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Pilot Testing a Novel Treatment for Inflammatory Bowel Disease

Barbara C. Olendzki
University of Massachusetts Medical School, barbara.olendzki@umassmed.edu

Gioia Persuitte
University of Massachusetts Medical School, gioia.persuitte@umassmed.edu

Taryn Silverstein
UMass Memorial Health Care, Taryn.Silverstein2@umassmemorial.org

See next page for additional authors

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Presenter Information
Barbara C. Olendzki, Gioia Persuitte, Taryn Silverstein, Katherine Baldwin, David Cave, John K. Zawacki, Kanishka Bhattacharya, and Yunsheng Ma

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BACKGROUND and OBJECTIVE

Inflammatory Bowel Disease (IBD), which includes Crohn’s disease (CD) and ulcerative colitis (UC), are chronic non-specific inflammatory conditions. Standard IBD treatment typically employs a combination of anti-inflammatory and immune suppressive medications; however, the pharmacological approach is not by itself curative. The Anti-Inflammatory Diet for IBD (IBD-AID), which is derived and augmented from The Specific Carbohydrate Diet (SCD), is a nutritional regimen that restricts the intake of complex carbohydrates such as refined sugar, gluten-based grains, and certain starches from the diet. These carbohydrates are thought to provide a substrate for pro-inflammatory bacteria. The second component of the diet involves the ingestion of pre- and probiotics to help restore an anti-inflammatory environment.

Study Objective

To assess the efficacy and feasibility of the Anti-Inflammatory Diet (IBD-AID) intervention for the treatment of IBD.

METHODS

 Intervention: Patients were recruited from the UMMHC gastroenterology clinic upon referral from their gastroenterologist. They received individual instruction of the diet and its restrictions through 5 individual nutrition sessions over approximately a 6-10 month period. Support materials were provided. Cooking classes were also available to the patients.

Outcome Survey Measures:

Ulcerative Colitis: Modified Truelove and Witts Severity Index (MTLW)
Scoring system of 0-21 points, clinical response is defined as a decrease from baseline score of 50% or greater, or less than 10 on 2 consecutive days

- Number of stools/day
- Nocturnal stools
- Visible blood in stools
- Fecal incontinence
- Abdominal pain/cramping
- General well-being
- Abdominal tenderness
- Use of anti-diarrheal drugs

Crohn’s Disease: Harvey Bradshaw Index (HBI)

- General well-being (0 = very well, 1 = slightly below average, 2 = poor, 3 = very poor, 4 = terrible)
- Abdominal pain (0 = none, 1 = mild, 2 = moderate, 3 = severe) number of liquid stools per day
- Abdominal mass (0 = none, 1 = dubious, 2 = definite, 3 = tender)
- Complications, with one point for each.

Prebiotic Foods

Artichokes
Asparagus
Bananas
Chicory root
Garlic
Honey
Leeks
Oats
Onions

RESULTS

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Disease</th>
<th>Disease duration</th>
<th>Extent disease</th>
<th>Dx Based on</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>F</td>
<td>CD</td>
<td>8 years</td>
<td>Rectum to transverse colon</td>
<td>Colonoscopy</td>
</tr>
<tr>
<td>47</td>
<td>F</td>
<td>CD</td>
<td>4 years</td>
<td>Distal ileum</td>
<td>Colonoscopy &amp; MRI</td>
</tr>
<tr>
<td>39</td>
<td>F</td>
<td>CD</td>
<td>9 years</td>
<td>Distal ileum</td>
<td>Small bowel follow through</td>
</tr>
<tr>
<td>24</td>
<td>F</td>
<td>CD</td>
<td>14 years</td>
<td>Small bowel</td>
<td>Capsule endoscopy, sigmoidoscopy</td>
</tr>
<tr>
<td>39</td>
<td>M</td>
<td>CD</td>
<td>7 years</td>
<td>Ileocecal, perianal area</td>
<td>Colonoscopy and capsule endoscopy</td>
</tr>
<tr>
<td>69</td>
<td>M</td>
<td>UC</td>
<td>24 years</td>
<td>Descending colon &amp; rectum</td>
<td>Colonoscopy</td>
</tr>
<tr>
<td>19</td>
<td>F</td>
<td>UC</td>
<td>5 years</td>
<td>Pan-colonic</td>
<td>Colonoscopy &amp; MRI</td>
</tr>
<tr>
<td>40</td>
<td>M</td>
<td>CD</td>
<td>1 year</td>
<td>Colonic</td>
<td>Colonoscopy</td>
</tr>
<tr>
<td>41</td>
<td>M</td>
<td>CD</td>
<td>8 years</td>
<td>Distal ileum</td>
<td>CT scan &amp; colonoscopy</td>
</tr>
<tr>
<td>37</td>
<td>F</td>
<td>CD</td>
<td>4 years</td>
<td>Ileocecal</td>
<td>CT scan &amp; pathology from surgery</td>
</tr>
<tr>
<td>70</td>
<td>F</td>
<td>UC</td>
<td>19 years</td>
<td>Pan-colonic</td>
<td>Colonoscopy &amp; histology</td>
</tr>
</tbody>
</table>

Therapy Legend: S=steroid dependant, ASA= 5-ASA derivatives, IM=immunomodulator, aTNF=Anti-tumor necrosis factor antibody

Conclusion

This case series indicates the potential for the IBD-AID to be used as an adjunctive or alternative therapy for the treatment of IBD. Notably, 9 out of 11 patients were able to be managed without anti-TNF therapy, and 100% of the patients had their symptoms reduced. To make clear recommendations for its use in clinical practice, randomized trials are needed alongside strategies to improve acceptability and compliance with the IBD-AID.