FPIN's Help Desk Answers

Gluten-Free Diet for Irritable Bowel Syndrome

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Help Desk Answers provides answers to questions submitted by practicing family physicians to the Family Physicians Inquiries Network (FPIN). Members of the network select questions based on their relevance to family medicine. Answers are drawn from an approved set of evidence-based resources and undergo peer review. The strength of recommendations and the level of evidence for individual studies are rated using criteria developed by the Evidence-Based Medicine Working Group (http://www.cebm.net/?o=1025).

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Clinical Question

Does a gluten-free diet improve gastrointestinal symptoms in patients with irritable bowel syndrome (IBS)?

Evidence-Based Answer

The evidence is conflicting on whether gluten-free diets improve symptoms of IBS. Gluten-free diets may improve symptoms such as abdominal pain, stool consistency, and tiredness, and they can be recommended to patients with IBS. (Strength of Recommendation: B, based on inconsistent, small, randomized controlled trials [RCTs].)

Evidence Summary

A 2011 RCT included 34 patients 29 to 59 years of age who had IBS and no celiac disease and whose symptoms were controlled on a gluten-free diet.[1] They were randomized to remain on a gluten-free placebo diet or to switch to a gluten-containing diet. Patients recorded overall symptoms, abdominal pain, bloating, satisfaction with stool consistency, tiredness, wind, and nausea using a 0- to 100-mm visual analog scale at baseline and weekly for six weeks. Patients on the gluten-containing diet had statistically significant increases in mean scores at week 1, including overall symptoms (+28 vs. +9.2 for placebo; $P = .047$), abdominal pain (+28 vs. +5; $P = .016$), bloating (+26 vs. +5.8; $P = .031$), satisfaction with stool consistency (+24 vs. +2.5; $P = .024$), and tiredness (+25 vs. −5; $P = .001$). At six weeks, scores for abdominal pain (+40 vs. +18.3; $P = .02$), stool consistency (+30 vs. +16; $P = .03$), and tiredness (+34 vs. +8; $P = .01$) increased significantly from baseline in the gluten group. Significantly more patients on the gluten diet answered "no" to the question "Over the last week, were your symptoms adequately controlled?" (68% vs. 40%; $P = .001$).

A 2013 double-blind crossover RCT examined 37 patients 24 to 61 years of age with nonceliac gluten sensitivity and IBS whose self-reported symptoms improved with a gluten-free diet.[2] Patients were started on a two-week diet low in fermentable oligosaccharides, disaccharides, monosaccharides, and polyols (FODMAPs), which has been proven to improve IBS symptoms. They were then randomized to high-gluten (16 g per day), low-gluten (2 g per day plus 14 g whey protein per day), and control (16 g whey protein per day) diets for one week. All patients participated in each diet arm with a two-week run-in diet of reduced FODMAPs before each one-week trial. At the end of each week, patients graded overall symptoms, abdominal pain, bloating, satisfaction with stool consistency, tiredness, and wind using a 0- to 100-mm visual analog scale. Compared with baseline, no group had the predefined clinically significant decrease of 20 mm or more for overall symptoms at seven days. A secondary three-day trial was repeated in similar fashion, and no statistically or clinically significant changes were noted between diet arms.

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2. Biesiekierski JR, et al. No effects of gluten in patients with self-reported non-celiac gluten sensitivity after dietary reduction of fermentable, poorly absorbed short-chain carbohydrates. *Gastroenterol.* 2013;145(2):320-328. ■