Updates in the Esophagus

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Disclosures

- Consulting Fees: Medtronic, Diversatek, Ironwood Pharmaceuticals
- Advisory Board: Phathom Pharmaceuticals
- Research Grants: Ironwood Pharmaceuticals, NIH, ACG

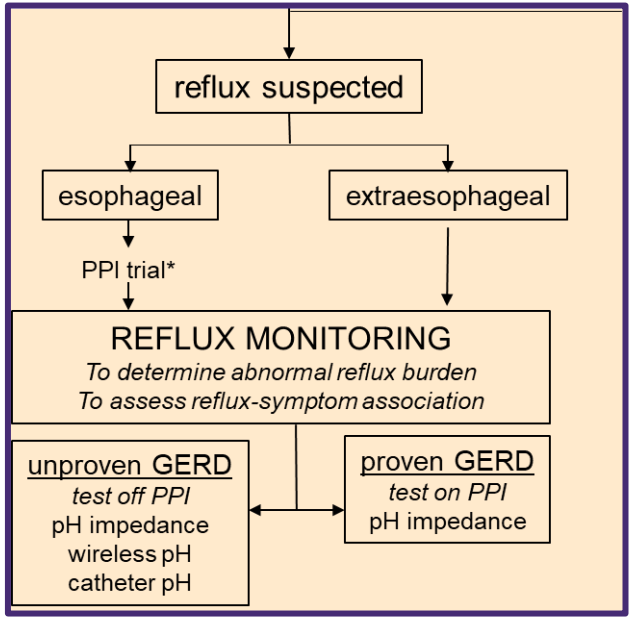
What's New in the Esophagus

- Novel Paradigms in GERD
- State of the Art Concepts in post-POEM GERD

Reflux Monitoring for Reflux Symptoms

ACG Clinical Guidelines: Clinical Use of Esophageal Physiologic Testing

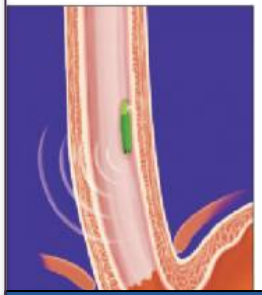
C. Prakash Gyawali, MD, MRCP, FACG[1], Dustin A. Carlson, MD[2], Joan W. Chen, MD[3], Amit Patel, MD[4], Robert J. Wong, MD, MS, FACG (GRADE Methodologist)[5] and Rena H. Yadlapati, MD, MSHS[6]



Gyawali CP et al. *Am J Gastroenterol.* [E pub]

Ambulatory Reflux Monitoring: *Systems*

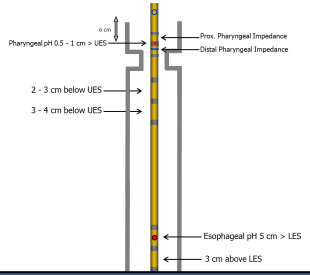
Wireless pH capsule



-Better tolerated
-Prolonged monitoring
-Placed during endoscopy
-Ease of interpretation

Unproven GERD: Prolonged wireless pH monitoring off PPI

Transnasal catheter –pH impedance*



-Detects nonacid reflux & bolus flow
-Typically not requiring sedation

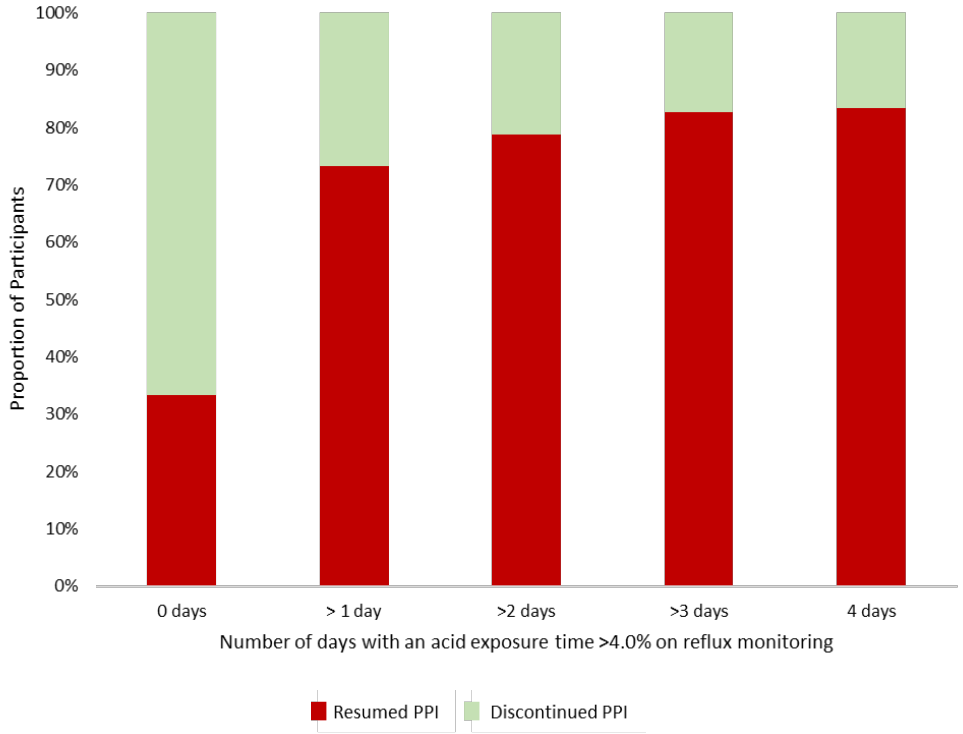
Proven GERD: pH-impedance on PPI

Isolated extra-esophageal symptoms: pH-impedance off PPI

*If available expertise & time to interpret impedance tracings

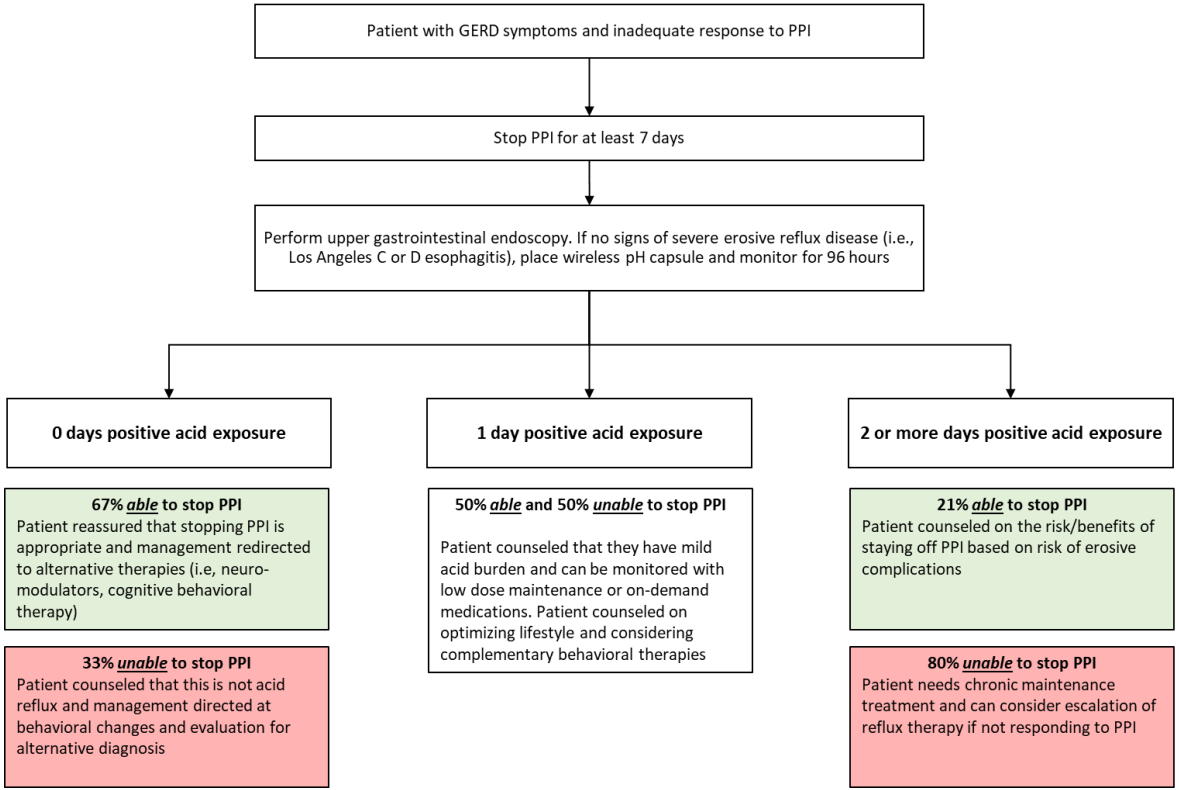
Gyawali CP, et al. *Gut* (2018) 67(7):1351-1362

Acid Exposure Time > 4.0% is a Predictive Physiomarker



Yadlapati R, et al. *Gastroenterology* 2020 [Epub]

Ambulatory Reflux Monitoring Guides PPI Discontinuation in PPI Non-Responders



Yadlapati R, et al. *Gastroenterology* 2020 [Epub]

