DDW update 2019

The Latest Developments in Swallowing Disorders: Diagnosis & Management

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Einstein Healthcare Network
OBJECTIVES

• New technology for assessing esophageal motility disorders
• Update on Peroral Endoscopic Myotomy (POEM) for Achalasia
• Proton pump inhibitors (PPIs) are safe for long term use
• Treatment options for Eosinophilic Esophagitis (EoE)
ESOPHAGEAL MOTILITY
Tu1214 : FUNCTIONAL LUMEN IMAGING PROBE TOPOGRAPHY (FLIP) VERSUS HIGH-RESOLUTION MANOMETRY (HRM) FOR FUNCTIONAL EVALUATION OF THE ESOPHAGUS

Authors: Luis Valdovinos-Garcia, Jennifer Horsley-Silva, Michael Crowell, Marcelo Vela
ESOPHAGEAL MOTILITY

• High Resolution Manometry is the gold standard for evaluating esophageal motility

• Functional Lumen Imaging Probe Topography (FLIP) is a new technology that enables evaluation of the EGJ distensibility and esophageal peristalsis
FLIP IMAGES
AIM

• Evaluate the agreement between FLIP and HRM in the assessment of esophageal motility
METHODS

• 60 patients (20-90 years; 62% women)
• FLIP - 16 cm balloon
• Peristaltic response was assessed 30-40-60 ml
  - Repetitive antegrade contractions (RACs), Repetitive retrograde contractions (RRCs), Median EGJ Distensibility (ab < 2, borderline 2-3, norm > 3)
• HRIM
RESULTS

• FLIP has sensitivity of 81.3 and specificity of 35.2, PPV of 76.1 and NPV of 46.1

• IRP by HRM; FLIP normal/abnormal EGJ distensibility sensitivity 78.5, specificity of 76.7, PPV 45.8, NPV 93.4

• When evaluation between RAC, RRC and absent contractility by FLIP and peristalsis findings on HRIM, found that RRCs at any volume on FLIP correlated with an abnormal peristalsis by HRIM
CONCLUSION

• Presence of RRCs on FLIP correlate with abnormal peristalsis on HRIM; suggests when RRCs seen on FLIP the patient should be referred for HRIM

• FLIP distensibility has a good negative predicative value when compared to IRP

• Whether FLIP or HRIM should be gold standard for evaluation of EGJ relaxation will require additional studies
Sa1264 : PER ORAL ENDOSCOPIC MYOTOMY (POEM) FOR ACHALASIA: LONG TERM OUTCOMES FROM A LARGE PROSPECTIVE SINGLE-CENTER US SERIES

Authors: Stavros N. Stavropoulos\textsuperscript{1}, Rani Jacob Modayil\textsuperscript{2}, Xiaocen Zhang\textsuperscript{2}, Kanak Das\textsuperscript{2}, Collin E. Brathwaite\textsuperscript{2}, Sharon I. Taylor\textsuperscript{2}, Jessica Lynn Widmer\textsuperscript{2}, David Friedel\textsuperscript{2}, Bhawna Halwan\textsuperscript{2}, James Grendell\textsuperscript{2}

\textsuperscript{1}Medicine, NYU-Winthrop Hosp.-Columbia Univ., Roslyn, New York, United States; \textsuperscript{2}Gastroenterology, NYU Winthrop, Mineola, New York, United States;
INTRODUCTION

• POEM has been shown to be an effective treatment option for Achalasia

• Pneumatic Dilation and Laparoscopic Heller Myotomy have been shown to have steady decrease in efficacy over time

• There are no long term data on POEM procedure
METHODS

• From a prospective database of all POEMs performed from 10/2009 to 11/2018 we extracted data (objective and subjective outcomes) on 515 consecutive POEMs
# RESULTS

