



Updates in Esophageal Motility

Nikhil Agarwal, MD
Palo Alto Medical Foundation
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Disclosures

- Advisor: Takeda and Gemelli Biotech
- Speaker: Takeda and Allergan
- Consultant: Mahana Therapeutics

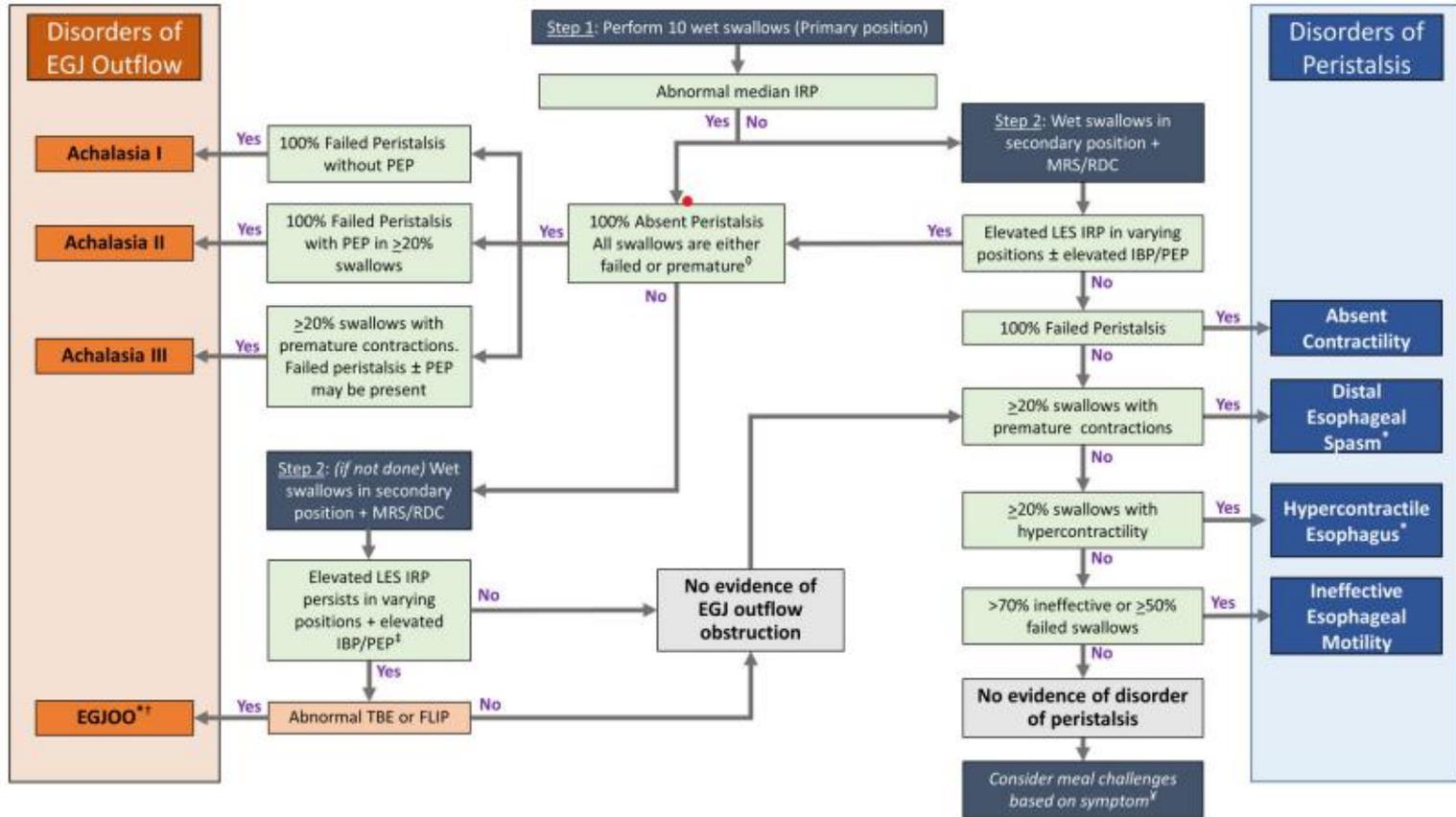
Chicago Classification v4.0

- Standardized HRM protocol
- Esophageal motor patterns of clinical relevance versus unclear relevance
- Disorders of EGJ outflow
- Disorders of peristalsis

