The Emoroid Digest
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ACG Clinical Guidelines: Clinical Use of Esophageal Physiologic Testing
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Obstructive Esophageal Symptoms

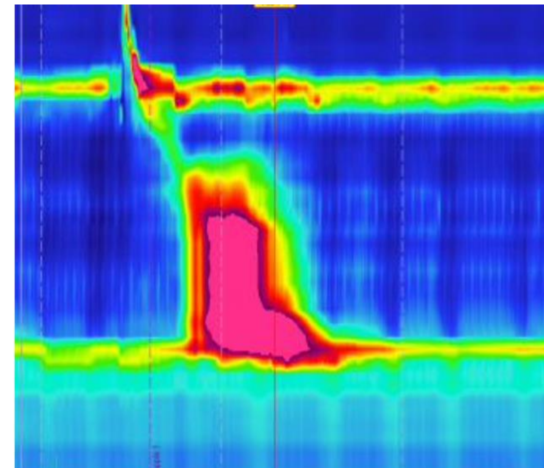
- Include **dysphagia and regurgitation**
- Perform **EGD first** to rule out structural/mechanical esophageal obstruction; obtain biopsies to assess for EOE
- Dysphagia questionnaires correlate poorly to objective findings
- Other core esophageal tests for obstructive symptoms – **high resolution manometry (HRM), barium esophagram, functional lumen imaging probe (FLIP)**

High Resolution Manometry

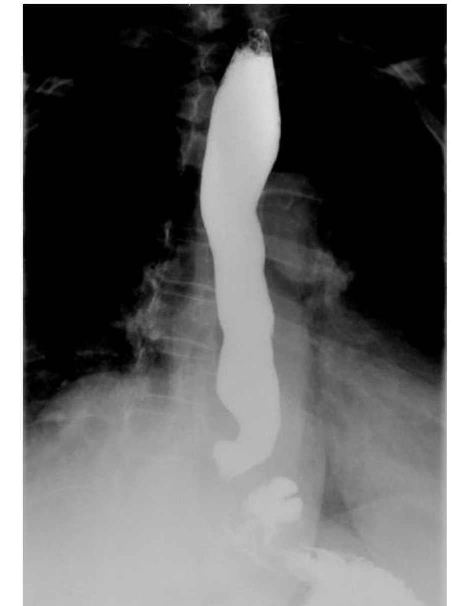
- **Gold standard** for the diagnosis of motility disorders
- **HRM superior to conventional manometry** – more closely spaced sensors on catheter, improved diagnostic yield for achalasia and other motor disorders
- Standard HRM protocol – 10 supine test swallows; addition of provocative maneuvers including multiple rapid swallows (MRS) and rapid drink challenge improves diagnostic yield
    - **MRS** can assess contractive reserve; if low, predicts post-fundoplication dysphagia
    - **Rapid drink challenge** - free drinking of 100–200 mL of water through a straw as fast as possible

Barium Esophagram

- Can suggest presence of motor disorders, demonstrate anatomy at EGJ
- **Inferior to HRM** in detecting esophageal dysmotility
- Can assess **esophageal bolus transit**
- **Standardized, upright, timed barium esophagram protocol** should be used
    - 8 oz barium administered, evaluating barium height at 1 minute (abnormal when >5 cm) and 5 minutes (abnormal if >2 cm)
- Administration of 13mm barium tablet should be added to protocol
    - Abnormal passage of tablet suggests obstructive process at EJG



Type III achalasia on HRM



Type III achalasia on barium swallow

Gyawali CP, Carlson DA, Chen JW, Patel A, Wong RJ, Yadlapati RH. ACG Clinical Guidelines: Clinical Use of Esophageal Physiologic Testing. Am J Gastroenterol. 2020 Sep;115(9):1412-1428.

Functional Lumen Imaging Probe (FLIP)

- Measures pressure, cross sectional area, and distensibility in the esophagus
- Correlates well to HRM in detecting major motility disorders
- Can characterize achalasia subtypes by detecting nonocclusive esophageal contractions not observed with HRM
- EGJ distensibility measured using FLIP **can diagnose achalasia in patients with clinically suspected achalasia but manometrically normal EGJ relaxation**
- Can direct invasive achalasia therapeutics (i.e. POEM, pneumatic dilation), assess intraprocedural response to treatment
- **Best used as an adjunct to HRM, still needs further validation**

Ambulatory Reflux Monitoring

- **Perform *on PPI* or *off PPI*?**
  - *Typical reflux symptoms* and *unproven GERD* = perform <u>off PPI therapy</u>
    - Prolonged wireless pH monitoring (BRAVO) recommended over 24-hour catheter-based monitoring in this group
  - *Typical reflux symptoms* and *proven GERD* = perform <u>on PPI therapy</u>
    - pH impedance testing recommended
- Using wireless pH monitoring, extended recording time of 48–96 hours increases the diagnostic yield

GERD

- Typical symptoms -> **heartburn, regurgitation**
- Neither symptom assessment (GERD questionnaires) nor response to proton pump inhibitor (PPI) trials are adequate for conclusive diagnosis of GERD
  - Ambulatory reflux monitoring (pH or pH impedance testing) not necessary to confirm abnormal acid exposure if endoscopy shows GERD related complications – **high grade esophagitis, Barrett's, peptic stricture**
- PPI trial = specificity of only 54% for a diagnosis of GERD when compared to pH testing
- **Best indications for ambulatory reflux monitoring -**
  1) Symptomatic patients not responsive to acid suppressive therapy
  2) Patients on whom invasive reflux management is planned
  3) Patients concerned about long-term PPI therapy.
- **Chest pain/GERD not responsive to PPI** -> **consider HRM** to eval for esophageal dysmotility (achalasia, spasm, hypercontractility)

Extra-esophageal symptoms in GERD

- Laryngopharyngeal reflux (LPR) and chronic cough increasingly attributed to GERD
- LPR typically diagnosed after laryngoscopy
  - Data suggests that
    1) LPR does not correlate to findings on ambulatory reflux
    2) Does not predict response to PPI therapy
- **Up-front ambulatory reflux monitoring off PPI recommended over an empiric PPI trial for extraesophageal reflux symptoms without concurrent typical reflux symptoms**

ESOPHAGEAL SYMPTOMS

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Endoscopy to evaluate for mucosal and mechanical processes

Reflux suspected

Obstructive

Atypical

Esophageal

Extraesophageal

PPI trial (if not already performed)

REFLUX MONITORING
To determine abnormal reflux burden
To assess reflux-symptom association

Unproven GERD
- Test **off PPI**
- pH impedance, wireless pH, catheter pH

Proven GERD
- Test **on PPI**
- pH impedance

High Resolution Manometry, High Resolution Impedance Manometry
To diagnose major motor disorders; to assess peristaltic performance before antireflux surgery; to determine pathophys of reflux; to diagnose rumination and supragastric belching (SGB)

Provocative HRM: reflux
Multiple rapid swallows (MRS) to determine peristaltic reserve
Rapid drink challenge (RDC) to evaluate for outflow obstruction

Provocative HRM: obstructive
RDC, STM (solid test meal) to evaluate for outflow obstruction

Barium radiography

FLIP

Alternative or complementary approach to diagnosis of motor disorders, follow-up after treatment if major motor disorders

Provocative HRM: atypical
Postprandial monitoring to diagnose rumination and SGB