<table>
<thead>
<tr>
<th>BASELINE CHARACTERISTICS</th>
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<tbody>
<tr>
<td><strong>NUMBER</strong></td>
<td><strong>515 PATIENTS (lost to FU; 1 year 5%, 5 years 8%)</strong></td>
</tr>
<tr>
<td><strong>MEAN FOLLOW UP</strong></td>
<td><strong>36.7 MONTHS</strong>&lt;br&gt;<strong>(0.4-109.3)</strong></td>
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<tr>
<td><strong>MEAN AGE</strong></td>
<td><strong>54 (10-97)</strong></td>
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<tr>
<td><strong>GENDER</strong></td>
<td><strong>232 F (45%)</strong>&lt;br&gt;<strong>283 M (55%)</strong></td>
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<tr>
<td><strong>ACHALASIA STAGE</strong></td>
<td><strong>I (&lt;3cm)-99 (19%), II (3-6cm)-287 (56%), III (6-8 cm)-36 (7%), IV(&gt;8cm/sigmoid)-93 (18%) Mean diameter 4.6 cm</strong>&lt;br&gt;<strong>87 sigmoid shape (17%)</strong></td>
</tr>
<tr>
<td><strong>PRIOR TREATMENT</strong></td>
<td><strong>257 (50%) -90 PD(17%), 103 Suboptimal dilation (20%)123 Botox (24%), 73 LHM (14%)</strong></td>
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</table>
## OUTCOMES

<table>
<thead>
<tr>
<th>OUTCOMES SUBJECTIVE</th>
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<tbody>
<tr>
<td>PRE/POST ECKARDT SCORE</td>
<td>7.7/0.5, P&lt;0.0001</td>
</tr>
<tr>
<td>GERD</td>
<td>GRADE 0 (NEVER) 203 (39%), GRADE 1 (&lt; ONCE/WK) 157 (30%), GRADE 2 (2-4/WK) 91 (18%), GRADE 3 (&gt;4 DAYS/WK) 53 (10%)</td>
</tr>
<tr>
<td>CLINICAL SUCCESS WITH ECKARDT SCORE (&lt;3)</td>
<td>1 YEAR 404/424-95%, 2 YEAR 306/324-94%, 3 YEAR 246/257-96%, 4 YEAR 172/180-96%, 5 YEAR 101/107-94%</td>
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</table>
## OUTCOMES

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<th>OUTCOMES SUBJECTIVE</th>
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<tbody>
<tr>
<td>GERD 48HR BRAVO</td>
<td>180/301 59%</td>
</tr>
<tr>
<td>EROSIONAL ESOPHAGITIS</td>
<td>168/338 (50%)</td>
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<tr>
<td></td>
<td>A-105/168</td>
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<td>B-51/168</td>
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<td>C-14/168</td>
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CONCLUSION

• Long term POEM outcome dated beyond 3 years, extending up to 6.5 years, rival those of LHM despite the large number of challenging patients

• GERD is an issue that requires continued vigilance and further study
GASTROESOPHAGEAL REFLUX DISEASE
818a ADVERSE EVENTS RELATED TO PROTON PUMP INHIBITOR THERAPY RESULTS OF A RANDOMIZED TRIAL OF PANTOPRAZOLE VERSUS PLACEBO WITH 53,152 PATIENT YEARS OF FOLLOW-UP

Authors: Paul Moayyedi¹,², John Eikelboom¹, Jackie Bosch¹, Leanne Dyal¹, Stuart Connolly¹, Salim Yusuf¹
¹Population Health Research Institute, McMaster University, Hamilton, Ontario, Canada; ²Farncombe Family Digestive Health Research Institute, McMaster University, Hamilton, Ontario, Canada;
GERD

• Proton pump inhibitors (PPIs) are the main stay of the medical treatment
• Over the past several years, PPIs have been linked to a number of adverse events including: interaction with clopidogrel, pneumonia, bone fractures, chronic kidney disease, clostridium difficile infection, and dementia
• These claims are based on observational studies
• NO prospective randomized controlled trials with PPIs and related adverse events
METHODS

