Anti-Inflammatory Diet for Inflammatory Bowel Disease (IBD-AID)

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BACKGROUND

- Inflammatory Bowel Disease (IBD), including Crohn’s disease (CD) and ulcerative colitis (UC): Chronic, immune-mediated inflammatory conditions of the GI tract
- Increasingly linked to dysbiosis, an imbalance in the gut microbiome
- Pharmacological standard of care is not curative, thus driving the need and demand for IBD nutritional guidelines
- The Anti-Inflammatory Diet for IBD (IBD-AID) emphasizes anti-inflammatory foods (prebiotic and probiotic) while limiting the intake of pro-inflammatory carbohydrates (refined sugar, lactose, and most grains)
- Previous case series - 11 IBD patients showed symptomatic improvement and downsizing of medication regimens in all 11 patients after 4 weeks on the IBD-AID (Olendzki, et al. 2014)

OBJECTIVES

The purpose of this small prospective study was to further assess the efficacy and feasibility of the IBD-AID intervention for the treatment of CD, and to provide pilot data for a larger application.

MATERIALS AND METHODS

- Participants: 17 patients with biopsy-confirmed Crohn’s disease offered the treatment diet or standard medical care alone
- Intervention (n=12): One individual nutrition counseling session and three IBD-AID specific cooking classes in addition to usual care
- Control (n=5): Usual care
- Study duration: 2 months after 70% adherence to the diet for IBD-AID participants, and 2 months after baseline for control participants

OUTCOME MEASURES

1. Reduction in symptomology, as measured by the validated Harvey Bradshaw Index (HBI)
2. Normalizing trend in circulating inflammatory markers (i.e., CRP and ESR), albumin, and hematocrit

RESULTS

- A total of 15 enrolled patients with confirmed diagnosis of Crohn’s Disease, 5 in observation arm, 10 in intervention arm.
- Average Age: 51 years
- Harvey Bradshaw index (HBI) scores dropped an average of 2.2 and 1.3 points for the Intervention group and Control group, respectively.

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<tr>
<th>Baseline</th>
<th>Follow-up</th>
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<td>Probiotics</td>
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<td>2016</td>
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- 33% of patients with complete follow-up and on IBD medication at baseline (5-aminosalicylates, antibiotics, glucocorticoids, immunomodulators, and biologic therapies) (n=9) decreased doses of or discontinued these medications.

- 100% of patients reported reduction in Harvey Bradshaw Index (HBI) scores when compared to baseline.

- Figure 1: Lab values mirrored symptomatic improvements in two of our intervention patients, with changes in CRP, ESR, and hematocrit levels of -55.9 and -1.4, -30.0 and -15.0, and +5.4 and +0.3, respectively, with corresponding symptomatic improvements (HBI scores 11→7 and 8→4, respectively). No significance can be assigned, however, due to low sample size and loss to follow-up.

- Feasibility Measures:
  1. Loss to follow-up rate of 33.3%
  2. Average ‘difficulty score’ of 3.1 (scale of 1-5, very easy to very difficult)

- Table 1: Dietary Components Analysis - Significant increases in prebiotic and favorable dietary components, and decrease in adverse foods for the group as a whole (paired t-test values 0.0016, 0.0344, 0.0085, and 0.0014, respectively).

- 2 months after baseline for control participants

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DISCUSSION

- Eliminating problem foods from the diet is often manageable for patients, but adding unfamiliar foods (particularly probiotics, such as plain yogurt, kimchi, miso, sauerkraut, etc.), is a huge barrier to maintaining compliance.
  - May be a partial reflection of the Western food and dieting culture
- Despite lack of statistical significance, the two patients who exhibited normalization lab values, in combination with their improved HBI scores, suggest the possibility of a real and meaningful benefit from IBD-AID for those able to comply with the dietary and lifestyle changes.
- Feasibility: The considerable loss to follow-up in this study may reflect a variety of issues:
  1. The diet itself, which should be re-examined to simplify or reframe in order to maximize generalizability and access for a greater percentage of IBD patients
  2. The medical and psychosocial complexity of IBD patients
  3. These limitations highlight the need for additional support and close follow-up when it comes to facilitating lifestyle change in this population.

CONCLUSION

Overall, this small study highlights the need for larger-scale clinical trials in order to draft nutritional guidelines for IBD patients and further legitimize the utility of preventive clinical nutrition in Western medicine.