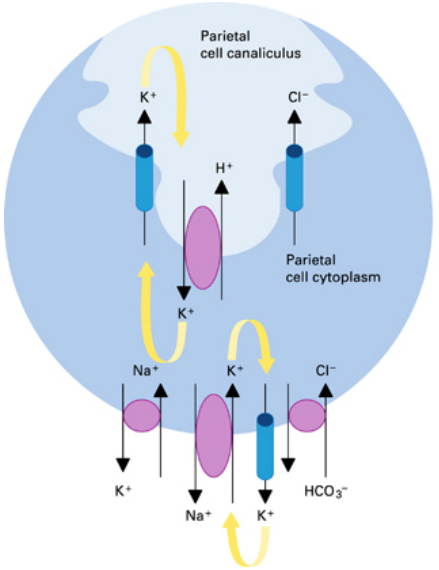
Non PPI Treatment Options for GERD

- Alternate Acid Suppression Agents
- Targeting Non-Acid Gastric Components
- Mucosal Protective Agents
- Anti-Reflux Interventions

Potassium Competitive Acid Blockers

Compared to PPIs, PCABs:

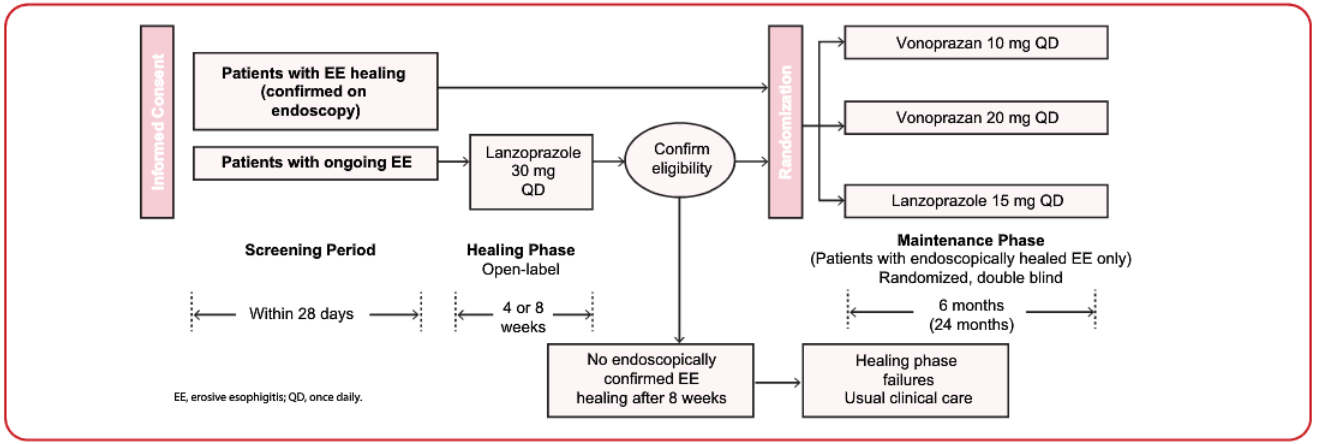
- Are more potent
- Have longer duration of action
- Block inactive and active proton pumps



VPZ 10 or 20mg Demonstrated Superiority Over Lansoprazole 15mg in Preventing Relapse in Asian Patients with Endoscopic Healing of Erosive Esophagitis

- Phase 3 Randomized Multi Center Study (70 sites)
  - Double-blind, Double-dummy, Parallel Group, Non-inferiority study
  - Adults with confirmed erosive esophagitis with PPI treatment for at least 4 weeks
  - Primary endpoint: rate of recurrence of erosive esophagitis at end of 24-week maintenance period

Figure 1. Study design



Xiao Y, et al. DDW 2020. TU1321

VPZ 10 or 20mg Demonstrated Superiority Over Lansoprazole 15mg in Preventing Relapse in Asian Patients with Endoscopic Healing of Erosive Esophagitis (EE)

- 703 randomized
- Recurrence in 12.3% (VPZ 20mg), 13.3% (VPZ 10mg) and 25.5% (LAN 15mg)

Table 2. Rate of Endoscopically Confirmed Recurrence of EE During the 24-Week, the First 12 Weeks of Maintenance Phase, Primary and Secondary End Points

Number (%) Patients	Vonoprazan (10 mg) (N = 188)	Vonoprazan (20 mg) (N = 177)	Lansoprazale (15 mg) (N = 188)
Primary Efficacy End Point			
Recurrence	24/181 (13.3)	21/171 (12.3)	47/184 (25.5)
95% CI	8.684, 19.084	7.765, 18.158	19.412, 32.481
Difference in recurrence rate vs lanzoprazole	-12.3 (95% CI: -20.291, -4.277)	-13.3 (95% CI: -21.257, -5.269)	
Secondary Efficacy End Point			
Recurrence	5 /18 (27.8)	2/20 (10.0)	7/20 (35.0)
95% CI	9.695, 53.480	1.235, 31.698	15.391, 59.219
Difference in recurrence rate vs lanzoprazole	-7.2 (95% CI: -36.635, -22.191)	-25.0 (95% CI: -49.695, -0.305)	

Xiao Y, et al. DDW 2020. TU1321

VONOPRAZAN MAINTENANCE THERAPY IS MORE EFFECTIVE THAN STANDARD DOSE PROTON PUMP INHIBITOR MAINTENANCE THERAPY IN PATIENTS WITH SYSTEMIC SCLEROSIS

- 143 patients with Systemic Sclerosis
  - 40 patients had absent contractility
    - 14 (35%) had PPI resistant erosive esophagitis
      - 10 changed to VPZ, with healed erosive esophagitis in 8

	Normal esophageal motility (n=55)	Major esophageal motility disorders except absent contractility (n=8)	Minor esophageal motility disorders (n=40)	Absent contractility (n=40)
Sex (female)	47 (85%)	7 (88%)	32 (80%)	32 (80%)
Age (year)	60 (52, 68)	63 (55, 68)	64 (51, 71)	61 (50, 66)
Diffuse cutaneous SSc	13 (24%)	2 (25%)	15 (38%)	20 (50%)*
GEFV grade III or IV	4 (7%)	0 (0%)	10 (25%)*	15 (38%)*
without acid secretion inhibitor maintenance therapy	16 (29%)	2 (25%)	5 (13%)	2 (5%)*
On PPI maintenance therapy	27 (49%)	3 (38%)	24 (60%)	20 (50%)
PPI resistant RE	7 (13%)	0 (0%)	4 (10%)	14 (35%)*
On VPZ maintenance therapy	12 (22%)	3 (38%)	11 (28%)	18 (45%)*
VPZ resistant RE	1 (2%)	0 (0%)	2 (5%)	2 (5%)

Median (25%, 75%), *: p<0.05 against normal esophageal motility

Kuribayashi S, et al. DDW 2020. TU1364

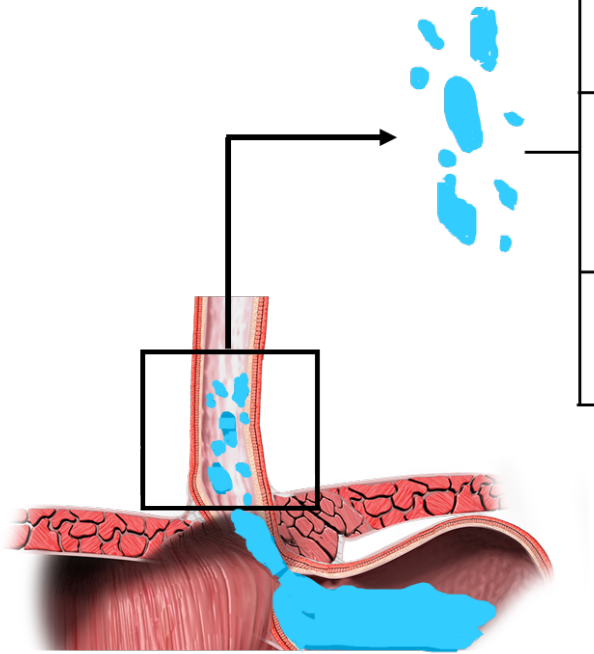
2-YEAR INTERIM ANALYSIS RESULTS OF VISION TRIAL: A RANDOMIZED, OPEN-LABEL STUDY TO EVALUATE THE LONG-TERM SAFETY OF VONOPRAZAN AS MAINTENANCE TREATMENT IN PATIENTS WITH EROSIVE ESOPHAGITIS

- 2 year interim analysis of VISION trial (randomized multicenter 5 year open-label study across 33 sites in Japan)
  - 2:1: VPZ:LAN
  - 202 patients entered into maintenance phase (135 VPZ, 67 LAN)
    - 169 completed 2 years (111 VPZ, 58 LAN) and 33 discontinued
      - Hyperplasia of parietal cells and G cells are higher in VPZ groups
      - No neoplastic changes in either group
      - No considerable AEs as 2 year safety data

Uemura N, et al. DDW 2020. TU1362

Therapy Beyond Acid Suppression

Figure 2. Effect of Distinct Refluxate Components on the Esophageal Mucosa.