• Partial 3x2 factorial design
• Patients with stable cardiovascular disease
• Randomized to rivaroxaban 2.5mg plus ASA 100 mg qd, Rivaroxaban 5 mg bid or ASA 100 qd to evaluate primary outcome of cardiovascular death or stroke or MI
• This part of the study stopped early for benefit of rivaroxaban and ASA versus ASA alone in reducing primary outcome
• Patients not on PPI were randomized to pantoprazole 40 mg qd versus placebo with follow up for an average of 3 years
PLANNED ADVERSE EVENT OUTCOME

• Prospectively evaluated from annual interview with patients and records
  • Enteric infections
  • Pneumonia
  • Fracture
  • Clostridium Difficile associated diarrhea
  • CV disease
  • Stroke
  • Renal impairment
  • Dementia
  • Cancer
  • All cause mortality
  • COPD
  • Diabetes Mellitus
  • Hospitalizations
## RESULTS

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Pantoprazole 40mg qd (N=8791)</th>
<th>Pantoprazole placebo (N=8807)</th>
<th>Pantoprazole 40mg qd versus placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of incident events (%)</td>
<td>No. of incident events (%)</td>
<td>odds ratio (95% CI)</td>
</tr>
<tr>
<td>Gastric atrophy</td>
<td>19 (0.2)</td>
<td>26 (0.3)</td>
<td>0.73 (0.05 to 1.32)</td>
</tr>
<tr>
<td>Other enteric infections</td>
<td>119 (1.4)</td>
<td>90 (1.0)</td>
<td>1.33 (1.01 to 1.75)</td>
</tr>
<tr>
<td>Clostridium difficile</td>
<td>9 (0.1)</td>
<td>4 (&lt;0.1)</td>
<td>2.26 (0.70 to 7.34)</td>
</tr>
<tr>
<td>Chronic Kidney disease</td>
<td>184 (2.1)</td>
<td>158 (1.8)</td>
<td>1.17 (0.94 to 1.45)</td>
</tr>
<tr>
<td>Dementia</td>
<td>55 (0.6)</td>
<td>46 (0.5)</td>
<td>1.20 (0.81 to 1.78)</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>318 (3.6)</td>
<td>313 (3.6)</td>
<td>1.03 (0.87 to 1.19)</td>
</tr>
<tr>
<td>Fracture</td>
<td>203 (2.3)</td>
<td>211 (2.4)</td>
<td>0.96 (0.79 to 1.17)</td>
</tr>
<tr>
<td>COPD</td>
<td>146 (1.7)</td>
<td>124 (1.4)</td>
<td>1.18 (0.93 to 1.51)</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>513 (5.8)</td>
<td>532 (6.0)</td>
<td>0.96 (0.85 to 1.09)</td>
</tr>
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CONCLUSION

• PPI therapy is NOT associated with any adverse event when used for three years with the possible exception of risk of enteric infections
EOSINOPHILIC ESOPHAGITIS
EOSINOPHILIC ESOPHAGITIS

• Chronic immune/antigen mediated esophageal disease
• Dysphagia, food impactions, heartburn, chest pain and abdominal pain
• Diagnosis made by endoscopy with biopsy of the esophageal mucosa (>15 eosinophils per high power field)
• Treatment includes PPIs, topical steroids (fluticasone MDI or budesonide) and food elimination diet (SFED)
360: ORAL VISCOSOUS BUDENOSONIDE VERSUS SWALLOWED FLUTICASONE INHALER FOR INITIAL TREATMENT OF ADOLESCENTS AND ADULTS WITH EOSINOPHILIC ESOPHAGITIS: A RANDOMIZED, DOUBLE-BLIND, DOUBLE-DUMMY CLINICAL TRIAL

Evan S. Dellon¹, John T. Woosley¹, Ashley Arrington¹, Sarah J. McGee¹, Jacquelyn Covington¹, Susan Elizabeth Moist¹, Jessica H. Gebhart¹, Christopher Martin¹, Joseph Galanko¹, John A. Baron¹, Nicholas J. Shaheen¹