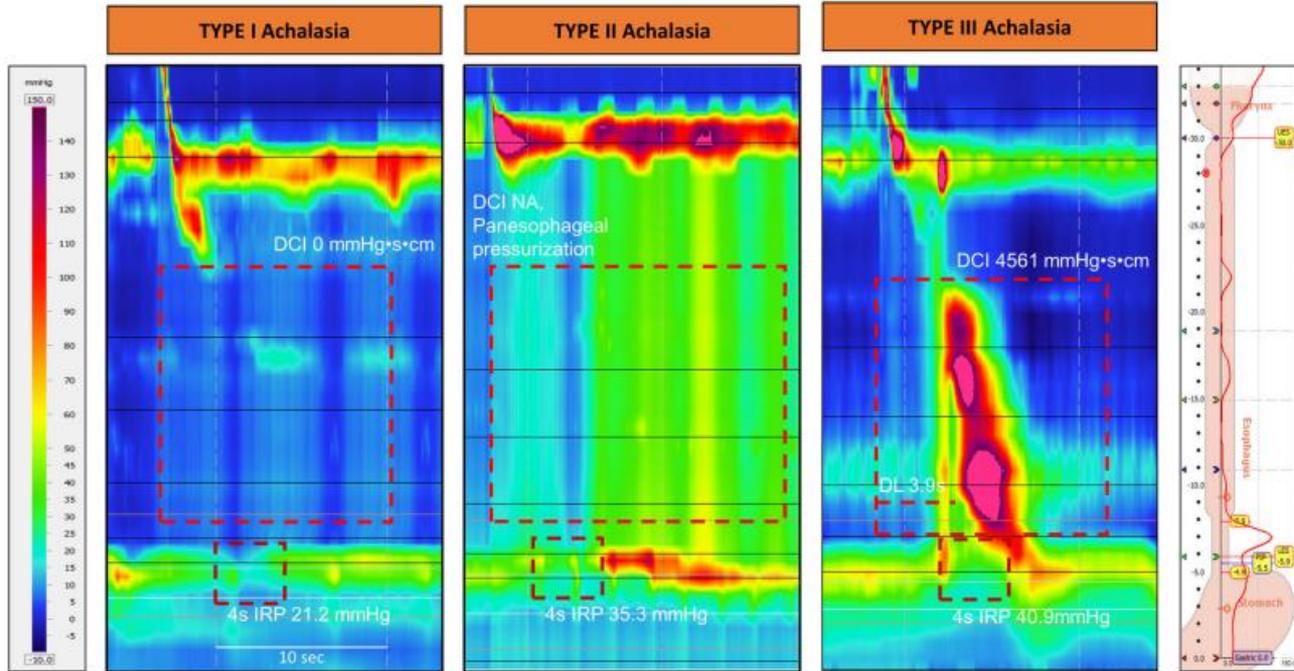
CC3.0 vs CC4.0

Diagnosis	CCv3.0 Definition	CCv4.0 Definition
Disorders of EGJ Outflow		
Type I Achalasia	Median IRP elevated % 100% failed peristalsis	Median IRP elevated & 100% failed peristalsis
Type II Achalasia	Median IRP elevated & 100% failed peristalsis with $\geq 20\%$ panesophageal pressurization	Median IRP elevated & 100% failed peristalsis with $\geq 20\%$ panesophageal pressurization
Type III Achalasia	Median IRP elevated & 100% failed peristalsis with $\geq 20\%$ swallows with spasm	Median IRP elevated, 100% absent peristalsis & $\geq 20\%$ swallows with spasm
EGJ Outflow Obstruction	Median IRP elevated and not meeting criteria for achalasia type I-III	Supine and upright median IRP elevated, supine intrabolus pressure elevated, and presence of normal peristalsis, with symptoms of dysphagia and/or non-cardiac chest pain, and at least one confirmatory non-HRM supportive test
Disorders of Peristalsis		
Absent Contractility	Normal median IRP and 100% failed peristalsis	Normal supine and upright median IRP and 100% failed peristalsis
Distal Esophageal Spasm	Normal median IRP and $\geq 20\%$ swallows with spasm	Normal median IRP and $\geq 20\%$ swallows with spasm along with symptoms of dysphagia and/or non-cardiac chest pain
Hypercontractile Esophagus	Normal median IRP and $\geq 20\%$ hypercontractile swallows (Referred to as Jackhammer esophagus)	Normal median IRP and $\geq 20\%$ hypercontractile swallows with symptoms of dysphagia and/or non-cardiac chest pain
Ineffective Esophageal Motility	$\geq 50\%$ ineffective swallows	$>70\%$ ineffective and/or fragmented swallows, or $\geq 50\%$ failed swallows

