

Dietary Therapy in Adult Inflammatory Bowel Disease. Is there a Role in 2020?

Gim Hin Ho^{1*} and Ee Ling Yeong Hazel²

¹*Division of Gastroenterology, Department of General Medicine, Khoo Teck Puat Hospital, Singapore*

²*Department of Nutrition and Dietetics, Khoo Teck Puat Hospital, Singapore*

***Corresponding Author:** Gim Hin Ho, Division of Gastroenterology, Department of General Medicine, Khoo Teck Puat Hospital, Singapore.

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The exact pathogenesis of inflammatory bowel disease (IBD) remains uncertain but has been strongly postulated to be influenced by modifiable non-genetic environmental factors. One of these factors is the dysbiotic alteration in the gut microbiome [1]. As a result, research into the alteration of the microbiome by probiotics [2-5], faecal microbiota transplant [6], and diet as potential therapeutic strategies have gathered pace over the past few years. The principle of these interventions presumes that reconfiguration of the microbiome toward a more "eubiotic" or less proinflammatory profile would lead to a reduction of intestinal inflammation [1]. Diet has been hypothesized to play a role in the pathogenesis in inflammation, with research showing the effect of dietary exposures on the intestinal microbiome as well as mucosal integrity [7].

The ability of dietary intervention to reduce inflammation is illustrated in the efficacy of exclusive enteral nutrition (EEN) to induce remission in paediatric Crohn's disease (CD) [8]. However, data for EEN in adult IBD has shown mixed and conflicting results [7]. The major gastroenterology societies have remained largely non-committal on the use of dietary therapy in adult IBD, except for the British Society of Gastroenterology which recommends that EEN for 3 to 6 weeks can serve as an alternative to corticosteroids for active CD in adults [9]. This, coupled with the seemingly negligible toxicity of dietary intervention, has fuelled an upsurge in interest by clinicians, dietitians, researchers and even patients to explore diet as primary or adjunctive therapy for IBD. Many of these dietary therapies have been extrapolated from other gastrointestinal conditions like irritable bowel syndrome, but they are

supported by little evidence. This has led to confusing anecdotes and myths about dietary therapy in IBD circulating on the internet and social media, with patients often asking about the role of food and diet to treat IBD.

Besides EEN, which is a nutritionally complete liquid formula with the exclusion of all solid foods, many other diets have been proposed. They include the specific carbohydrate diet (SCD), IBD anti-inflammatory diet (IBD-AID), Crohn's disease exclusion diet (CDED), semi-vegetarian diet and the Paleo diet. A recent Cochrane systematic review and meta-analysis of all randomized controlled trials (RCTs) of dietary interventions for IBD up until January 2019, which included 18 RCTs with 1878 participants, was performed [10]. In summary, it showed that for inducing remission of CD, a highly restricted organic diet and diets defined by a reduction in refined carbohydrates, microparticles or calcium did not confer added benefit over generic control diets for the achievement of clinical remission [10]. Only a symptom-guided elimination diet was superior to "conventional nutritional advice" for achieving clinical remission in mild CD [10]. For the maintenance of remission in CD, diets with low refined carbohydrates, symptom-provoking foods, red or processed meats or a combination of these were not superior than generic control diets for reducing clinical relapse [10]. In ulcerative colitis, all dietary interventions studied which included a symptom-guided diet, an anti-inflammatory diet, carrageenan-free diet and milk-free diet showed no benefit over a generic control diet [10].

From the analysis above, it demonstrates that no definite conclusions can be reached based on the available evidence to date, rather than lack of efficacy in any of the individual studies [1]. Moreover, the meta-analysis [10] did not include non-randomised observational studies and several of these studies have shown that SCD and CDED can potentially be helpful for inducing remission in CD [11-13]. All is not gloomy and the hope is that these findings will develop with more research.

The lack of evidence illustrates that the interaction and role of diet in IBD is highly complex and we currently do not know enough about which diet and in what context it would be helpful in the treatment of IBD. The concept of utilising diet to treat adult IBD remains an attractive theory and makes it difficult to position dietary intervention into the current treatment paradigm and algorithm of IBD therapy. In my personal opinion as a practising adult IBD gastroenterologist, I utilise dietary intervention in the form of EEN predominantly in active Crohn's disease patients with ongoing medical issues contraindicating the use of steroids or biologic therapy - for example overwhelming sepsis or difficult to treat intra-abdominal abscesses, and issues limiting early surgery - for example severe malnutrition or acute cardiorespiratory conditions.

Ultimately, close partnership and shared decision making between the patient and the multi-disciplinary IBD team consisting of gastroenterologist, surgeon and dietitian is crucial when utilising dietary therapy to treat IBD. The discussion on the goals, compliance and timeline of dietary therapy should be initiated early. If dietary intervention is utilised, close follow-up and monitoring of objective markers of inflammation is paramount to establish if this approach is failing and if an earlier escalation of therapy is needed.

Despite this, all hope in diet for IBD is not lost. Acknowledgement and collaborations on future clinical studies will hopefully allow us to bridge these inherent uncertainties and enable us to develop personalised diets for the treatment of our individual patients with IBD.

Disclosure

Both authors do not have any financial conflict of interest to declare.

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