcerative colitis patients before and after 14 weeks of treatment with anti-TNF, ustekinumab, vedolizumab, or tofacitinib, using transcriptomic, proteomic, metabolomic, and metagenomic approaches on serum, urine, stool, and intestinal biopsies.
- Two proteins showed good predictive value for anti-TNF response with AUC=0.81 in Crohn's disease and AUC=0.96 in ulcerative colitis when discriminating responders from non-responders based on endoscopic findings.
- In Crohn's disease patients responding to ustekinumab, 21 lipoproteins were up-regulated in serum compared to non-responders, with metabolic pathway enrichment in ketone and butyrate metabolism, mitochondrial electron transport chain, carnitine synthesis, and fatty acid oxidation.
- Differential gene expression in intestinal tissue showed main differences between responders and non-responders in ulcerative colitis patients treated with anti-TNF, vedolizumab, and tofacitinib.
- Microbial composition differences were found only in ulcerative colitis patients treated with anti-TNF when comparing responders to non-responders.
- This is a discovery-phase study; validation in an independent cohort is planned to assess clinical significance for identifying patients likely to benefit from each therapeutic approach.

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