Microbiome → IL-8, ROS release, Depletion of Stress Proteins

Gastric Acid (HCl) → IL-8, INF-gamma, PAF, ROS release, Bile acid & pepsin activity

Pepsin → Organelle Damage, ROS release, Depletion of Stress Proteins

Bile Acid → TNF-alpha, IL-8, IL-6, COX-2, ROS release

→ Loss of Mucosal Integrity

→ Epithelial Cytotoxicity

→ DNA damage and mutations

→ Esophageal dysmotility

Sharma P, Yadlapati R. *Ann NY Acad Sci.* 2020

PEPSIN AND BILE ACIDS DETECTION IN SALIVA FOR THE DIAGNOSIS OF SUB-TYPES OF GASTROESOPHAGEAL REFLUX DISEASE

- 104 GERD patients and 43 healthy
- Saliva upon waking and 2 hours after finishing lunch
- Total pepsin and total bile acids detected using ELISA

G.

Concentrations of TPP and TBA in Subgroups saliva(Mean ± Sd)

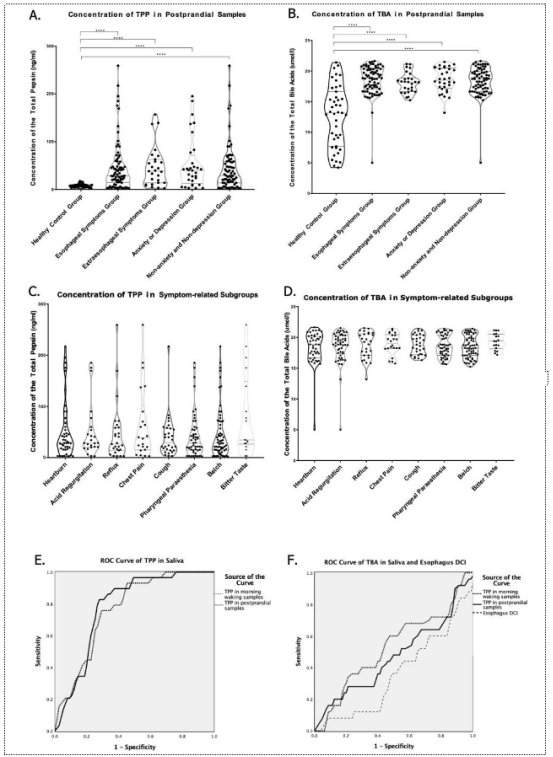
Parameter	Healthy Control Group (n=43)	GERD Group (n=104)	Esophageal Symptoms Group (n=77)	Extraesophageal Symptoms Group (n=27)	Anxiety or Depression Group (n=32)	Non-anxiety and Non-depression Group (n=72)
TPP in Morning Waking Samples	7.28±3.01	40.01±46.69*	41.37±50.28	36.12±34.97	44.15±37.17	38.17±50.47
TPP in Postprandial Samples	7.91±3.50	47.36±50.69*	47.48±53.63	47.03±42.05	53.88±54.74	44.46±48.90
TBA in Morning Waking Samples	7.17±2.37	7.79±3.42	7.47±3.35	8.70±3.52	7.44±3.61	7.95±3.35
TBA in Postprandial Samples	12.63±4.99#	18.38±2.27*#	18.49±2.44	18.06±1.66	18.56±2.01	18.3±2.38

Compared with the control group, *P<0.01; Compared with the morning waking group, #P<0.01; GERD, gastroesophageal reflux disease; TPP, total pepsin; TBA, total bile acids; Concentrations are given in ng/ml.

Ye L, et al. DDW 2020. TU1348

PEPSIN AND BILE ACIDS DETECTION IN SALIVA FOR THE DIAGNOSIS OF SUB-TYPES OF GASTROESOPHAGEAL REFLUX DISEASE

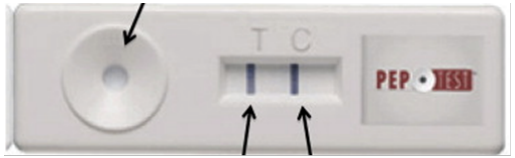
Pepsin in saliva provides a new non-invasive method for diagnosing GERD, and it has a high sensitivity and specificity. However, bile acids in saliva has no significant diagnostic value for GERD, and further large-scale studies should be done to verify its diagnostic value.

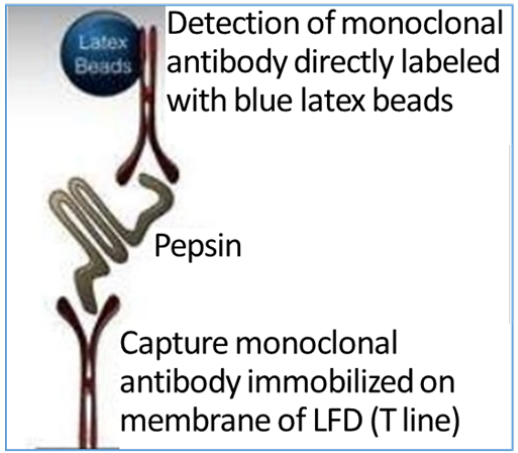


Ye L, et al. DDW 2020. TU1348

SALIVARY PEPSIN AS A BIOMARKER OF GERD, BARRETT'S ESOPHAGUS, AND EXTRA-ESOPHAGEAL REFLUX: A PROSPECTIVE STUDY

Salivary Pepsin



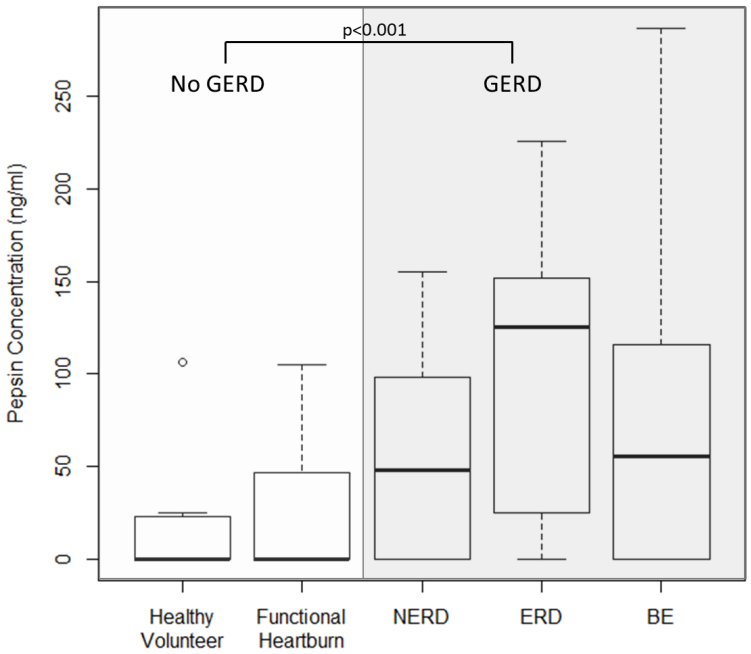


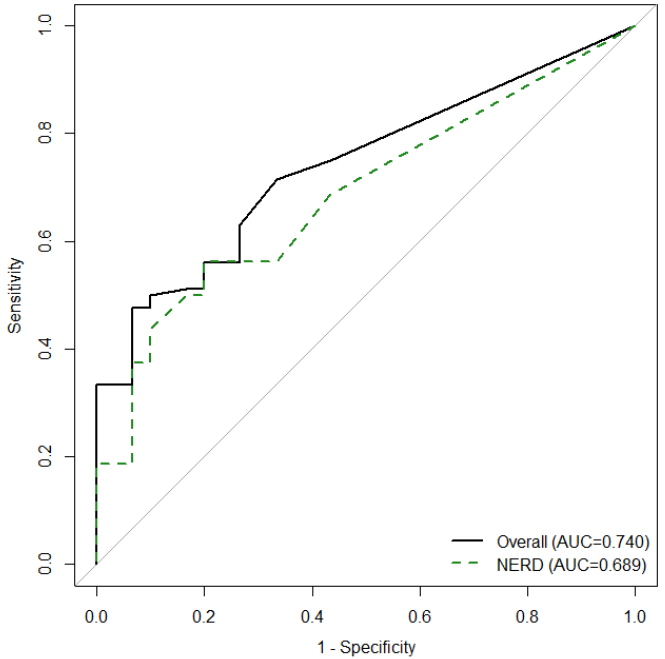
Two Phase Validation Study

- Phase 1 (n 114): GERD 84 vs 30 No GERD
- Phase 2 (42): GERD 22 vs Functional Heartburn (20)

Yadlapati R, et al. DDW 2020. TU1341; Yadlapati R, et al. *Dis Esophagus.* 2020

SALIVARY PEPSIN AS A BIOMARKER OF GERD, BARRETT'S ESOPHAGUS, AND EXTRA-ESOPHAGEAL REFLUX: A PROSPECTIVE STUDY



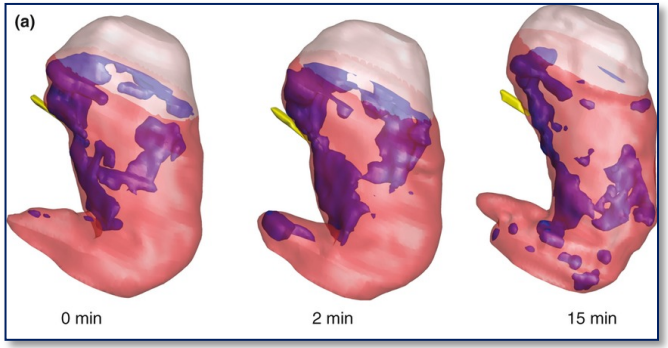


Yadlapati R, et al. DDW 2020. TU1341; Yadlapati R, et al. *Dis Esophagus.* 2020

Alginate Antacid

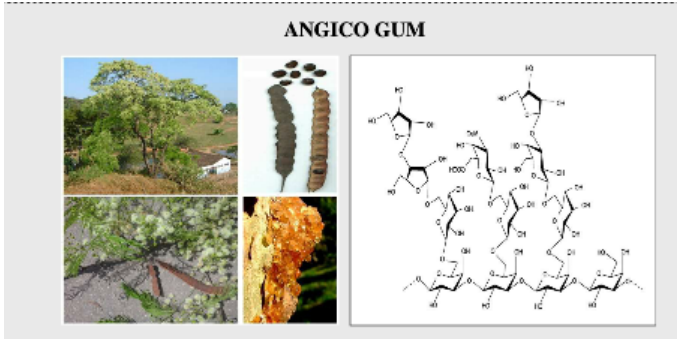
Multicenter randomized double-blind placebo controlled study of 424 adults with GERD symptoms

