

Electrical Therapy May Speed Slow Colonic Transit

BY AMY ROTHMAN SCHONFELD
Contributing Writer

BOSTON — A new noninvasive treatment—transcutaneous electrical stimulation—may relieve symptoms for several months in children with slow transit constipation, Bridget Southwell, Ph.D., said at the Neurogastroenterology and Motility 2006 Joint International Meeting.

Imaging studies showed that slow colonic transit might be an underlying



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DR. SOUTHWELL

factor in about 60% of 155 children with idiopathic, treatment-resistant constipation. Children with this condition, known as slow transit constipation (STC), show deficits in propagating contractions of the colon, and fail to respond to stimuli that normally activate the gut.

The children in the study who received electrical stimulation were part of a larger group of 155 children with idiopathic, chronic, treatment-resistant constipation seen between 1995 and 2004. Children with known causes of chronic constipation, such as those with metabolic or genetic disorders, Hirschsprung's disease, or palpable fecalomas, were excluded from the study population. All of the subgroup

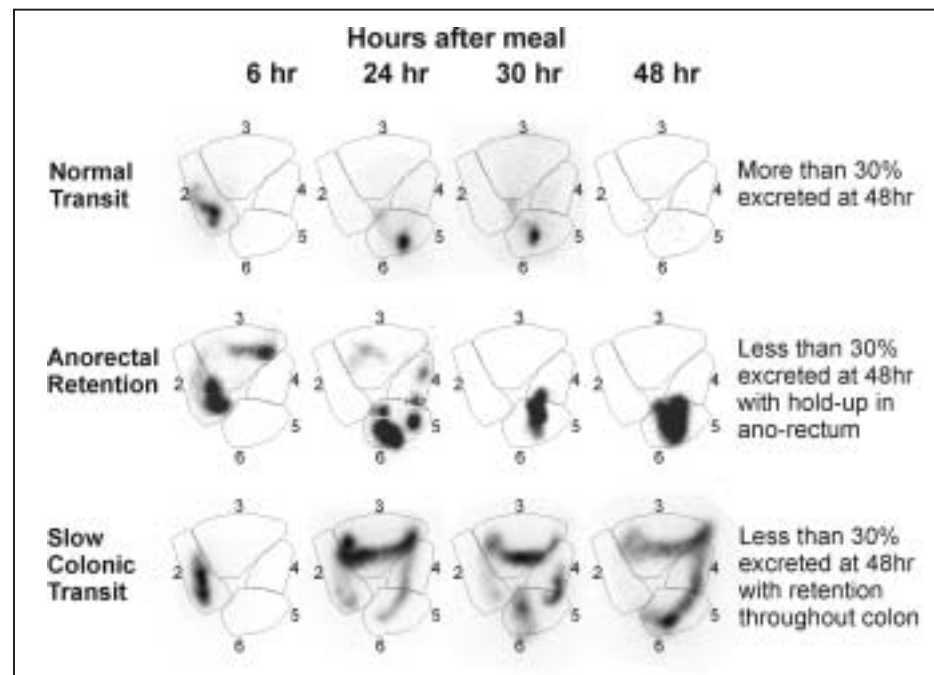
had failed diet, laxative treatment, and behavioral therapy; the effects of constipation infringed upon school and play.

Transcutaneous stimulation using interferential current was applied for 20 minutes three times per week for 3-4 weeks using four surface electrodes, placed in front of and behind the umbilical area. Of the 16 children who received electrical stimulation, 81% showed increased defecation and 94% showed decreased soiling. The effects lasted for 3 months or more after stimulation. Dr. Southwell's work merited an Abstract of Distinction and Young Investigator Travel Award.

"Transcutaneous electrical stimulation was originally developed for bladder disorders. It has been used for more than 20 years so we know it is safe," Dr. Southwell said in an interview. "We hope stimulation [for constipation] will develop into a technique that can be done in the home. Then it could be used by children anywhere, and also by the elderly. At the moment, it is a technique that must be done by physiotherapists." Dr. Southwell leads a group in Gut Motility Research at the Murdoch Children's Research Institute, Royal Children's Hospital in Victoria (Australia).

The investigators used 48-hour radioisotope transit studies to follow movement through the colon and document STC. Of 155 studies, 20% showed normal transit, 20% anal retention, and 60% pan-colonic slowing. (See these patterns in the illustration.)

Those with normal transit show accumulation in the cecum by 6 hours, radioactivity in the rectum by 30 hours, and no radioactivity by 48 hours because of



In 155 children, scintigraphy studies showed that about 20% had normal transit, 20% had anorectal retention, and 60% had slow colonic transit.

elimination. Those with anal retention show radioactivity remaining in the rectum for 24-48 hours, whereas children with STC show radioactivity in the transverse or descending colons for 30-48 hours, at which point the rectum is still unreactive.

