

IMPROVING RATES OF PRE-PROCEDURAL DIAGNOSTIC WORKUP BEFORE ANTI-REFLUX PROCEDURES

Anthony Myint MD¹, Sonia Divakaran RN-BC¹, Jayraan Badie MPH^{1,2}, Folasade P. May MD PhD MPhil^{1,2,3}, Kevin Ghassemi MD¹

(1) Vatche and Tamar Manoukian Division of Digestive Diseases, Department of Medicine, David Geffen School of Medicine, University of California Los Angeles, Los Angeles, CA; (2) UCLA Center for Cancer Prevention and Control Research, UCLA Kaiser Permanente Center for Health Equity and Department of Health Policy and Management, Fielding School of Public Health and Jonsson Comprehensive Cancer Center, Los Angeles, CA; (3) Division of Gastroenterology, Department of Medicine, VA Greater Los Angeles Healthcare System, Los Angeles, CA

Introduction: Anti-reflux procedures provide an important treatment option for patients with medically refractory gastroesophageal reflux disease (GERD) but are dependent on proper patient selection through pre-procedural testing. We assessed the rates of pre-procedural test completion for patients who completed an anti-reflux procedure in a large academic health system and to determine factors associated with incomplete preprocedural testing.

Methods: We performed a retrospective cohort analysis of all UCLA patients who completed an anti-reflux procedure (surgical fundoplication, endoscopic fundoplication, or magnetic sphincter augmentation) during a 1-year period (1/1/21-12/31/21). We identified patients using ICD10 and CPT codes and collected electronic health record (EHR) data on completion of 4 pre-procedural tests recommended by ICARUS, an international multidisciplinary advisory panel: upper endoscopy (EGD), pH test, high-resolution manometry (HRM), and foregut imaging. Our primary outcome was the rate of completion of each test and all tests. Our secondary outcome was reason for incomplete testing as determined by chart review or by provider interview if reasons were not clear by chart review. We used descriptive statistics to determine test rates and reasons and Fisher's exact tests to evaluate for significant differences.

Results: The cohort included 70 patients. Rates of test completion were: EGD 96.0%, pH test 44.3%, HRM 75.7%, and foregut imaging 77.1%. 17 patients (24.3%) completed all 4 tests. 2 (2.8%) completed only EGD and imaging due to complicated hiatal hernias requiring urgent surgery. One (1.4%) patient without an EGD had no explanation for non-completion. Of 38 (54.2%) patients without pH tests, 33 (86.8%) had an explanation for non-completion while 3 (7.9%) had LA grade A esophagitis that was misinterpreted as sufficient evidence for GERD, and 2 (5.2%) had no explanation for non-completion (Table 1). Of 15 (21.4%) patients without HRM, reasons for non-completion are listed in Table 1. Of 16 (22.8%) patients without foregut imaging, all 16 had no explanation for non-completion. Subsequent interviews with involved providers revealed this was mainly due to provider discretion. Stratification of cases by referring provider revealed no significant difference in rates of test completion with the exception of a significantly lower rate of imaging in patients referred from UCLA GI compared to patients referred from UCLA non-GI and external providers (Figure 1; p=0.02).

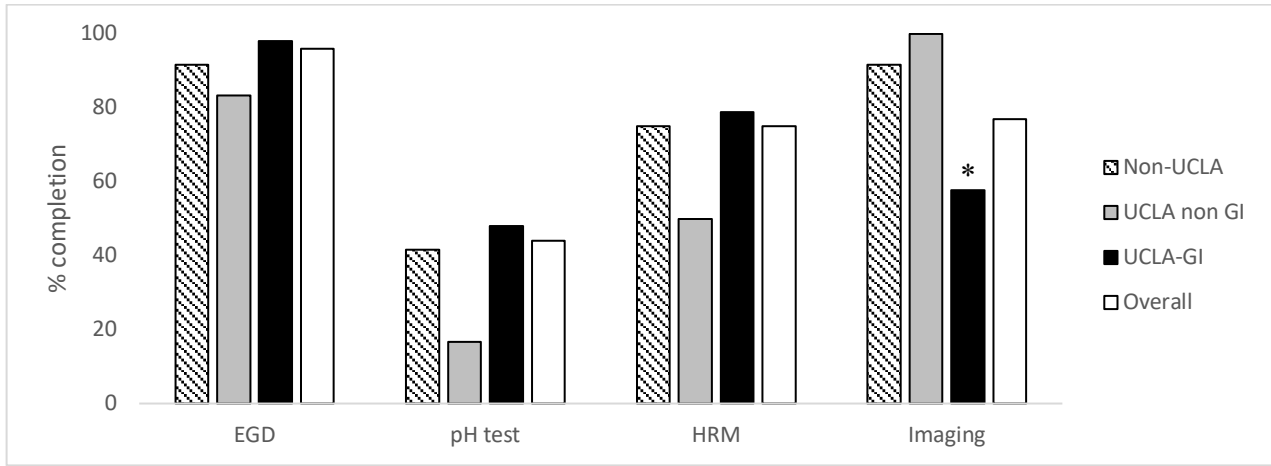
Conclusions: Rates of pre-procedural testing for patients who completed an anti-reflux procedure at our institution are suboptimal. While most cases had an acceptable explanation

for test non-completion, 40% of cases did not and reasons were multifactorial. Multidisciplinary efforts are ongoing to increase completion of preprocedural testing for these patients.

Table 1. Reasons for incomplete testing. Abbreviations: EGD = esophagogastroduodenoscopy; GERD = gastroesophageal reflux disease, HH = hiatal hernia HRM = high-resolution manometry.

Test	Reason for incomplete testing	N
EGD	Large hiatal hernia requiring urgent surgery	2
	No explanation	1
pH test	Endoscopic evidence of GERD	14
	Large symptomatic HH warranting surgery	19
	Misinterpretation of LA A esophagitis as sufficient evidence of GERD	3
	No explanation	2
HRM	Large hiatal hernia thought prohibitive to HRM	8
	Esophagram used as a surrogate for HRM	2
	No explanation	5
Foregut imaging	Provider discretion	16

Figure 1. Rates of pre-procedural test completion overall (white) and stratified by referring provider type. Abbreviations: EGD = esophagogastroduodenoscopy; HRM = high-resolution manometry. * denotes statistical significance compared to non-UCLA and UCLA non-GI referring providers.



Character limit: 2894/2900 (with spaces)

2 images max (image, figure, table): captions not included in character limit