47.8% in Gaviscon DA arm vs 33.2% placebo (p=0.003) reached endpoint of 1.5 point reduction in RDQ



Wilkinson J, et al. *Eur J Gastroenterol Hepatol* (2019) 31(1):86-93

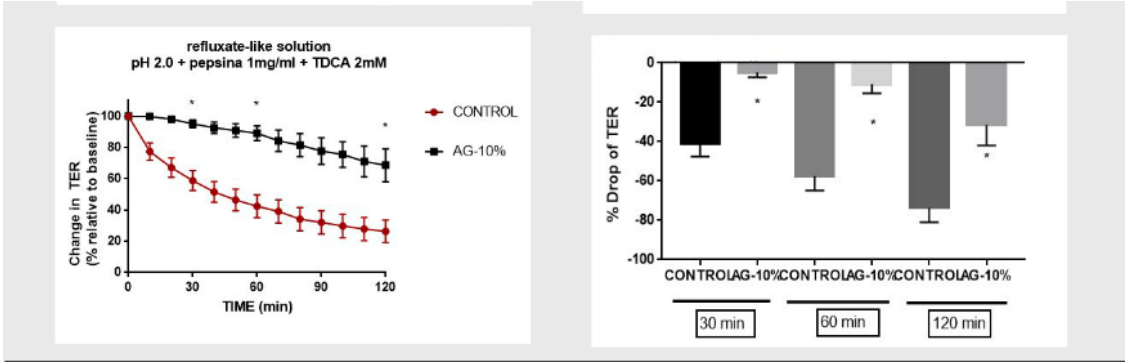
IN VITRO TOPICAL PROTECTION OF ESOPHAGEAL MUCOSA FROM PATIENTS WITH GERD USING “ANGICO GUM”, A BIOPOLYMER FROM ANADENANTHERA COLUBRINE



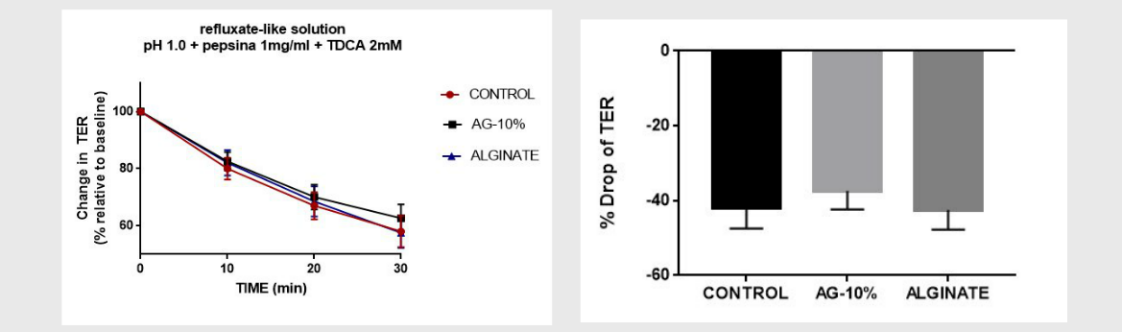
35 patients with GERD (24 NERD and 11 erosive esophagitis) & Controls

- Distal esophageal mucosal biopsies mounted in Ussing chambers
  - Luminal side of biopsies coated with AG followed by exposure to refluxate for 30 mins & 120 mins, and changes in trans-mucosal electrical resistance (TER) measured
  - Coated with AG 10% vs alginate, exposed to acidic refluxate solution

IN VITRO TOPICAL PROTECTION OF ESOPHAGEAL MUCOSA FROM PATIENTS WITH GERD USING “ANGICO GUM”, A BIOPOLYMER FROM ANADENANTHERA COLUBRINE



AG 10% with prolonged protective topical effect against refluxate like solution

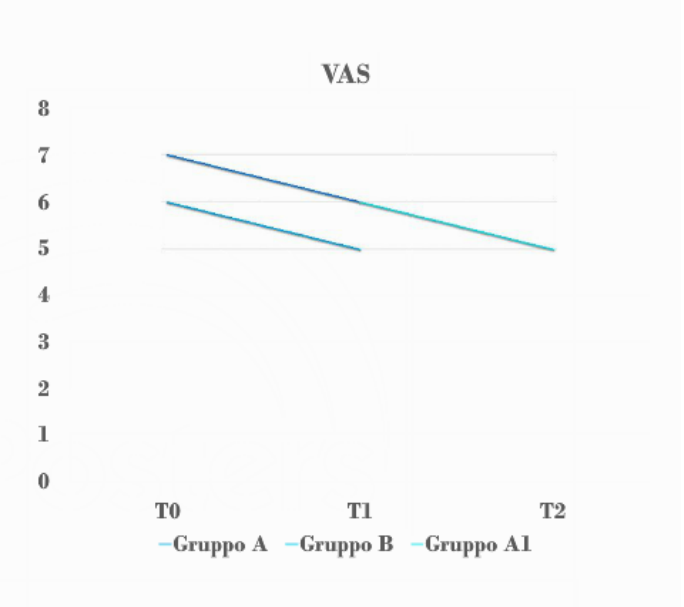


AG-10% and alginates failed to protect the esophageal mucosa against a more acidic refluxate-like solution (pH 1.0).

Bingana RD, et al. DDW 2020 TU 1359

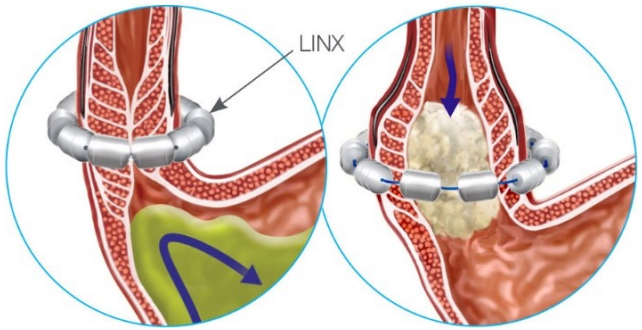
IS IT POSSIBLE TO WITHDRAW PPI THERAPY IN GERD PATIENTS? A PROSPECTIVE STUDY ON 216 PATIENTS USING A SECOND-GENERATION BARRIER DRUG

- Medical device: oral combination of hyaluronic acid and chondroitin sulphate compared to PPI
- 216 patients diagnosed with GERD with typical symptoms
  - Group A: PPI x 3 months
  - Group A1: PPI x 3 months then stop PPI and start investigational treatment
  - Group B: Investigational treatment for 3 months
- Primary outcome: VAS symptoms



Miraglia C, et al. DDW 2020 TU 1375

Magnetic Sphincter Augmentation



	Laparoscopic Fundoplication	Magnetic Sphincter Augmentation
Integrity of Anti-Reflux Barrier		
Intact	Yes	Yes
Mild disruption	Yes	Yes
Severe disruption	Yes	Maybe
Esophageal peristalsis		
Intact	Yes	Yes
Reduced	Tailored	Maybe
Considerations	Technically effective; Higher rates of gas-bloat, inability to vomit	MR conditional Payor coverage

PATIENTS WITH INEFFECTIVE ESOPHAGEAL MOTILITY UNDERGOING MAGNETIC SPHINCTER AUGMENTATION DEMONSTRATE OUTCOMES SIMILAR TO PATIENTS WITH NORMAL ESOPHAGEAL MOTILITY

- Multi-institutional, retrospective study, from 2012-17, of 106 patients undergoing MSA with ineffective esophageal motility (IEM) compared to case-matched non-IEM

