Sugar Test May Identify Barrett's

BY MITCHEL L. ZOLER
Philadelphia Bureau

HOLLYWOOD, FLA. — A simple screening test—drinking a glass of sugar water—may identify patients with gastroesophageal reflux disease who probably have Barrett's esophagus and need further workup by endoscopy.

The idea is that in patients with Barrett's esophagus (BE), the sucrose in the drink would leak through the compromised mucosal barrier of the esophagus, enter the bloodstream, and eventually reach the urine, James M. Mullin, Ph.D., said while presenting a poster at a symposium on gastrointestinal cancers sponsored by the American Society of Clinical Oncology.

The increased levels of sucrose in the urine would flag the patient as needing endoscopy to diagnose possible BE.

"There are serious economic and logistic considerations of administering upper endoscopy to a large patient population"—that is, all patients with gastroesophageal reflux disease (GERD), said Dr. Mullin, a cell physiologist at the Lankenau Institute for Medical Research in Wynnewood, Pa. Many patients with GERD are currently treated with a proton pump inhibitor but are never assessed by endoscopy, even though about 10% of GERD patients have BE.

The diagnosis and monitoring of patients with BE is important because of their relatively high risk for esophageal adenocarcinoma.

A simple and inexpensive screening test for BE may help determine which of the millions of Americans with GERD should undergo endoscopy, he said.

To begin testing this idea, Dr. Mullin and his associates conducted a study that included 20 healthy volunteers, 9 patients with GERD, 13 patients known to have BE, and 6 patients with esophagitis. All participants underwent endoscopy to confirm these diagnoses, except for 15 of the healthy controls.

Two weeks after endoscopy, the 48 participants each drank 200 mL of water that contained 100g of dissolved sucrose. Because mammalian cells lack a disaccharide receptor, the only ways for sucrose to enter the blood are through a damaged epithelial barrier or via leaky tight junctions between epithelial cells. Dr. Mullin hypothesized that the tight-junction barrier is damaged in patients with BE, creating a sucrose leak.

Urine was collected from each participant overnight and subsequently passed through ion-exchange chromatography columns. The sucrose content was then measured using high-performance liquid chromatography.

The mean urinary sucrose concentrations in the patients with BE or esophagitis were significantly higher than the mean levels in their other groups tested.

Specifically, the five controls who underwent endoscopy had a mean urinary sucrose level of 60 mg, with a range of 17-80 mg. The 15 controls who did not have endoscopy had a mean level of 66 mg, with a range of 41-86 mg. The nine participants with GERD but no BE or esophagitis had a mean level of 62 mg of sucrose in their urine, with a range of 21-118 mg. Six patients had esophagitis but no BE, and their mean level was 153 mg, with a range of 122-265 mg. The 13 patients with BE had a mean urinary sucrose level of 184 mg, with a range of 95-428 mg.

These findings show that leakage of sucrose across the upper gastrointestinal epithelium occurs at a substantially greater rate in patients with BE and esophagitis, compared with healthy controls and compared with patients with GERD but no BE, said Dr. Mullin at the symposium, also sponsored by the American Gastroenterological Association, the American Society for Therapeutic Radiation and Oncology, and the Society of Surgical Oncology.

The next step is to undertake a similar study with a much larger number of participants and calculate the false-positive and false-negative rates for sucrose-leak screening, Dr. Mullin told this newspaper.

Another idea for future research is to place patients with GERD, esophagitis, or BE on treatment with a proton pump inhibitor a few weeks before the sucrose-leak test is done.

Treatment with a proton pump inhibitor should heal the esophagitis and therefore reduce or eliminate sucrose leak in these patients, but it should have no effect on sucrose leak in patients with BE, Dr. Mullin said. ■

Follow-Up Data Support Enteryx's Safety, Efficacy

ORLANDO, FLA. — Enteryx, an implantable copolymer approved by the Food and Drug Administration for the treatment of gastroesophageal reflux disease symptoms in 2003, appears to have durable efficacy and safety, David Johnson, M.D., reported in a poster at the annual meeting of the American College of Gastroenterology.

Of 300 patients participating in a 36-month, FDA-mandated postmarket study, 64 patients have completed 24 months of follow-up. Of these, 43 completely eliminated the use of proton pump inhibitor therapy and 3 others reduced their use of PPI therapy by at least 50%, said Dr. Johnson of Eastern Virginia School of Medicine, Norfolk.

