

Reviewer's report

Title: An Anti-Inflammatory Diet as Treatment for Inflammatory Bowel Disease: A Case Series

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Reviewer: Rok Orel

Reviewer's report:

Dear Sir,

In their manuscript »An anti-inflammatory diet as treatment for inflammatory bowel disease: A case series« the authors report a retrospective analysis of 27 patients with IBD treated with nutritional intervention concomitant with their regular anti-inflammatory medical therapy. According to self-reported questionnaires, 24 of these patients reported good symptomatic response. In addition, in 11 patients more detailed analysis of their documentation was performed to evaluate the efficacy of nutritional therapy by comparison of disease activity indexes, Harvey Bradshaw Index for Crohn's disease and Modified Truelove and Witts Severity Index for ulcerative colitis. Despite relatively short intervention/observation period the analysis revealed a substantial decrease of disease activity during nutritional therapy.

Although the paper describes a novel dietetic approach to IBD patients, a very interesting and certainly underestimated issue in clinical praxis, it has several important shortcomings. Small number of patients, especially those with eligible complete health records for detailed analysis (only 3 with UC), heterogeneity of their medical therapies and absence of comparable control group of patients without dietetic intervention unable us to drive any firm conclusions about real efficacy of described diet. As concluded by the authors themselves, a prospective controlled randomized clinical trial should be advocated to assess the efficacy of this specific dietary approach. Moreover, even the name of the diet, anti-inflammatory diet, can be misleading until its real effect on mucosal inflammation and healing would be proven by pre- and post- treatment endoscopic and histologic evaluation. The observed symptomatic relief during the diet is not necessarily the result of its anti-inflammatory effect but can also be the result of its influence on the symptoms of irritable bowel syndrome, a functional disorder accompanying IBD in up to 70% of IBD patients. It has been described that fiber-rich diet may aggravate symptoms in number of IBS patients due to bacterial fermentation of non-digestible carbohydrates with consequential production of intestinal gases and organic acids. On the other hand, non-digestible but fermentable carbohydrates usually do not act as chemical irritants or substrates for fermentation by potentially pathogenic bacteria. More often they serve as prebiotic substances that stimulate growth and metabolism of health-promoting bacterial genera such as Bifidobacterium and Lactobacillus. Products of their metabolisms, especially short-chain fatty acids, have numerous

beneficial effect including enhancement of gut epithelium repair and barrier function and down-regulation of intestinal inflammation.

In addition, I have several minor comments.

Page 4: “Despite histological differences... - recommendation: Despite clinical and immunological differences...”

Page 4: “dietary therapy has been similar for both” – that is not true. As mentioned lately in the text, nutritional therapy with enteral nutrition is efficient therapeutic option in patients with mild and moderate Crohn’s disease, especially pediatric ones. Several studies and meta-analyses revealed that the efficacy of such therapy is comparable to standard anti-inflammatory drugs (corticosteroids) and can result in mucosal healing. However, such therapy has no effect in ulcerative colitis.

Page 4: “Others have investigated nothing by mouth for a period of time, and used tube feeding with elemental diets.” – That is over-simplification of exclusive enteral feeding approach. The first, meta-analyses revealed that the use of polymeric formulas is as efficient as the use of elemental ones. And the second, the use of more palatable polymeric formulas for enteral nutrition enable us to take them by mouth and not by tube.

Page 5: Paragraph Materials and methods. Do not need Table 1, it goes to Results

Page 5: “The goal of IBD_AID is to... - ... and to provide adequate nutrition for patients needs for energy, macro- and micronutrients

Page 7: “and diet was reviewed for foods of intolerance”- Question: Which criteria were used for the diagnosis of food intolerance? Only patients’ observations? For, example, in functional GI disorders food intolerances are reported by up to 70% of patients, however, when blind placebo-controlled provocation are performed, they are objectively proven in only minority of them.

Moreover, how can changes in texture/form of food influence real intolerances?

Page 8, Discussion: “Presently there is no way of examining the impact of the IBD_AID on the intestinal microbiome” – That is not true. The authors themselves explain the possibilities. They only did not do this in their cases, but can be done in further prospective studies.

Page 9: The paragraph addressing gluten-free diet may be misleading. It is crucial for celiac patients but has no scientifically proven effect in IBD.

Page 9: “since oats (and possible other pre-biotic grains)...” – We should not use a term prebiotic grain as prebiotics are specific substances and not foods (such as grains or vegetables)

Page 9: “Poorly digested complex carbohydrates may lead to bacterial overgrowth...” – Please, specify! Some of them have defined prebiotic properties.

Page 10: “This irritation causes inflammation, leading to further tissue injury” – I disagree with this! Please, have a look to major comments at the beginning of this review.

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.