Biofeedback Effective for Chronic Constipation

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HONOLULU — Biofeedback proved superior to standard therapy for long-term management of patients with the most common cause of chronic constipation in the first-ever randomized trial featuring a full year of follow-up.

Previous short-term randomized trials have demonstrated that biofeedback is effective in patients with dyssynergic defecation. But this form of constipation is a long-term problem—and although uncontrolled studies have suggested good long-term maintenance of efficacy with biofeedback, it was important to establish in a more rigorous randomized trial setting whether this nonpharmacologic therapy maintains its effectiveness over time.

The answer—at least through 1 year of formal follow-up—is clearly yes, Satish S.C. Rao, M.D., said at the annual meeting of the American College of Gastroenterology.

Participants learned techniques for increasing their pushing effort through improved anorectal coordination and sensory conditioning.

The clinical relevance of this finding lies in the fact that recent surveys indicate that up to 50% of patients with chronic constipation are dissatisfied with their current treatment. This is largely because conventional therapies focus primarily on reducing stool hardness rather than addressing the underlying physiologic dysfunction. In the setting of dyssynergic defecation, which accounts for roughly half of all cases of chronic constipation, the pathophysiology involves a lack of coordination between the pelvic floor muscles and anal sphincter, explained Dr. Rao, a gastroenterologist at the University of Iowa, Iowa City.

He reported on 52 patients, 47 of whom were women, who were randomized to a 3-month biofeedback program or standard therapy. All met strict manometric diagnostic criteria for dyssynergic defecation. Patients with the other two common types of chronic constipation—irritable bowel syndrome and slow-transit constipation—were excluded.

The biofeedback program entailed biweekly hour-long treatment sessions in which participants learned techniques aimed at increasing their pushing effort through improved anorectal coordination and sensory conditioning. They also practiced expelling a simulated stool made of silicone.

The standard-therapy control arm involved three monthly visits with a gastroenterologist, dietician, and nurse for instruction in dietary modification, exercise, toilet habits, and appropriate use of laxatives. "That's a lot more than the usual standard therapy in clinical practice," Dr. Rao noted.

Of the 52 patients, 44 completed the 3-month active treatment phase. Since no single end point adequately defines the outcome of constipation therapy, follow-up with a variety of objective and subjective measures of improvement was conducted at 3, 6, and 12 months. The 1-year intent-to-treat analysis involved 13 patients from each arm.

Only 1 of 13 patients in the biofeedback arm still met diagnostic criteria for dyssynergia at 1 year, in contrast to all 13 in the control group. Mean balloon expulsion time fell from a baseline of 143 seconds in the biofeedback group to 13 seconds at 3 months and 18 seconds at 1 year, compared with 87 seconds at 1 year in controls.

The number of complete, spontaneous bowel movements per week increased significantly in the biofeedback group, as did objective measures of anorectal and colonic function and patient satisfaction with bowel function; none of these end points improved over the course of a year in the controls.

In response to audience questions, Dr. Rao said that it has been his clinical experience outside the randomized trial setting that at least two-thirds of patients who have undergone a course of biofeedback for dyssynergic defecation maintain the benefits in multiyear follow-up, while the effects wane beyond 1 year in about one-third, who benefit from a refresher.

Dr. Rao's study, for which he received the 2005 ACG Auxiliary Award, was funded by the National Institutes of Health. ■