The researchers also evaluated neuromuscular function in children with STC by using 24-hour colonic manometry, in which a catheter with multiple recording sites spanning the colon is inserted via an appendix stoma to monitor contractions. When the results of 18 children with STC were compared with 8 non-STC children, those with STC had fewer anterior prop-

agating contractions and showed no increase in gut activity upon awakening or after eating—findings consistent with poor contractions in the colon and slow transit constipation.

In another poster at the same meeting, Dr. Southwell's group at the Royal Children's Hospital in Victoria described findings suggesting that innervation of the gut wall may be compromised in STC. They reported lower levels of substance P and vasoactive intestinal peptide in biopsies taken from the right colon of children with STC, compared with constipated children without colonic dysmotility. ■

Lubiprostone Provides Long-Term Efficacy for Constipation in the Elderly

BY AMY ROTHMAN
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BOSTON — Approved earlier this year for the treatment of chronic idiopathic constipation in adults, lubiprostone has been shown to provide long-term relief for elderly patients, according to the findings of an industry-sponsored study.

Constipation is the most common gastrointestinal complaint among patients with advanced age. About 24%-37% of community-dwelling elderly people are affected; an estimated 60% use laxatives. The condition is even more common among nursing home residents. Left untreated, even mild constipation can eventually lead to serious complications such as fecal impaction, incontinence, and bowel perforations, Dr. Ryuji Ueno said at a meeting on neurogastroenterology and motility.

Dr. Ueno is the chief scientific officer at Sucampo Pharmaceuticals Inc., the manufacturer of lubiprostone that funded the investigation.

Dr. Ueno and colleagues analyzed

data from three open-label clinical trials involving a total of 163 elderly patients (aged 65 years and older) and 715 nonelderly patients (aged 18-64 years) who had chronic constipation, defined as fewer than three spontaneous bowel movements per week, with a minimum history of 3 months of evacuation difficulties.

Patients were excluded if they had documented mechanical obstruction and/or organic disorders of the bowel, constipation secondary to a documented cause, or other clinically significant medical conditions.

Patients were treated with oral lubiprostone (24 mcg twice daily), a type-2 chloride channel activator that promotes gastrointestinal motility by increasing the production of chloride-rich intestinal fluid, without significantly affecting serum sodium or potassium. Patients were followed for up to 12 months, with efficacy and safety assessments every 4-6 weeks.

Lubiprostone produced sustained, statistically significant improvements from baseline in constipation severity, abdominal bloating, and discomfort

across the year-long observation period for both the elderly and nonelderly groups. With use of a 5-point subjective severity scale (0 = absent to 4 = very severe), the mean improvement from baseline in constipation severity ranged from 0.92 to 1.71 points, for abdominal bloating mean improvement ranged from 0.45 to 1.19 points, and for abdominal discomfort the range was 0.49-0.89 points improved.

Elderly patients appeared to tolerate lubiprostone as well or better than their younger counterparts did. The elderly group reported fewer adverse events of any sort than did the nonelderly group (74% vs. 80%). No treatment-related serious side effects occurred in an elderly person and, with the exception of diarrhea (15% elderly vs. 12% nonelderly) and loose stools (6% vs. 3%), the incidence rates of commonly reported treatment-related adverse events were lower in the elderly than in the nonelderly. For example, nausea, the most common adverse event, was reported by 29% of the younger group but only 18% of the elderly. ■

Duration of Colitis Determines Screening

LAKE TAHOE, CALIF. — The frequency of colonoscopies to screen for cancer in patients with Crohn's disease colitis or ulcerative colitis should be based on how long they've had colitis, Dr. Joshua R. Korzenik said at a meeting on gastroenterology and hepatology sponsored by the University of California, Davis.

Without that pressing motivation, a screening colonoscopy typically would be appropriate every 3-4 years during the first decade of a patient's Crohn's or ulcerative colitis. Because these patients can develop cancer not only from polyps but from flat, normal-appearing mucosa, multiple biopsies are needed. A minimum of 33 biopsies should be taken, spaced about every 4-10 cm throughout the colon. "That has about a 90% likelihood of picking up dysplasia," said Dr. Korzenik, codirector of the Crohn's and Colitis Center at Massachusetts General Hospital, Boston.

In patients who've had Crohn's or ulcerative colitis for 10-20 years, screening colonoscopy should be performed every other year. For patients with a disease duration longer than 20 years, annual screening colonoscopy is preferred.

If the colonoscopy detects high-grade dysplasia, the patient should undergo a colectomy, Dr. Korzenik advised. Some physicians recommend colectomy for patients with low-grade dysplasia as well, "but that's still an area of dispute," he added.

—Sherry Boschert