The patients, who had well characterized GERD symptoms and were PPI dependent prior to the injection of Enteryx (Boston Scientific Corp.) into the lower esophageal sphincter, also had a median improvement of 80% in GERD health-related quality of life heartburn scores, and a median improvement of 88% in regurgitation scores, compared with baseline scores prior to initiation of PPI therapy, he noted.

No new device-related adverse events occurred during follow-up, and the observed clinical benefits were stable at 6, 12, and 24 months, he said.

—Sharon Worcester

Many Gastroparesis Patients Affected by Coagulopathies

BY MITCHEL L. ZOLER
Philadelphia Bureau

NEW ORLEANS — Patients with gastroparesis often have a coagulopathy that causes hypercoaguability, based on an analysis of 63 patients with gastroparesis, Amy Lobrano, M.D., reported at the southern regional meeting of the American Federation for Medical Research.

Prior reports have linked inflammatory bowel disease with a high prevalence of coagulopathies, but a similar association had not been reported previously for patients with gastroparesis, Dr. Lobrano said while presenting a poster.

"We believe that an autoimmune etiology may connect [gastroparesis and coagulopathy]," she told this newspaper. An autoimmune dysfunction, perhaps triggered by an infection or by a genetic cause, may bring on both of the disorders, said Dr. Lobrano, a gastroenterologist at the University of Mississippi, Jackson.

An autoimmune dysfunction, perhaps triggered by an infection or by a genetic cause, may bring on both of the disorders.

The take-home message is that physicians should carefully assess patients diagnosed with gastroparesis for the full panel of possible coagulopathies. In addition, physicians should be alert to the increased risk of thrombosis in patients with gastroparesis, as well as their possible need for anticoagulation therapy.

Dr. Lobrano and her associates assessed 63 consecutive patients diagnosed with gastroparesis who presented to the University of Mississippi Medical Center.

A comprehensive workup for 13 different acquired or congenital coagulopathies showed that 56 patients (87%) had one or more hypercoaguability defects. Of these 56 patients, 31 had not previously been diagnosed with a coagulopathy.

Many of the patients were affected by two or more different coagulopathies, and one patient was diagnosed with five different coagulation defects. The high prevalence of multiple coagulopathies was further evidence that a single trigger in each patient caused an autoimmune state that led to both the coagulopathies and the gastroparesis.

The most common coagulopathy diagnosed was factor VIII deficiency, in 39 patients, followed by activated protein C resistance, in 23 patients, and a deficiency in methylenetetrahydrofolate reductase, also in 23 patients. In contrast, none of the patients had abnormalities in antithrombin III, factor V Leiden, or protein C. ■

Corticosteroid Use Linked to Poor Outcomes in C. Difficile *Colitis*

BY SHARON WORCESTER
Tallahassee Bureau

ORLANDO, FLA. — Corticosteroid use may increase the risk of complications leading to colectomy and death in patients with *Clostridium difficile* colitis, Sherri L. Burgess, M.D., said at the annual meeting of the American College of Gastroenterology.

Dr. Burgess and her colleagues conducted a case-control chart review of 181 adult patients with confirmed *C. difficile* colitis. Of these patients, 55 received corticosteroid medications for the treatment of other medical conditions, and 126 did not receive corticosteroids.

The mortality rate was significantly higher in the corticosteroid group, compared with the group not treated with these drugs (40% vs. 15%), as was the colectomy rate (16% vs. 3%), said Dr. Burgess of St. Vincent Charity Hospital, Cleveland.

Furthermore, six of nine patients (67%) who underwent colectomy in the corticosteroid group died, compared with one of four patients (25%) in the control group, she said.

"In our study, we could not explain [the differences] by other patient characteristics or comorbidity," Dr. Burgess explained.

Patients who developed severe outcomes were generally older, but this was true in both groups. Although serum albumin concentrations were lower in patients who required a colectomy or who died, there was no significant difference in albumin levels between those who did and those who did not receive corticosteroids.

Also, there were greater proportions of women, patients with chronic obstructive pulmonary disease, and patients with heart failure in the corticosteroid group, but this did not appear to influence the risk for severe outcomes, Dr. Burgess said.

The findings suggest that a host immune response to corticosteroids may increase the risk of poor outcomes in patients with severe *C. difficile* infection.

Additional studies to confirm these results are warranted, Dr. Burgess concluded. ■