Treatments for irritable bowel syndrome examined

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Peppermint oil may be most effective for global symptoms of irritable bowel syndrome (IBS), and tricyclic antidepressants may be most effective for associated abdominal pain, according to results from a recent network meta-analysis.

Researchers included randomized controlled trials that compared soluble fiber, antispasmodic drugs, peppermint oil, and gut-brain neuromodulators (including tricyclic antidepressants, selective serotonin reuptake inhibitors, or alpha-2-delta calcium-channel subunit ligands) with each other or with placebo. Included trials also needed to report dichotomous assessment of overall response to therapy in adults with IBS after four to 12 weeks of treatment. Efficacy and safety of all treatments were reported as pooled relative risks (RRs), and treatments were ranked by *P* score. The results were published by *The Lancet Gastroenterology and Hepatology* on Dec. 16.

Fifty-one trials with data on 4,644 patients were eligible for inclusion in the network meta-analysis, although only 13 had a low risk for bias. Forty trials involving 3,793 patients reported the proportion whose global IBS symptoms did not improve after four to 12 weeks of treatment. For this endpoint, peppermint oil capsules were ranked as the most effective treatment (RR, 0.63; 95% CI, 0.48 to 0.83; *P*=0.84), followed by tricyclic antidepressants (RR, 0.66; 95% CI, 0.53 to 0.83; *P*=0.77), although no significant differences were seen between individual treatments when active treatments were directly and indirectly compared. When improvement in abdominal pain at four to 12 weeks was used as an endpoint, tricyclic antidepressants were most effective (RR, 0.53; 95% CI, 0.34 to 0.83; *P*=0.87), but this was based only on data from four trials and 92 patients. No active treatments were found to have superior efficacy in indirect comparisons. Overall, tricyclic antidepressants were the only therapy more likely to cause adverse events than placebo (RR, 1.59; 95% CI, 1.26 to 2.06; *P*=0.16).

The researchers said their results should be interpreted with caution, since the majority of the included trials were at risk for bias and only six were performed in a primary care setting, which is where the studied treatments are most likely to be used. They concluded that peppermint oil, tricyclic antidepressants, and antispasmodic drugs are more effective than placebo for improving global IBS symptoms and abdominal pain, with peppermint oil ranking highest for the former and tricyclic antidepressants ranking highest for the latter. However, they called for more research in this area. “More [randomized controlled trials] of these traditional treatments—ideally head-to-head trials directly comparing one treatment with one or more of the other therapies—that are powered adequately, done in a primary care setting, examine treatment efficacy according to predominant stool type, and report adverse events data more thoroughly are required,” the authors wrote.

An accompanying comment said the study “provides, at best, a modest estimation of the most efficacious treatment option for patients with IBS,” noting that the efficacy of peppermint oil for global IBS symptoms has been called into question by a recent

randomized trial with contradictory results. The comment author noted that definitions of functional gastrointestinal disorders need to be standardized, since different definitions used in different countries currently affect the validity of study outcomes, and agreed with the authors of the current study that additional, more rigorous trials of IBS treatments are needed.

An unrelated study, meanwhile, looked at the efficacy of another treatment, fecal microbiota transplantation (FMT), for IBS. Researchers in Norway randomly assigned 165 patients with moderate to severe IBS to placebo treatment with their own feces, 30 g of FMT, or 60 g of FMT. Frozen FMT material was obtained from the same healthy donor and was administered by gastroscope. The trial's primary outcome was a reduction in IBS symptoms, defined as a decrease of at least 50 points in total IBS symptom score, three months after FMT, and the secondary outcomes were reduction in dysbiosis index and change in intestinal bacterial profile at one month. The results were published Dec. 18 by *Gut*.

Fifty-five patients were assigned to the 60-g FMT group, 55 were assigned to the 30-g FMT group, and 55 were assigned to placebo. All patients completed the study except one patient in the 30-g group. Overall, 23.6% of patients who received placebo, 76.9% of those in the 30-g FMT group, and 89.1% of those in the 60-g FMT group achieved the primary outcome at three months. Significant improvements were also seen in fatigue and quality of life among patients who received FMT, and their intestinal bacterial profiles changed significantly. Patients who received FMT experienced mild intermittent abdominal pain, diarrhea, or constipation in the first two days after the procedure, but these adverse events were considered mild and self-limiting.

The researchers noted that their study did not evaluate the long-term effects of FMT or record the frequency with which rescue medication was used in the intervention groups and said that the results apply only to patients with moderate to severe IBS symptoms. However, they concluded that based on their results, FMT is an effective treatment for IBS that improves symptoms and quality of life, regardless of IBS subtype.