MII-pH Measure Tags Cause of Recalcitrant Reflux

BY JEFF EVANS
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ORLANDO, FLA. — A new diagnostic tool that can detect reflux regardless of pH may help clinicians offer individualized treatment for gastroesophageal reflux disease, Inder Mainie, M.D., said at the annual meeting of the American College of Gastroenterology.

Used in conjunction with esophageal pH monitoring, multichannel intraluminal impedance (MII) monitoring can show whether symptoms of gastroesophageal reflux disease (GERD) are associated with acid or nonacid reflux events—or with no reflux at all, said Dr. Mainie of the digestive disease center at the Medical University of South Carolina, Charleston.

About 35% or more of patients with GERD have persistent reflux symptoms while on proton-pump inhibitor (PPI) therapy, Dr. Mainie noted.

Esophageal pH monitoring alone cannot detect reflux episodes that occur at a pH level of 4 or higher (nonacid reflux).

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DR. MAINIE

But MII devices can detect gastroesophageal reflux independent of pH level based on the changes in the electrical conductivity in the lumen of the esophagus.

A combined approach that uses MII plus pH detection "brings a change in the paradigm for reflux detection," Dr. Mainie said. "The impedance information identifies reflux episodes, while the pH electrode is used simply to categorize them as acid or nonacid."

In 125 patients (average age 43 years) who had symptoms of GERD and who took PPIs twice per day, Dr. Mainie and his colleagues simultaneously measured acid and nonacid reflux at 3, 5, 7, 9, 15, and 17 cm above the lower esophageal sphincter with a combined MII-pH device that has been approved by the Food and Drug Administration.

Overall, 101 of the patients had reflux symptoms on the day of the testing. Each patient had nonacid reflux events. Typical GERD symptoms (heartburn, regurgitation, and chest pain) occurred in 58 of the patients.

Among these patients, a positive symptom index occurred with nonacid reflux in 45% and with acid reflux in 10%. Another 45% of patients had typical symptoms without reflux.

The symptom index (SI) represents the percentage of perceived gastroesophageal reflux–related symptoms that correlate with esophageal acid (or nonacid) reflux events. An SI score is positive if 50% or more of the perceived gastroesophageal reflux–related symptoms correlate with acid (or nonacid) reflux events.

In 43 patients who showed atypical GERD symptoms (abdominal discomfort, belch, catarrh, dysphagia, choking, globus, hoarseness, cough, wheeze, or acid taste), a positive SI occurred with nonacid reflux in 23% and with acid reflux in 2% of the patients. Reflux did not occur in 75% of patients who had atypical symptoms.

A positive SI was associated with nonacid reflux in 36% of all patients who experienced GERD-related symptoms during the study; 7% of patients with GERD-related symptoms had a positive SI for acid reflux. In contrast, 58% of patients had no reflux associated with their symptoms.

The percentage of patients with typical symptoms associated with reflux (55%) was significantly higher than the percentage of patients with atypical symptoms associated with reflux (25%).

A total of 15 of the symptomatic patients were younger than 16 years. No differences occurred in the types of reflux associated with symptoms between children or adults.

"MII-pH helps to clarify underlying, persistent GERD-related symptoms during PPI therapy," Dr. Mainie said. "Clinical presentation alone is not sufficient to identify the presence or absence of reflux-causing symptoms."

Dr. Mainie and his colleagues at the university are gathering data on the outcomes of these patients to determine the role of MII-pH in directing therapy. ■