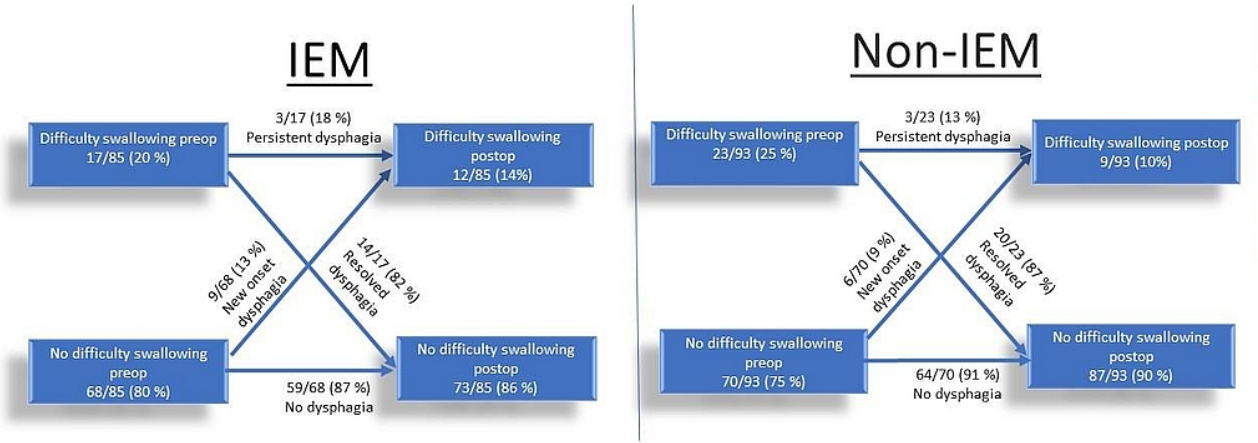
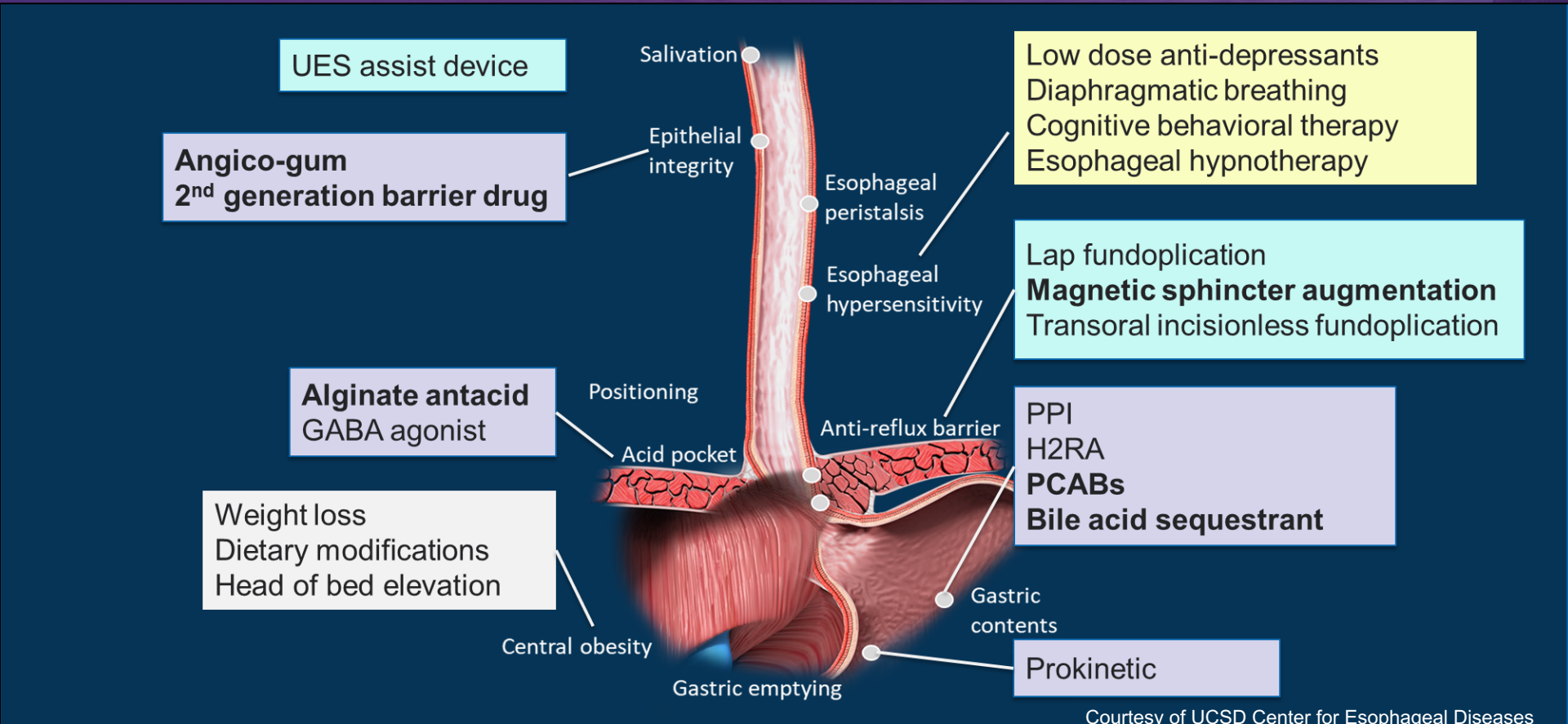


Figure 1: Evolution of dysphagia symptoms preoperatively and postoperatively as assessed by the GERD-HRQL. Dysphagia is considered present where there is a score of >3 for the difficulty swallowing question on the survey.

Baison GN, et al. DDW 2020 148

Summary of GERD Therapeutics



Courtesy of UCSD Center for Esophageal Diseases

What's New in the Esophagus

- Novel Paradigms in GERD
- State of the Art Concepts in post-POEM GERD

2020 Practice Guidelines - Achalasia

Per-oral endoscopic myotomy (POEM), laparoscopic Heller myotomy (LHM), and pneumatic dilation (PD) are first line therapies for Achalasia type I and II

POEM with extended myotomy is first line therapy for Achalasia type III

ASGE guideline on the management of achalasia

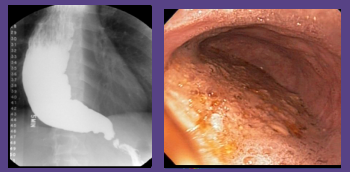
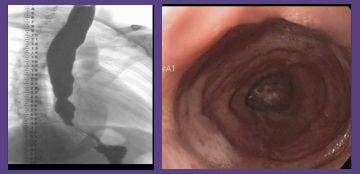
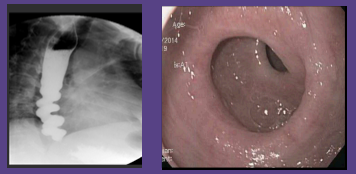
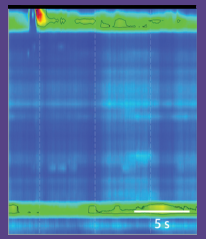
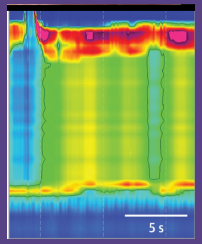
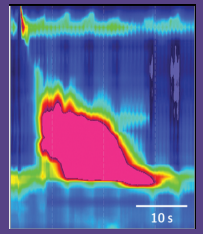
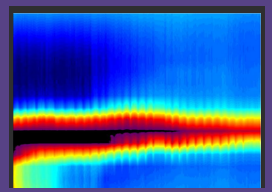
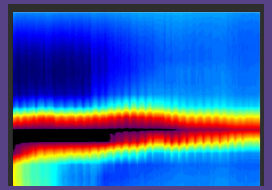
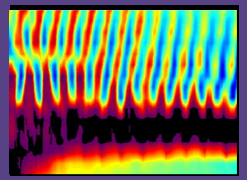
Mouen A. Khashab MD [1, *], Marcelo F. Vela MD [2, *], Nirav Thosani MD [3, *], Deepak Agrawal MD, MPH, MBA [4], James L. Buxbaum MS, FASGE [5], Syed M. Abbas Fehmi MD, MSc, FASGE [6], Douglas S. Fishman MD, FAAP, FASGE [7], Suryakanth R. Gurudu MD, FASGE [2], Laith H. Jamil MD, FASGE [8], Terry L. Jue MD, FASGE [9], Bijun Sai Kannadath MBBS, MS [3], Joanna K. Law MD [10], Jeffrey K. Lee MD, MAS [11], Mariam Naveed MD [12], Bashar J. Qumseya MD, MPH [13], Mandeep S. Sawhney MD, MS, FASGE [14], Julie Yang MD, FASGE [15], Sachin Wani MD (ASGE Standards of Practice Committee Chair) [16]

CLINICAL GUIDELINES

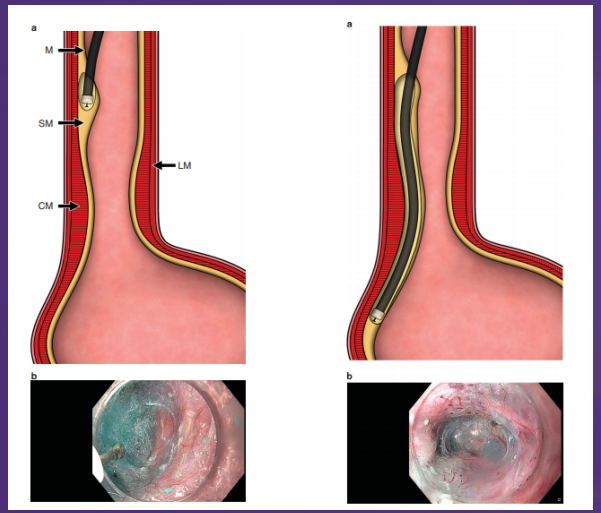
ACG Clinical Guideline: Achalasia

Michael Vaezi MD, PhD, FACG[1], John E. Pandolfino MD, MS, FACG[2], Rena Yadlapati MD, MS, FACG[3] Katarina Greer MD, MS[4], MS, Robert Kavitt MD[5]