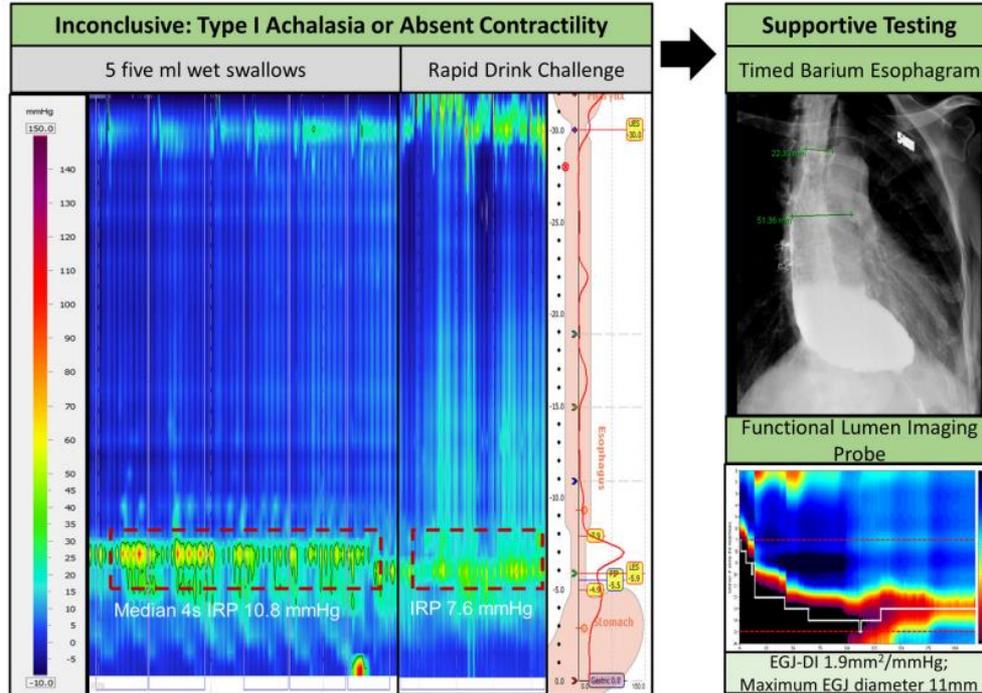
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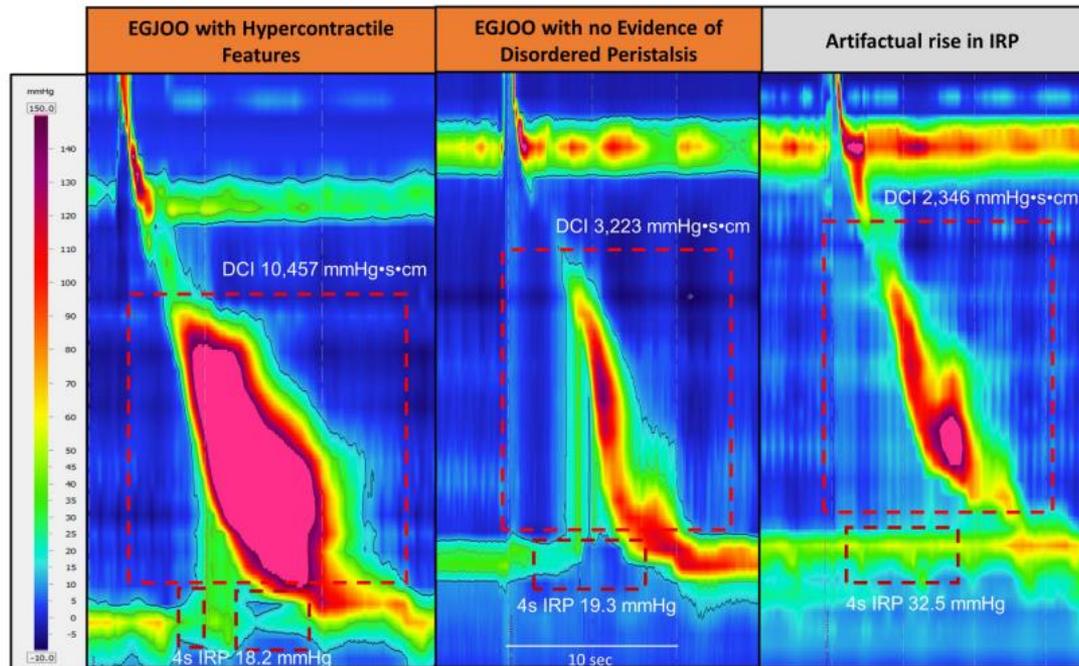
Achalasia Subtypes



