Dietary Triggers of Abdominal Symptoms in Patients With Irritable Bowel Syndrome: Randomized Placebo-Controlled Evidence.

Shepherd SJ, Parker FC, Muir JG, Gibson PR.
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BACKGROUND & AIMS: Observational studies suggest dietary fructose restriction might lead to sustained symptomatic response in patients with irritable bowel syndrome (IBS) and fructose malabsorption. The aims of this study were first to determine whether the efficacy of this dietary change is due to dietary fructose restriction and second to define whether symptom relief was specific to free fructose or to poorly absorbed short-chain carbohydrates in general. METHODS: The double-blinded, randomized, quadruple arm, placebo-controlled rechallenge trial took place in the general community. The 25 patients who had responded to dietary change were provided all food, low in free fructose and fructans, for the duration of the study. Patients were randomly challenged by graded dose introduction of fructose, fructans, alone or in combination, or glucose taken as drinks with meals for maximum test period of 2 weeks, with at least 10-day washout period between. For the main outcome measures, symptoms were monitored by daily diary entries and responses to a global symptom question. RESULTS: Seventy percent of patients receiving fructose, 77% receiving fructans, and 79% receiving a mixture reported symptoms were not adequately controlled, compared with 14% receiving glucose (P </= 0.002, McNemar test). Similarly, the severity of overall and individual symptoms was significantly and markedly less for glucose than other substances. Symptoms were induced in a dose-dependent manner and mimicked previous IBS symptoms. CONCLUSIONS: In patients with IBS and fructose malabsorption, dietary restriction of fructose and/or fructans is likely to be responsible for symptomatic improvement, suggesting efficacy is due to restriction of poorly absorbed short-chain carbohydrates in general.

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