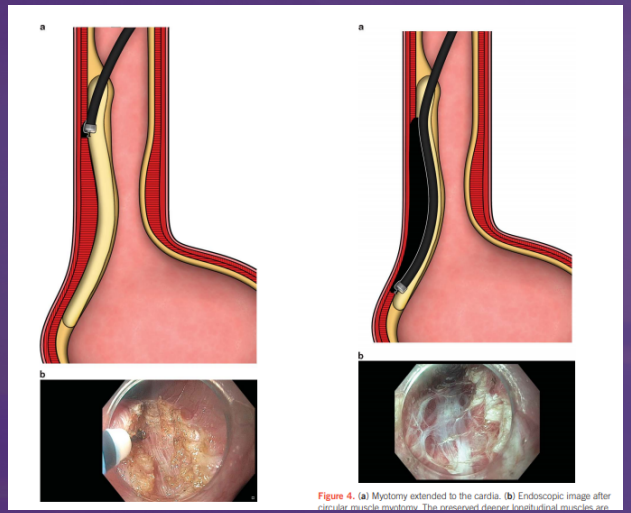
Achalasia Sub-types

	Type I (Classic)	Type II	Type III (Spastic)
Definition	Elevated median IRP 100% failed peristalsis	Elevated median IRP 100% failed peristalsis ≥20% panesophageal pressurization	Elevated median IRP ≥20% premature/ spastic swallows
Esophagram & Endoscopy			
Manometry			
Functional Lumen Imaging Planimetry			

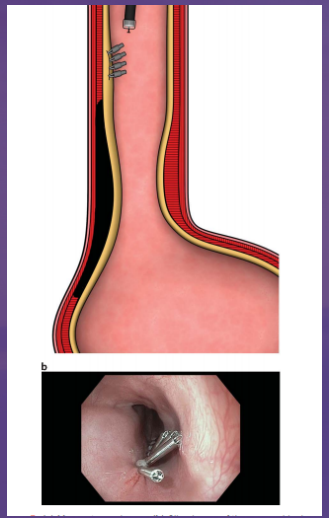
Per-Oral Endoscopic Myotomy



Endoscopic mucosotomy, entry into submucosal space, and extension of submucosal tunnel into cardia



Endoscopic myotomy of circular muscle layer



Mucosotomy closure

Chetan Mittal/Mihir Wagh. *Am J Gastroenterol*. 2017

RCTs for POEM vs PD & vs LHM

Research

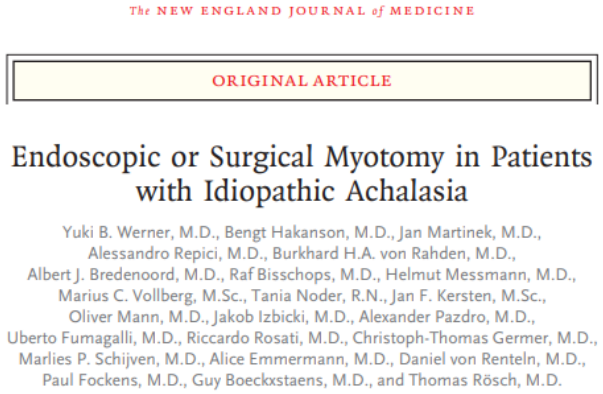
JAMA | Original Investigation

Effect of Peroral Endoscopic Myotomy vs Pneumatic Dilation on Symptom Severity and Treatment Outcomes Among Treatment-Naive Patients With Achalasia

A Randomized Clinical Trial

Fraukje A. Ponds, MD; Paul Fockens, MD, PhD; Aaltje Lei, BSc; Horst Neuhaus, MD, PhD; Torsten Beyna, MD; Jennis Kandler, MD; Thomas Frieling, MD, PhD; Philip W. Y. Chiu, MD, PhD; Justin C. Y. Wu, MD, PhD; Vivien W. Y. Wong, BSc; Guido Costamagna, MD, PhD; Pietro Familiari, MD; Peter J. Kahrilas, MD, PhD; John E. Pandolfino, MD, PhD; André J. P. M. Smout, MD, PhD; Albert J. Bredenoord, MD, PhD

Treatment with POEM compared with pneumatic dilation resulted in a significantly higher treatment success rate at 2 years.



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Endoscopic or Surgical Myotomy in Patients with Idiopathic Achalasia

Yuki B. Werner, M.D., Bengt Hakanson, M.D., Jan Martinek, M.D., Alessandro Repici, M.D., Burkhard H.A. von Rahden, M.D., Albert J. Bredenoord, M.D., Raf Bisschops, M.D., Helmut Messmann, M.D., Marius C. Vollberg, M.Sc., Tania Noder, R.N., Jan F. Kersten, M.Sc., Oliver Mann, M.D., Jakob Izbicki, M.D., Alexander Pazdro, M.D., Uberto Fumagalli, M.D., Riccardo Rosati, M.D., Christoph-Thomas Germer, M.D., Marlies P. Schijven, M.D., Alice Emmermann, M.D., Daniel von Renteln, M.D., Paul Fockens, M.D., Guy Boeckxstaens, M.D., and Thomas Rösch, M.D.

POEM was noninferior to LHM plus Dor's fundoplication in controlling symptoms of achalasia at 2 years. Gastroesophageal reflux was more common among patients who underwent POEM than among those who underwent LHM.

Risk of GERD Post-POEM

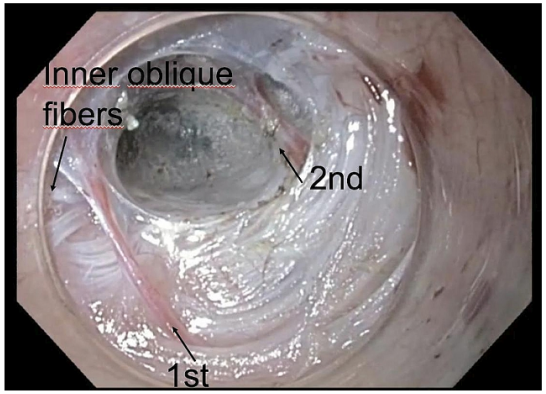
Variable	Treatment	No. of Cohorts	No. of patients	Pooled rate (95% CI)
Daily reflux symptoms	PD	2	61	19% (9.2%-28.8%)
	LHM	2	128	13.5% (0-38.8%)
	POEM	2	168	17.4% (0%-39.9%)
Endoscopic esophagitis	PD	2	161	14.7% (6.5%-13.1%)
	LHM	2	215	24.9% (16.4%-33.3%)
	POEM	2	176	45.4% (38.1%-52.9%)
Severe esophagitis (LA score C or D)	PD	2	161	1.5% (0-3.7%)
	LHM	2	215	3.7% (0%-8.1%)
	POEM	2	176	5.3% (2%-8.6%)
Abnormal acid exposure	PD	2	108	20.4% (7.8%-32.9%)
	LHM	3	170	18.6% (2.5%-34.6%)
	POEM	1	70	30% (19.3%-40.7%)
	Treatment	No. of Cohorts	No. of patients	Mean (95% CI)
Mean acid exposure time	PD	2	90	2.3% (1.5%-3.1%)
	LHM	2	127	4.3% (2.2%-6.4%)
	POEM	2	124	5.8% (5%-6.6%)

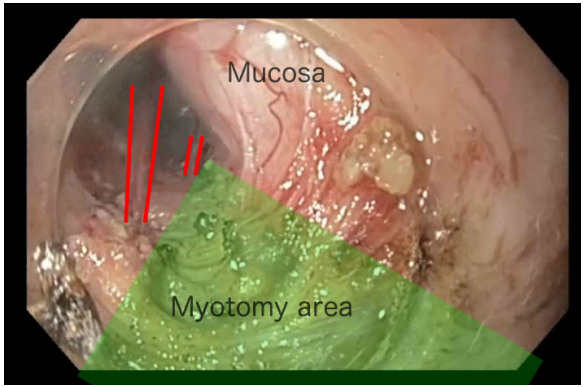
Abbreviations: CI, Confidence Interval; LA score, Los Angeles score; LHM, Laparoscopic Heller Myotomy; PD, Pneumatic Dilation; POEM, Per oral Endoscopic Myotomy

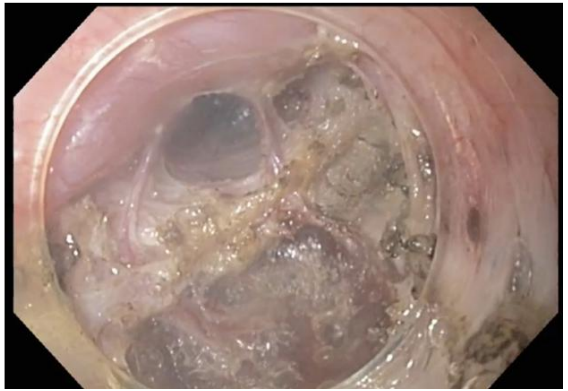
Facciorusso A. *Surg Endo.* 2020

EVALUATION OF SLING FIBERS AND TWO PENETRATING VESSELS (TPVS) FOR GUIDING EXTENT OF THE TUNNEL AND MYOTOMY DURING POSTERIOR POEM IN A WESTERN COHORT

- 18 POEM with posterior approach performed
  - Identification of two penetrating vessels (TPV)
    - First vessel: 1 cm distal to the narrow EGJ (5 or 6 o'clock)
    - Second vessel: 2cm distal to the narrow EGJ (5 or 4 o'clock)
    - Sling fibers seen as internal oblique fibers running longitudinal at the left side of the TPVs