Absent Contractility

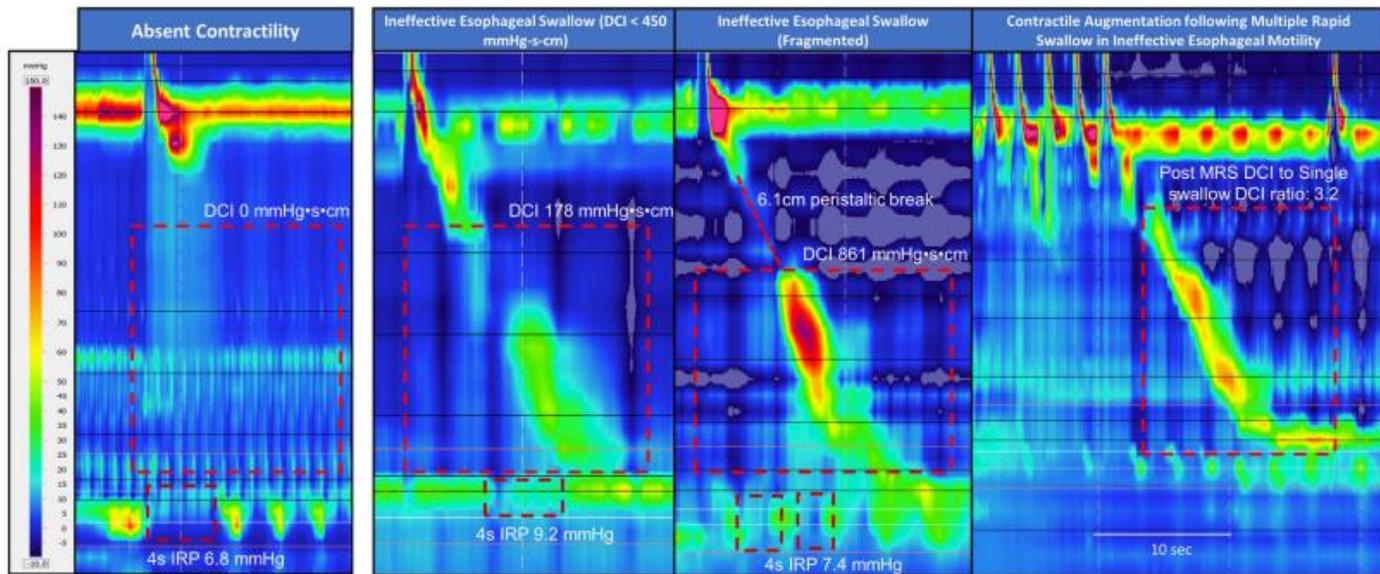


EGJOO



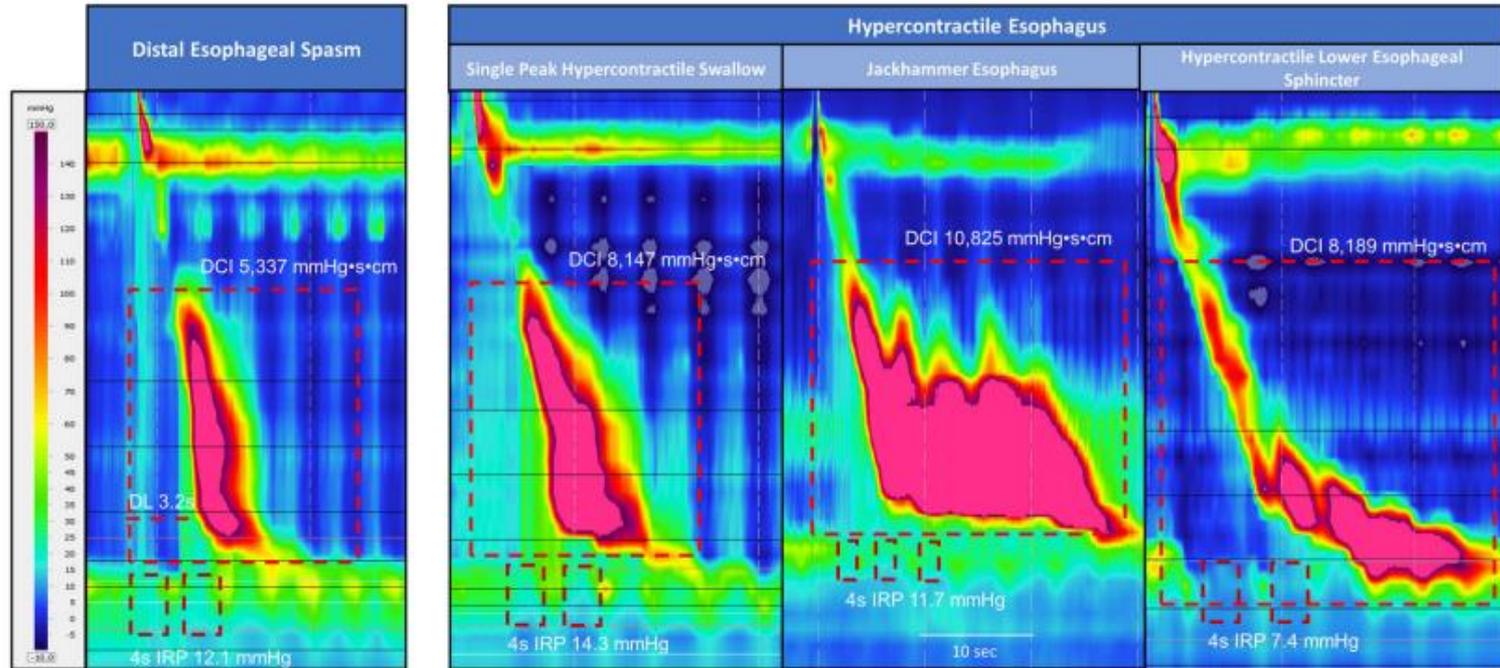
Courtesy of National Jewish Health, Esophageal Function Laboratory

Disorders of Peristalsis



Courtesy of University of California San Diego Center for Esophageal Diseases

DES and Hypercontractile Esophagus



High-Resolution Manometry Thresholds and Motor Patterns Among Asymptomatic Individuals



Arvind Rengarajan,* Benjamin D. Rogers,* Zhiqin Wong,[‡] Salvatore Tolone,[§]
Daniel Sifrim,^{||} Jordi Serra,[¶] Edoardo Savarino,[#] Sabine Roman,^{**,**,SS}
Jose M. Remes-Troche,^{||||} Rosa Ramos,^{¶¶} Julio Perez de la Serna,^{##}
Ans Pauwels,^{***} Ana Maria Leguizamo,⁺⁺⁺ Yeong Yeh Lee,^{‡,SSS}
Osamu Kawamura,^{|||||} Jamal Hayat,^{¶¶¶} Albis Hani,⁺⁺⁺ Sutep Gonlachanvit,^{###}
Daniel Cisternas,^{****,++++} Dustin Carlson,^{SSSS} Serhat Bor,^{||||||} Shobna Bhatia,^{¶¶¶¶}
Luiz Abrahao,^{####} John Pandolfino,^{SSSS} and C. Prakash Gyawali*

Background

- HRM is the standard for assessment of esophageal motor disorders.
- What is the prevalence of abnormalities in healthy, asymptomatic individuals.