¹University of North Carolina School of Medicine, Chapel Hill, North Carolina, United States;
AIM

• Determine whether oral viscous budesonide (OVB) is more effective than swallowed fluticasone MDI for improving esophageal eosinophil counts and symptoms of dysphagia for initial treatment of patients with EoE
METHODS

• 16-80 years, new dx EoE

• Pts randomized 1:1 8 wks with either OVB 1mg/4ml BID plus placebo inhaler or fluticasone MDI 880 mcg BID plus placebo slurry

• Primary outcome was post-treatment maximum eos count, DSQ score

• Secondary outcome; EREFS, histologic response thresholds, EoE Symptom Activity Index Score (EEsAI), safety
RESULTS

• 129 PTs
• 111 completed treatment and were analyzed
• Baseline clinical, endoscopic, and histologic characteristics were similar
RESULTS

A

B

C

D

Peak eosinophil count (eos/hpf)

Percent with histologic response

DSQ score

Total EREFS score

Budesonide

Fluticasone

Baseline

Post-treatment

< 15 eos/hpf

< 1 eos/hpf

Baseline

Post-treatment

p = 0.31

p < 0.001

p < 0.001

p = 0.38

p = 0.48

p = 0.70

p = 0.005

p < 0.001

p < 0.001

p < 0.001

p < 0.001
CONCLUSION

• For initial treatment of EoE, OVB and fluticasone MDI both significantly decreased esophageal eosinophil count, and improved dysphagia symptoms and endoscopic features.

• Budesonide slurry was NOT superior to MDI
MO 1129: EFFICACY OF BUDESONIDE ORODISPERSIBLE TABLETS FOR INDUCTION OF REMISSION IN PATIENTS WITH ACTIVE EOSINOPHILIC ESOPHAGITIS: RESULTS FROM THE 6-WEEKS OPEN-LABEL TREATMENT PHASE OF EOS-2 TRIAL

Authors: Christoph Schlag¹, Stephan Miehlke², Alfredo Lucendo³, Luc Biedermann⁴, Cecilio Santander⁵, Dirk Hartmann⁶, Jamal Omar Hayat⁷, Petr Hruz⁸, Constanza Ciriza de los Ríos⁹, Albert Jan Bredenoord¹⁰, Michael Vieth¹¹, Ralph Mueller¹², Roland Greinwald¹², Alex Straumann¹³
INTRODUCTION

• A novel budesonide orodispersible tablet given twice daily (BOT 1mg BID) with a special esophageal targeting achieved clinico-histological remission in 57.6% (with 93.2% achieving histological remission vs 0% under placebo) of adult patients with active eosinophilic esophagitis (EoE) after a 6-week therapy in a placebo-controlled trial (1).

REFERENCES:
METHODS

• 181 PTs with clinico-histological active EoE treated 6-week OLI phase.
• Primary endpoint and requirement for randomization into the DB maintenance phase was clinico-histological remission AND histological remission (peak eosinophil count <16 eos/mm² hpf).
RESULTS
PRIMARY ENDPOINT

<table>
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<tr>
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<th>Week 6 (LOCF) OLI phase n=181</th>
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<tr>
<td>Number (%) PTS in clinico-histological remission</td>
<td>126 (69.6%)</td>
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<tr>
<td>Number (%) PTS in histological remission (&lt;16 eos/mm² hpf)</td>
<td>163 (90.1%)</td>
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CONCLUSION

• A 6-week open-label treatment with BOT 1mg BID was highly effective in bringing clinico-histological active EoE into remission
SUMMARY

• FLIP Technology is a good screening tool for esophageal dysfunction
• POEM procedure for Achalasia seems to have continued efficacy over time
• Long term PPIs are safe, except for enteric infections
• Fluticasone MDI is equivalent to OVB in treating EoE
• Orodispersable budesonide tablet is effective in achieving clinic-histologic remission in Eoe
Questions?