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This series is coordinated by Corey D. Fogleman, MD, Assistant Medical Editor.

A collection of Cochrane for Clinicians published in *AFP* is available at http://www.aafp.org/afp/cochrane.

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Laxatives for the Management of Childhood Constipation

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Clinical Question

Are laxatives an effective and safe treatment for functional childhood constipation?

Evidence-Based Answer

Polyethylene glycol (PEG) is superior to placebo (mean difference [MD] = 2.61 more stools per week; 95% confidence interval [CI], 1.15 to 4.08), lactulose (MD = 0.70; 95% CI, 0.10 to 1.31), and milk of magnesia (MD = 0.69; 95% CI, 0.48 to 0.89) at increasing the number of bowel movements per week at two to 12 weeks. High-dose PEG (0.7 g per kg) is superior to low-dose PEG (0.3 g per kg) at increasing the number of stools per week (MD = 1.30; 95% CI, 0.76 to 1.84). PEG is not superior to enemas, flixweed, or liquid paraffin. There are no serious adverse effects associated with regular use of PEG. Common adverse effects with use of any of the tested laxatives include flatulence, abdominal pain, nausea, diarrhea, and headache.[1] (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

Childhood constipation is a common disorder affecting up to 30% of children worldwide.[2] It not only stresses the patient and family, but it is also a strain on the health care system. Children diagnosed with constipation visit the emergency department far more often than those without constipation[3] and account for 3% of all general pediatric visits and 30% of all pediatric gastroenterology visits.[1] Constipation in children costs the health care system $3.9 billion per year.[2] Despite the widespread use of laxative medications in children, there is a relative lack of data on their effectiveness and safety.

This review included 25 randomized controlled trials with 2,310 participants who had functional constipation. Of all the treatments, PEG was studied the most extensively. After two weeks of treatment, patients treated with PEG (dosed based on age and clinical response, in one study 0.2 to 0.8 g per kg per day) had an increased number of bowel movements per week vs. patients who received placebo (two studies, 101 patients; MD = 2.61 more stools per week; 95% CI, 1.15 to 4.08). Patients treated with PEG demonstrated an increased number of stools compared with those treated with lactulose when comparisons were done at two to 12 weeks (six studies, 465 patients; MD = 0.70 more stools per week; 95% CI, 0.10 to 1.31). PEG treatment also resulted in increased bowel movements per week when compared with milk of magnesia after four weeks of treatment (three studies, 211 patients; MD = 0.69 more stools per week; 95% CI, 0.48 to 0.89).

In one study of 90 patients, treatment with high-dose PEG (0.7 g per kg) resulted in an increased number of bowel movements (MD = 1.30 stools per week; 95% CI, 0.76 to 1.84) vs. low-dose PEG (0.3 g per kg). No serious adverse effects were reported with PEG therapy at any dosing regimen.

Other treatment comparisons also looked at the outcome of number of stools per week. In one study of 50 patients, milk of magnesia (1 mL per kg per day) was superior to lactulose (1 to 3 mL per kg per day; MD = 1.51; 95% CI, 0.39 to 2.63), and two studies with a total of 287 patients showed that liquid paraffin (1 to 2 mL per kg twice daily) was superior to lactulose (1 to 2 mL per kg twice daily; MD = 4.94; 95% CI, 4.28 to 5.61). There was no statistically significant increase in the number of bowel movements per week among the following comparisons: PEG (loading dose = 1.5 g

per kg for six days, then 0.5 g per kg daily) vs. enema (60 mL for children younger than six years or 120 mL for children older than six years, once daily); dietary fiber vs. lactulose (10 g of each in a 125-mL yogurt drink); senna (10 to 20 mL per day) vs. lactulose (10 to 15 mL per day); lactitol (250 to 400 mg per kg daily) vs. lactulose (500 to 750 mg per kg daily); hydrolyzed guar gum (3 to 5 g daily, depending on age) vs. lactulose (1 mL per kg daily); PEG (0.4 g per kg daily) vs. flixweed (2 to 3 g daily); PEG (0.5 to 1 g per kg daily) vs. dietary fiber (16.8 to 22.4 g daily); or PEG (20 mL per kg per hour for four hours or 1 to 1.5 g per kg daily) vs. liquid paraffin (30 mL per 10 kg twice daily for two days or 1 to 1.5 mL per kg daily).

Clinical guidelines from the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition recommend PEG as the first-line treatment for children with fecal impaction and for maintenance therapy of functional constipation. Lactulose can be used as first-line maintenance therapy if PEG is not available. Milk of magnesia, mineral oil, and stimulant laxatives should be considered as second-line or additional therapy.[4]

The practice recommendations in this activity are available at http://www.cochrane.org/CD009118.

The opinions and assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the U.S. Army, the U.S. Air Force, or the Department of Defense.

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Yoga for Cancer-Related Symptoms in Women with Breast Cancer

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Clinical Question

Does yoga improve mental and physical health in women who have been diagnosed with breast cancer?

Evidence-Based Answer

Yoga improves health-related quality of life, reduces sleep disturbances, and decreases fatigue in the short term (up to 12 weeks) among women diagnosed with breast cancer who have completed cancer-related treatment or are receiving cancer treatment compared with no intervention.[1] (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.) There are conflicting results regarding the effect of yoga on depression and anxiety in these patients. No significant differences were noted between yoga and exercise in improving health-related quality of life and fatigue; both were effective. Yoga was not associated with serious adverse effects.[1]

Practice Pointers

Yoga is an ancient nonaerobic practice that focuses on breathing, flexibility, and mindfulness. It was used by 9.5% of adults in the United States in 2012.[2] Studies have shown that aerobic exercise improves physical functioning as well as quality of life, and that it decreases fatigue and mortality in women diagnosed with breast cancer.[1] The authors of this review sought to evaluate whether yoga also improves quality of life for these patients, and whether yoga can be used to treat symptoms associated with breast cancer and its treatment.

This Cochrane review included 23 randomized controlled trials and 2,129 patients.[1] Women included in the trial were undergoing or had undergone various types of cancer treatment. Outcomes were determined using a variety of self-report instruments

to evaluate health-related quality of life, depression, anxiety, fatigue, and sleep disturbances.

Short-term results over five to 12 weeks showed that yoga improved health-related quality of life compared with no therapy (10 studies, N = 675; pooled standardized mean difference [SMD] = 0.22; 95% confidence interval [CI], 0.04 to 0.40). Yoga also improved fatigue (11 studies, N = 883; pooled SMD = −0.48; 95% CI, −0.75 to −0.20) and decreased sleep disturbances (six studies, N = 657; pooled SMD = −0.25; 95% CI, −0.40 to −0.09) in the short term when compared with no therapy. Yoga did not improve medium-term (30 to 48 weeks) health-related quality of life or fatigue. There was no statistically significant difference in health-related quality of life or fatigue in patients using yoga vs. other forms of exercise.

Compared with no therapy, yoga did not reduce depression or anxiety in patients with breast cancer. In addition, no serious adverse effects were associated with yoga.

The Society for Integrative Oncology recommends yoga to improve symptoms of depression and mood disturbance (Grade A), for anxiety and stress reduction (Grade B), and to improve sleep quality and global quality of life (Grade C) for patients with breast cancer.[3] Yoga appears to have beneficial effects on health-related quality of life, fatigue, and sleep disturbance, and the risks of harm are low. Patients interested in pursuing yoga for these indications should be encouraged to do so by their physicians.

The practice recommendations in this activity are available at http://www.cochrane.org/CD010802.

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