Esophageal Manometry and 24-hour Acid pH Study Profiles in Lung Transplantation Candidates with Interstitial Lung Disease at a Tertiary Academic Medical Center

Shreya Raja, MD,1 Shuling Liu, MA,2 David Neujahr, MD,3 Jennifer Christie, MD. 1. Emory University School of Medicine, Division of Digestive Diseases, Atlanta, GA; 2. Emory University, Rollins School of Public Health, Department of Statistics, Atlanta, GA; 3. Emory University School of Medicine, Division of Pulmonary, Allergy and Critical Care Medicine, Atlanta, GA.

Purpose: The primary aims of this study are to describe esophageal manometry (EM) profiles and 24-hour esophageal pH results in lung transplantation candidates with interstitial lung disease (ILD).

Methods: This is a retrospective analysis of 35 patients with ILD referred from April 2008 to October 2010 for EM and acid pH studies as part of their lung transplantation evaluation. Patients had evidence of severe ILD based on pulmonary function testing. Demographic information and parameters from EM and pH studies were abstracted from the electronic medical record. Continuous variables were described with means and standard deviations. Categorical variables were analyzed using the Chi-Square test and Cochran-Mantel-Haenszel test. ANOVA models and logistic regression models were utilized to detect the association between outcomes and predictors.

Results: The mean age was 59.3 ± 10.6, mean BMI was 28.2 ± 2.9, 60% were female, and 57% were Caucasian. Thirty-five EM procedures were performed. In the relaxation analysis, the mean lower esophageal sphincter (LES) resting pressure was 14.0 ± 0.77 mm Hg. GERD was defined by a JD pH score ≥ 22. Data was analyzed using Pearson’s correlation coefficient, chi-square and independent t-tests.

Results: A total of 173 patients (34% male, 52% Caucasian, mean age of 47 ± 12 years) were included in the study, which included 81 (47%) bariatric and 92 (53%) controls. When comparing the two groups, the bariatric group had a significantly higher body mass index (BMI) (39.8 ± 0.6 vs. 26.7 ± 0.4, P < 0.001) and significantly more likely to be female (86.4% vs. 47.8%, P < 0.001) compared to the control group. More control group patients were taking baseline PPIs compared to the bariatric group (80% vs. 40%, P < 0.001). On manometry, LES resting pressure was similar in bariatric vs. control groups (14.0 ± 0.77 mm Hg vs. 16.4 ± 1.5 mm Hg, P = 0.149). Based on 24-hour pH testing, the presence of GERD was similar between the bariatric group vs. control group (31% vs. 23%, P = 0.138). The percent total, percent upright and percent supine acid reflux were similar between the two groups. Based on impedance testing, both groups had a similar number of impedance reflux episodes (acid + non-acid) in proximal (bariatric 27.3 ± 1.9 vs. control 28.7 ± 2.1, P = 0.633) and distal (bariatric 45.7 ± 2.4 vs. control 52.5 ± 3.2, P = 0.093) esophagus. BMI did not correlate with degree of acid or non-acid reflux.

Conclusion: Based on our study, GERD exists to a similar degree in bariatric patients compared to the controls. Counter to prevailing thoughts, in our population increased BMI was not associated with more GERD.

Pulmonary, Allergy and Critical Care Medicine, Atlanta, GA; 1. Emory University School of Medicine, Division of Digestive Diseases, Atlanta, GA; 2. Emory University, Rollins School of Public Health, Department of Statistics, Atlanta, GA; 3. Emory University School of Medicine, Division of Pulmonary, Allergy and Critical Care Medicine, Atlanta, GA.

Clinical and Pathologic Characteristics of Patients with a Diagnosis of Intestinal Metaplasia in Biopsies of the Gastroesophageal Junction

Maria McIntire, MD. Caris Research Institute, Caris Life Sciences, Newton, MA.

Purpose: American Gastroenterological Association (AGA) guidelines require the presence of both (1) intestinal metaplasia and (2) endoscopically visible columnar mucosa for a diagnosis of Barrett’s esophagus (BE). Gastroesophageal junction (GE) biopsies with intestinal metaplasia and no mention of endoscopic findings do not fulfill the BE criteria, and an initial diagnosis of squamous-columnar mucosa with intestinal metaplasia (SCIM) is typically rendered. Although SCIM is frequently diagnosed in clinical practice, its prevalence and associated clinicopathologic characteristics are not well described.

Methods: This study was conducted at Caris Life Sciences, a specialized gastrointestinal pathology laboratory receiving specimens from private outpatient endoscopy centers across the U.S. Between 1/2008 and 1/2009, we found 5411 consecutive patients with biopsies of the GEJ that had intestinal metaplasia present on pathology. Of these, 3161 (58%) patients were diagnosed with BE and 838 (15%) with SCIM. The remaining 1412 (26%) had either an endoscopic suspicion or history of BE. We correlated the demographic and pathologic characteristics associated with SCIM with clinical and endoscopic findings.

Results: 412 (49%) patients were men, and 426 patients (51%) were women. The median age of patients at the time of diagnosis was 61 years (range 17-92, 95% CI 59 to 61). While 74 (9%) patients were identified incidentally, 744 (89%) presented with a constellation of symptoms. The most common symptoms were gastroesophageal reflux 247 (29%), abdominal or esophageal pain 241 (29%), heartburn 199 (24%), dysphagia/odynophagia 179 (21%), and dyspepsia 89 (11%). Less commonly, anemia (8%), diarrhea (6%), nausea (6%), weight loss (5%) and vomiting (3%) were present.

Conclusion: The diagnosis of SCIM is frequently rendered in clinical practice in GEJ biopsies with intestinal metaplasia and no mention of endoscopic findings or biopsy site that do not fulfill the criteria for a diagnosis of BE. The majority of patients are symptomatic, presenting with a constellation of symptoms. However, a significant proportion of patients are identified incidentally during screening. Our study highlights the importance of accurate clinical and endoscopic information in order to provide a link to the development of BE and proper patient follow-up and surveillance.

Disclosure: The author is employed by Caris Life Sciences.