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Efficacy and tolerability of the autoimmune protocol diet for inflammatory bowel disease

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Introduction: Recent data suggests dietary modification can improve clinical responses in inflammatory bowel disease (IBD). The goal of this study was to determine the tolerability and efficacy of an autoimmune protocol (AIP) diet in patients with Crohn's disease (CD) and ulcerative colitis (UC).

Methods: We enrolled 18 adult patients with IBD with mild-moderate disease activity (HBI ≥ 5 or partial Mayo score ≥ 3), and objective evidence of active disease (endoscopy within 7 months and/or elevated fecal calprotectin (FC) within 1 month). Three patients withdrew prior to study start due to inability to commit to dietary change. Participants transitioned to the AIP diet over 6 weeks (elimination of grains, legumes, nightshades, dairy, eggs, coffee, alcohol, nuts and seeds, and refined/processed sugars, oils, and food additives) and then maintained the diet for 5 additional weeks. Serial laboratories, fecal calprotectin, microbiome and transcriptome analyses were performed. Endoscopy, radiology, and/or biomarker assessment was performed at study completion to assess for mucosal healing.

Results: The final cohort included 9 patients with CD and 6 with UC. Mean IBD duration was 19 years (SD 14.6) and active biologic use in 7 patients. Nutrient repletion was initiated for deficiencies in vitamin D (n=3) and iron (n=6). From week 0 to 6, mean partial Mayo score improved from 5.8 (SD 1.2) to 1.2 (SD 2.0) ($p<0.01$) for UC, and mean HBI score improved from 7 (SD 1.5) to 3.6 (SD 2.1) ($p<0.01$). At baseline, CRP was normal (<10) in 66% (10/15). Among those with labs completed at baseline and week 6, mean CRP (n=11) improved from 8.3 to 7.0 ($p=0.46$), and mean FC (n=5) improved from 412 (range 80-1078) to 196 (range 0-758) ($p=0.36$). Among those with follow-up endoscopy at week 11 (n=7), improvements were noted in SES-CD (n=1), Rutgeerts score (n=1), and Mayo endoscopy subscore (n=4). No significant changes in lipid profile observed at week 6. One patient with ileal CD with stricture withdrew due to worsening symptoms.

Discussion: Dietary elimination has the potential to improve symptoms and endoscopic inflammation in patients with inflammatory bowel disease. Larger randomized trials are needed to validate these findings.

Biography

Gauree Gupta Konijeti is a gastroenterologist specializing in inflammatory bowel disease (IBD), including Crohn's disease (CD) and ulcerative colitis (UC), at Scripps Clinic in San Diego, CA. She is the Head of the Scripps Clinic Inflammatory Bowel Disease Program as well as a KL2 Clinical-Translational Scholar at the Scripps Translational Science Institute and The Scripps Research Institute. She was trained in Gastroenterology and Hepatology at Massachusetts General Hospital and Harvard Medical School, completed her Internal Medicine Residency at Cedars-Sinai Medical Center and the UCLA West Los Angeles VA Hospital, and attended Medical School at the University of Pennsylvania. She holds a Master of Public Health degree from the University of California, Los Angeles. She conducts research evaluating the role of diet and nutrition for IBD, as well genetics and epigenetics, epidemiology and cost-effective treatments for IBD. She is a member of the Crohn's and Colitis Foundation of America, the American College of Gastroenterology and the American Gastroenterological Association.

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