Uchima HI, et al. DDW 2020 Sa1299

ANTERIOR VERSUS POSTERIOR APPROACH IN PER-ORAL ENDOSCOPIC MYOTOMY (POEM): A SYSTEMATIC REVIEW AND META-ANALYSIS

18 studies (1247 patients): 14 high quality, 4 medium quality

Comparable pooled rates with anterior vs posterior approach of

- GERD (by symptoms, EGD, and pH)
- AEs
- Achalasia sub-type and/or prior treatment did not seem to affected pooled outcomes

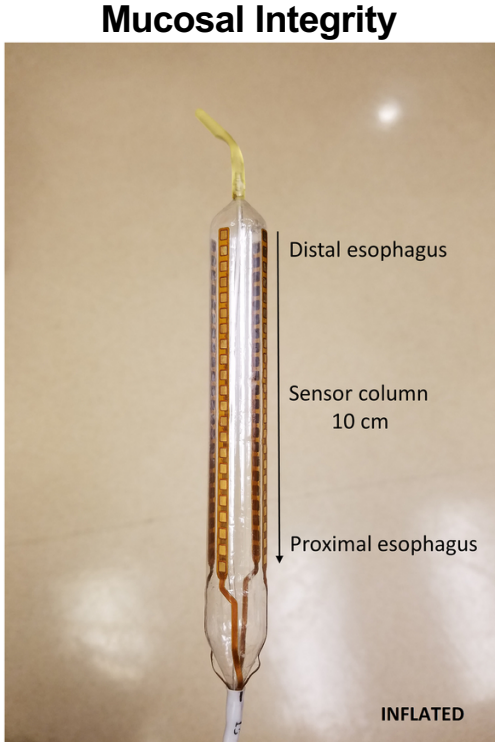
POEM	Odd's ratio (95% CI, I^2) Results derived from RCTs	p-value
Clinical success at 12-m f/u	1.022 (0.52-2.0, 0), 4 studies, 486pts	0.9
GERD – by EGD	1.02 (0.62-1.68, 0), 3 studies	0.9
GERD – by pH	0.98 (0.59-1.63, 34), 4 studies	0.9
Pooled rates (95% CI, I^2) Results derived from cohorts (PI: 95% prediction interval)		
Outcomes	**Anterior**	**Posterior**
Clinical success <12-m f/u	91.1% (87.8-93.6, 0) (PI: 87 to 94), 9 studies	93.1% (89.8-95.4, 0) (PI: 89 to 96), 8 studies
Clinical success >12-m f/u	88.8% (73.5-95.8, 81) (PI: 1-100), 3 studies	92.7% (85.6-96.4, 43) (PI: 68 to 98), 8 studies
GERD – by symptoms	28.4% (16.8-44, 86) (PI: 45 to 77), 9 studies	17.2% (9.7-28.4, 84) (PI: 2 to 71), 11 studies
GERD – by EGD	21.9% (15.7-29.8, 69) (PI: 5 to 73), 8 studies	18.7% (12.7-26.7, 27) (PI: 10 to 36), 7 studies
GERD – by pH measurement	34.5% (24.9-45.6, 68) (PI: 35 to 74), 5 studies	40.1% (30.8-50.2, 51) (PI: 20 to 65), 7 studies
Adverse events, mild	1.6% (0.4-6.1, 0) (PI: 1 to 13), 5 studies	5.5% (2.4-12.1, 48) (PI: 1 to 47), 8 studies
Adverse events, moderate	8.1% (2.2-25.2, 82) (PI: 0 to 92), 6 studies	5.2% (1.8-14.1, 63) (PI: 0 to 50), 9 studies
Adverse events, severe	1.8% (0.7-4.4, 0) (PI: 1 to 6), 6 studies	2.8% (1.4-4.1, 0) (PI: 1 to 6), 9 studies
Total procedure time	82.7 (69-96.4, 98) 6 studies	62.1 (48.5-75.7, 90) 6 studies

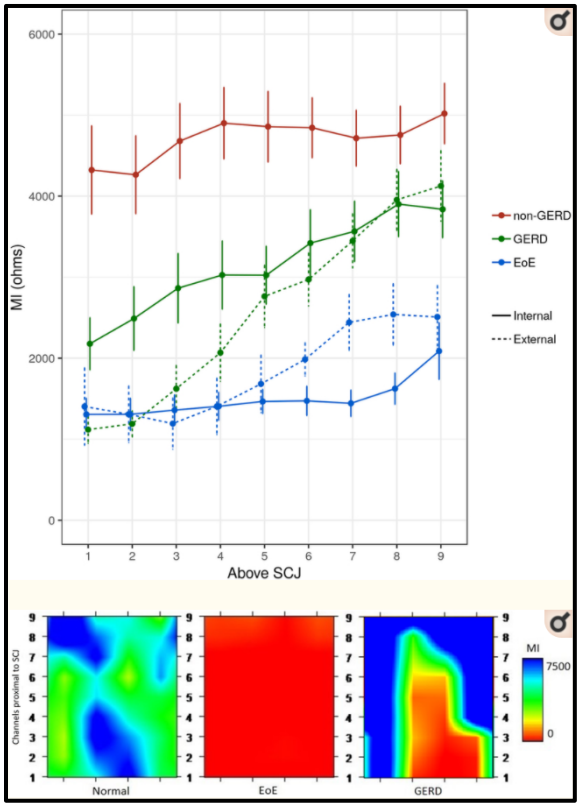
Mohan BP, et al. DDW 2020 Sa1231

Esophageal Testing in Post-POEM Follow-up

- Mucosal Integrity Testing
- Functional Lumen Imaging Probe

Mucosal Integrity Testing





Patel D, et al. *Gastroenterology* 2019

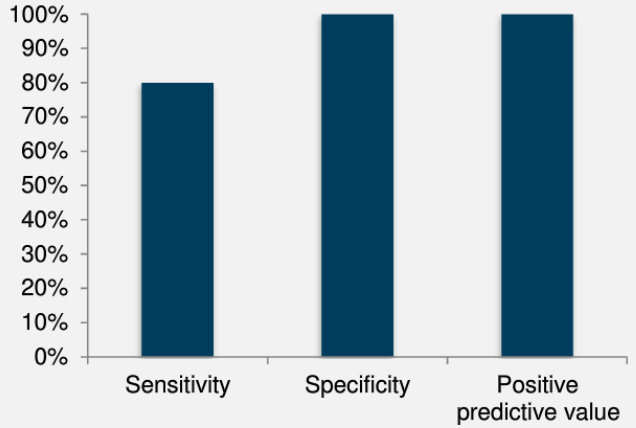
MUCOSAL IMPEDANCE ENABLES ACCURATE DETECTION OF GASTROESOPHAGEAL REFLUX DISEASE (GERD) AFTER PERORAL ENDOSCOPIC MYOTOMY (POEM) IN ACHALASIA PATIENTS

- 9 patients
- Mean age 58 (16) years
- 44% male, mean BMI 30 (10)

Presence of GERD based on symptoms, objective wireless pH testing, and mucosal impedance

Features	Total study population (N=9)
GERD symptoms, n (%)	7 (78%)
GERD by wireless pH testing analysis, n (%)	5 (56%)
GERD by mucosal impedance analysis, n (%)	4 (44%)

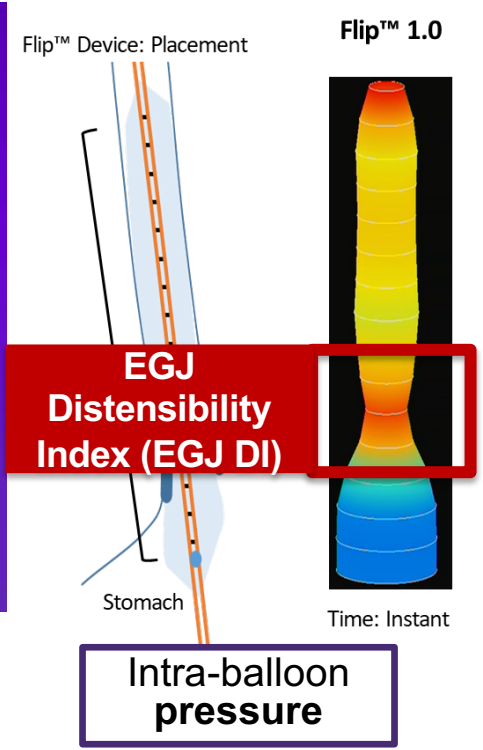
Sensitivity, specificity and predictive value of mucosal impedance for GERD diagnosis in achalasia patients after POEM



MI sensitivity 80%, specificity 100%, positive predictive value 100%

Horsley-Silva JL, et al. DDW 2020 Tu1352

Functional Luminal Imaging Probe (FLIP™ Technology)



Impedance planimetry measures 16 luminal diameters (mm)

DISTENSIBILITY:
Relationship between luminal geometry (CSA) and distensive pressure

FOLLOWING PERORAL ENDOSCOPIC MYOTOMY (POEM) GASTROESOPHAGEAL REFLUX (GERD) IS FREQENT AND IS ASSOCIATED WITH INCREASED ESOPHAGO-GASTRIC JUNCTION DISTENSIBILITY MEASURED BY ENDOFLIP

33 patients underwent POEM

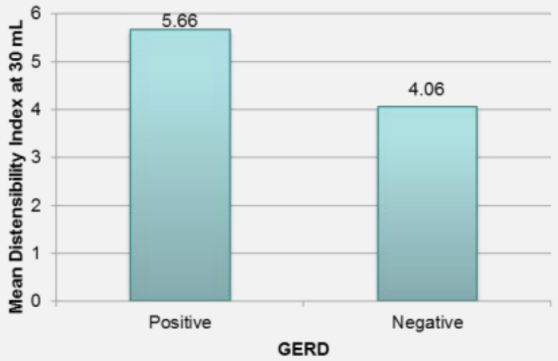
3 month follow-up: EGD, wireless pH monitoring, FLIP

	EndoFLIP Distensibility at 30 ml	EndoFLIP Distensibility at 40 ml	EndoFLIP Distensibility at 50 ml	Mean LES Pressure on Manometry
GERD Positive	5.66 (2.7)	5.84 (2.9)	4.75 (2.2)	13.58 (9.8)
GERD Negative	4.06 (1.15)	5.37 (1.9)	4.9 (2.1)	17.90 (11.3)
P-value	0.035	0.608	0.813	0.346

Mean DI at 30 ml by EndoFLIP was higher in patients with GERD versus those without.