Methods

- Healthy volunteers were solicited from motility centers around the world.
- Symptomatic patients, prior surgeries, meds, chronic diseases excluded.
- Medtronic solid state catheters used.
- Individually analyzed de novo by two study investigators.

Results

- 469 patients included
- 74.6% normal
- 15.% had IEM
- EGJOO in 5.3%
- None had achalasia

Conclusions

- IEM can be common in asymptomatic patients
- EGJOO can also be common, and confirmatory testing may be needed
- Major disorders of peristalsis are uncommon in asymptomatic patients



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MULTIPLE RAPID SWALLOWS AND RAPID DRINK CHALLENGE IN PATIENTS WITH ESOPHAGOGASTRIC JUNCTION OUTFLOW OBSTRUCTION ON HIGH-RESOLUTION MANOMETRY

Amanda J. Krause¹, Hui Su², Joseph R. Triggs^{1,3}, Claire Beveridge^{1,3}, Alexandra J. Baumann¹, Erica Donnan¹, John E. Pandolfino¹, Dustin A. Carlson¹

¹Division of Gastroenterology and Hepatology, Northwestern University Feinberg School of Medicine, Chicago, Illinois, USA

²Department of Gastroenterology, Capital Medical University Affiliated Beijing Shijitan Hospital. No.10, Tieyilu, Yangfangdian Street, Haidian District, Beijing, China, 1000383

³Division of Gastroenterology, University of Pennsylvania Perelman School of Medicine, Philadelphia, Pennsylvania, USA

Background

- EGJOO can be a common finding in HRM
- It encompasses a broad range of diagnoses
- Confirmatory testing with imaging or FLIP is often needed
- Are there maneuver such as MRS and RDC that can help differentiate different causes for EGJOO

Methods

- Patients with EGJOO based on CCV3.0 identified retrospectively
- Prior surgery or mechanical obstruction excluded
- Underwent a standard HRM protocol along with MRS and RDC
- MRS: 2 ml of water for 5 swallows, 2-3 seconds apart
- RDC: 200 ml as fast as possible in upright position
- All patients had a barium esophagram

Results

- 101 patients included
- 32% had radiographic evidence of EGJOO
- Having IRP >12 with both MRS and RDC were twice as likely to have radiographic evidence of EGJOO

Conclusion

- Adjunctive HRM maneuvers may help differentiate true EGJOO
- Confirmatory testing may still be needed

Journal Pre-proof

OPIOID EXPOSURE DIFFERENTIALLY IMPACTS ESOPHAGEAL BODY
CONTRACTION OVER THE LOWER ESOPHAGEAL SPHINCTER

Dhyanesh A. Patel, MD, James Goss, BSc, Muhammad Hayat, MD, Claudio Tombazzi, MD, Rishi D. Naik, MD, MSCI, James C. Slaughter, DrPH, Muhammad Aslam, MD, Shabnam Sarker, MD, Tina Higginbotham, MPA, Michael F. Vaezi, MD, PhD

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Background

- Patients with long term opioid use often develop dysphagia and motility disorders of the esophagus.
- What are the impact of opioid exposure on clinical and manometric characteristics

Methods

- Patients who underwent HRM between 2007-2018 included
- Demographics, opioid exposure and HRM findings compared
- PROMIS-GI and Eckhardt scores obtained in those with spastic disorders

Results

- 869 out of 4,075 patients had opioid exposure.
- Opioid patients more likely to have dysphagia (65% vs 51%), DES (11% vs 5%), and hypercontractile esophagus (9% vs 3%).
- Partial opioid agonists were not associated with motility abnormalities.
- Higher symptom burden noted in opioid group

Conclusions

- Nearly 2/3 of patients with opioid use undergoing HRM have dysphagia
- >25% have DES or HE
- Higher disease burden

