



The LEAP Diet Protocol Significantly Improves GI and Constitutional Symptoms in IBD Patients

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INTRODUCTION

Dietary intervention for the symptom management of IBD is a growing field. Gastrointestinal and constitutional symptoms are common symptoms among IBD patients seeking dietary intervention. This retrospective study analyzed changes in the frequency and severity of mean GI and constitutional symptoms at the start, two weeks, and 4 weeks post implementation of the LEAP diet protocol. The LEAP protocol involves a Certified LEAP Therapist (CLT) advising patients based on the Mediator Release Test (MRT), through a results-based elimination diet. The MRT is a blood test that identifies non-IgE mediated food and chemical reactions that trigger the release of proinflammatory mediators such as cytokines and leukotrienes, provoking symptoms.

PURPOSE

The purpose of this study was to evaluate the effect of the LEAP protocol on the mean symptom survey scores of GI and constitutional symptoms at baseline, 2 weeks and 4 weeks.



METHODS

Data from the records of 50 previously refractory patients (35 female, 15 male; mean age 43; range 19-69 y), were analyzed. Patient selection criteria included those with a diagnosis of IBD, adults over the age of 18, and complete self-reported symptom survey scores for the gastrointestinal and constitutional categories at the initial, 2 weeks, and 4 week follow up appointments. All patients had undergone the Mediator Release Test (MRT) to determine food and food-chemical sensitivities. A Certified LEAP Therapist (CLT) then led them through the LEAP diet protocol. A repeated measures ANOVA test was performed using SPSS software. Statistical significance was defined as a *p*-value < 0.001.

HYPOTHESES

H1: There will be no significant difference in ratings of heartburn, stomach pains/cramps, intestinal pains/cramps, constipation, diarrhea, bloating, gas, nausea/vomiting, painful elimination in patients at baseline, 2 weeks and 4 weeks after implementing the LEAP protocol.

H2: There will be no significant difference in ratings for fatigue, hyperactivity, malaise, sleepiness, restlessness, and insomnia, at baseline, 2 weeks and 4 weeks after implementing the LEAP protocol.

RESULTS

Table 1
Age of Participants

	Low	Mean	High
Age (years)	19	43	69

Table 2
Descriptive Statistics

	N
Male	15 (35%)
Female	35 (70%)
IBD Medication	37 (74%)
No IBD Medication	13 (26%)

Table 3
Mean Symptom Survey Total Scores Over Time

Symptom Scores *	Weeks		
	0	2	4
Gastrointestinal	16.8	5.6	3.2
Constitutional	9.9	5.5	3.5

* Symptoms were scaled on a system rating of 1-4 as below. If no symptoms were noticed, patients are to put 0 for no symptom. The Mean score for each category is demonstrated in the above table. 1 = OCCASIONALLY (less than 2 times per week) and symptom was MILD, 2 = FREQUENTLY (2 or more times per week) and symptom was MILD, 3 = OCCASIONALLY (less than 2 times per week) and symptom was SEVERE, 4 = FREQUENTLY (2 or more times per week) and symptom was SEVERE

Table 4
Percent Change in GI and Constitutional Mean Scores Over Time on LEAP Protocol

Symptoms	Weeks		
	0-2	2-4	0-4
Gastrointestinal	66.7%	42.8%	80.9%
Constitutional	44.4%	36.4%	64.6%

RESULTS

Mauchly's test indicated that the assumption of sphericity had been violated, $X^2(2) = 11.25, p = .004$, therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = .646$). The results show that there was a significant difference in gastrointestinal mean symptom survey scores, $F(1.30, 63.28) = 165.52, p = .001$. These results suggest that the LEAP protocol produced a significant reduction in severity and frequency in mean total GI symptom survey scores over time. For constitutional symptoms, Mauchly's test indicated that the assumption of sphericity had been violated, $X^2(2) = 38.2, p = .001$, therefore degrees of freedom were corrected using Huynh-Feldt estimates of sphericity ($\epsilon = .852$). The results show that there was a significant difference in constitutional mean symptom survey scores, $F(1.65, 83.54) = 65.17, p = .001$. These results suggest that there was a significant reduction in severity and frequency among mean constitutional symptom survey scores while on the LEAP protocol.

CONCLUSION

Results showed patient-specific elimination diets to be extremely effective in reducing frequency and severity of GI and constitutional symptoms in patients with a diagnosis of IBD. This retrospective analysis showed statistically significant improvement in symptoms with a dietitian-guided and MRT-based elimination diet. This suggests a need for future studies to confirm these findings, specifically double-blind randomized control trials to determine for placebo effect. It would also be beneficial for future research to examine patients on medication vs. off medication.