GERD was uniformly present when DI was >6.

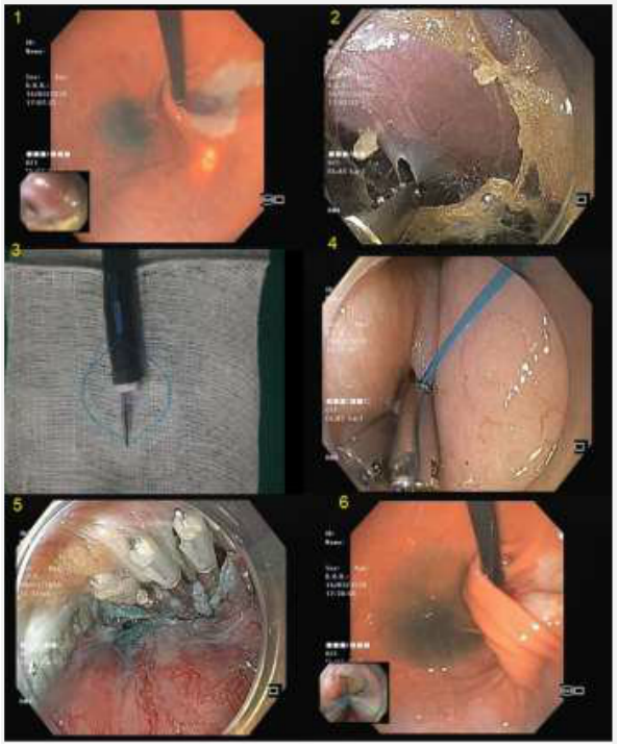
No significant differences for GERD in DI at 40 ml, DI at 50 ml, or resting LES pressure.



Horsley-Silva JL, et al. DDW 2020 Sa1316

INITIAL EXPERIENCE WITH SAME SESSION ENDOSCOPIC FUNDOPLICATION AFTER PER-ORAL ENDOSCOPIC MYOTOMY (POEM+F) – SHORT TERM CLINICAL OUTCOMES FROM A SINGLE CENTER

Retrospective analysis of 20 patients with achalasia underwent POEM and endoscopic fundoplication (POEM+F)



Bapaye A, et al. DDW 2020 Sa1237

INITIAL EXPERIENCE WITH SAME SESSION ENDOSCOPIC FUNDOPLICATION AFTER PER-ORAL ENDOSCOPIC MYOTOMY (POEM+F) – SHORT TERM CLINICAL OUTCOMES FROM A SINGLE CENTER

Parameter	Value	Percent / Range
N	20	
Mean age (years)	40.9	18 – 67
Sex (M: F)	11: 9	
Technical success	20 / 20	100
Mean total procedure time (minutes)	77.5	55 – 145
Additional time for fundoplication (minutes)	42.5	30 – 105
Acute adverse events	Nil	0
Mean post-op hospital stay (days)	48	36 – 72

Bapaye A, et al. DDW 2020 Sa1237

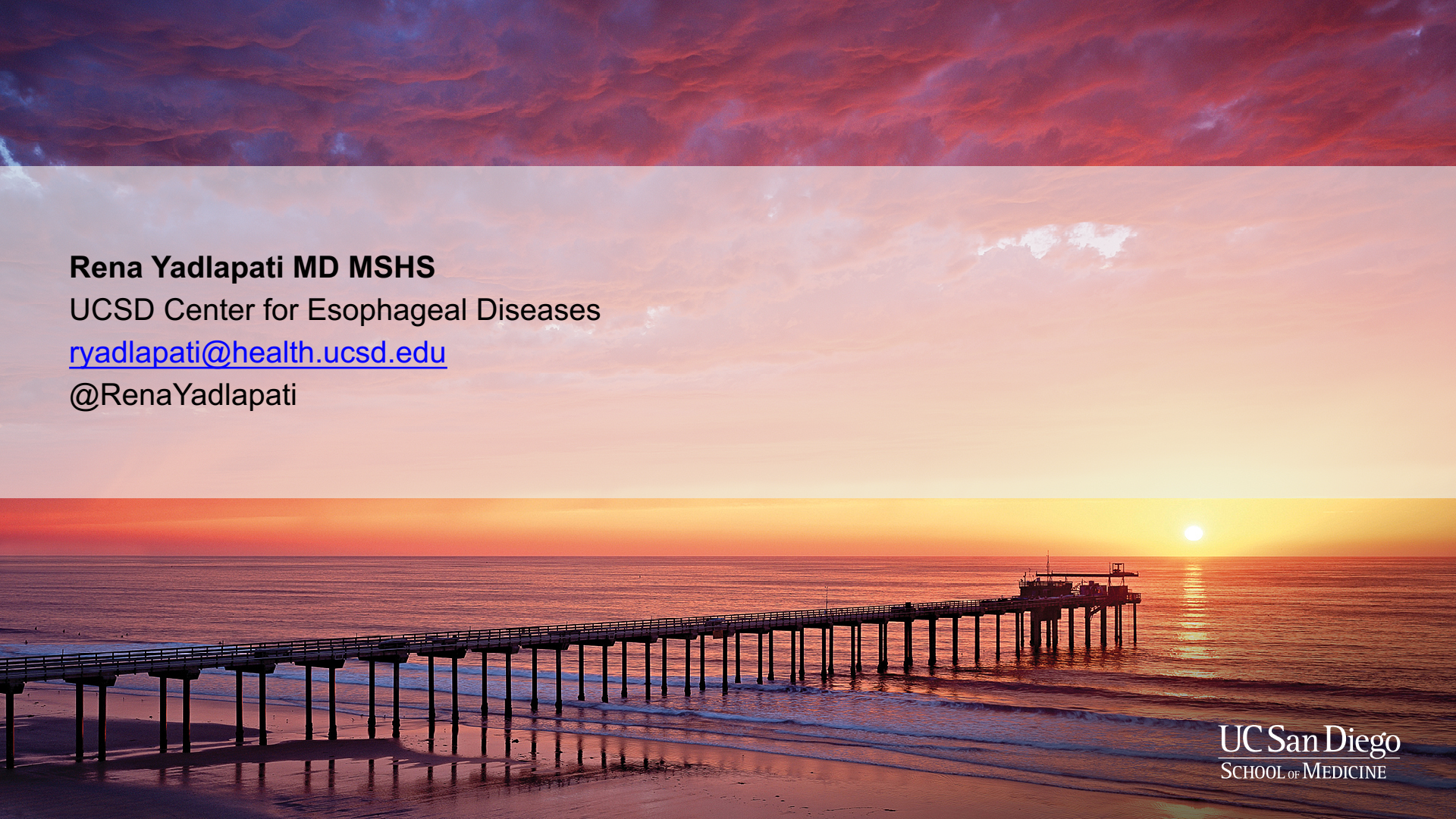
INITIAL EXPERIENCE WITH SAME SESSION ENDOSCOPIC FUNDOPLICATION AFTER PER-ORAL ENDOSCOPIC MYOTOMY (POEM+F) – SHORT TERM CLINICAL OUTCOMES FROM A SINGLE CENTER

Parameter	Type / Score	N	Percent
GERD-Q score (6 months)	0 – 2	19	95
	3 – 7	1	5
Endoscopic erosive esophagitis	Grade A	3	15
Integrity of fundoplication	Intact	17	85
	Loose	1	5
	Disrupted	2	2
	Tight	0	0
DeMeester score @ 1 – 3mths (N = 10)	Normal	9 / 10	90
	Abnormal	1 / 10 (no symptoms, no GER on EGD)	10
Overall GERD free		16 / 20	80

Bapaye A, et al. DDW 2020 Sa1237

Summary of Post-POEM GERD

- Anterior and posterior myotomy approach may have comparable outcomes
  - More to come about avoidance of sling fibers using the TPV technique
- Post POEM GERD
  - Can be assessed via wireless pH monitoring off PPI
  - Potential role for real-time assessments such as mucosal integrity testing and/or FLIP
- POEM + endoscopic fundoplication may be technically effective and reduce rates of post-POEM GERD



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