

Acid and Nonacid Reflux Monitoring

Dustin A. Carlson, MD, John E. Pandolfino, MD, MSCI*

KEYWORDS

- Gastroesophageal reflux disease • Esophageal reflux monitoring • pH monitoring
- Impedance • Nonacid reflux

KEY POINTS

- Esophageal reflux monitoring, although helpful in the diagnostic assessment of gastroesophageal reflux disease, has its limitations and should be used as a supporting component in the diagnosis.
- Not all reflux events cause symptoms, and not all symptoms are caused by reflux.
- Acid reflux is uncommon while on proton pump inhibitor (PPI) therapy; thus, pH monitoring without impedance may have limited usefulness if performed on patients on PPIs.
- Detection of nonacid reflux may be helpful diagnostically, however, data regarding efficacy of treatments focused on this entity are lacking.

INTRODUCTION

Gastroesophageal reflux disease (GERD), which is defined as a condition that develops when the reflux of gastric contents causes troublesome symptoms or complications, is one of the most common diagnoses made in gastroenterology and primary care clinics.^{1,2} The diagnosis of GERD is often based on the presence of typical symptoms (heartburn and regurgitation) or atypical or extraesophageal symptoms, such as noncardiac chest pain, cough, sore throat, or hoarseness, and a response to acid suppressive therapy. In the absence of endoscopic evidence of GERD, or an alternative cause of symptoms, esophageal reflux monitoring can be used to assist in diagnostic evaluation.

Ambulatory esophageal reflux monitoring can be performed via several different methods. pH monitoring is available via transnasal catheter or wireless sensors and can detect reflux episodes by measuring decreases in esophageal pH. Impedance

Disclosures: Given Imaging (speaker, consultant), Astra Zeneca (speaker) (J.E. Pandolfino); none (D.A. Carlson).

Department of Medicine, Feinberg School of Medicine, Northwestern University, 676 North St Clair Street, Suite 1400, Chicago, IL 60611, USA

* Corresponding author. Division of Gastroenterology and Hepatology, Feinberg School of Medicine, Northwestern University, 676 North St Clair Street, Suite 1400, Chicago, IL 60611-2951.

E-mail address: j-pandolfino@northwestern.edu

Gastroenterol Clin N Am 43 (2014) 89–104

<http://dx.doi.org/10.1016/j.gtc.2013.11.003>

gastro.theclinics.com

0889-8553/14/\$ – see front matter © 2014 Elsevier Inc. All rights reserved.

pH catheters, placed transnasally into the esophagus, measure the change in electrical resistance between closely spaced electrodes and thus can determine the composition of intraesophageal contents (liquid, gas, or mixed), and measure direction of flow (antegrade or retrograde), as well as esophageal pH. Thus, pH monitors are able to measure acid reflux, which is defined as refluxed gastric contents with a pH less than 4, whereas impedance pH can detect both acid reflux and nonacid reflux, which is defined as refluxed contents with pH 4 or greater and sometimes further classified as weakly acidic (pH 4–7) and weakly alkaline (pH \geq 7) reflux.³ Although esophageal reflux monitoring can be a valuable tool for assessing patients with suspected GERD, each testing modality has its limitations, which need to be considered when deciding when and how to use these tests. This review covers the indications for reflux monitoring, which test to choose, including characteristics and technical details of each modality, and how to interpret results and incorporate them into clinical practice.

INDICATIONS FOR ESOPHAGEAL REFLUX MONITORING

Esophageal reflux monitoring can be used to support a diagnosis of GERD, such as before antireflux procedures, or when the diagnosis of GERD may be in question, such as when there is a lack of response to effective therapy. After an empirical trial of acid suppression therapy, generally with proton pump inhibitors (PPIs), upper endoscopy is the initial diagnostic test performed, because it can assess for complications (especially if patients show alarm symptoms, eg, dysphagia) and also confirm a diagnosis by identifying complications, such as erosive esophagitis or Barrett esophagus, which are specific, although not sensitive, features of GERD. Thus, if erosive esophagitis or Barrett esophagus are present, additional esophageal reflux testing is not necessary to diagnose GERD. In addition, endoscopy can identify an alternative diagnosis for patient symptoms, such as pill, infectious, or eosinophilic esophagitis. If an antireflux procedure is being considered, esophageal manometry is then often performed next to identify achalasia or esophageal aperistalsis; manometry can also play a role in localization of the lower esophageal sphincter (LES), which may be needed to place an esophageal reflux monitoring device. Typical indications for esophageal reflux monitoring included below.

Before Antireflux Surgery

If endoscopy is normal, which is often the case, and an antireflux procedure is being considered, esophageal reflux monitoring is then indicated. PPIs are the staple of GERD treatment and are effective in the treatment of typical GERD symptoms and healing of esophagitis.⁴ Thus, a response to PPIs is often used as the confirmatory test for GERD. However, although a positive response to a PPI trial is supportive of a diagnosis of GERD and predicts a positive response to antireflux therapy, there is also potential for a placebo effect and thus false-positive results of a PPI trial test.^{5,6} Therefore, even when patients have a positive response to a PPI trial, esophageal reflux monitoring should be performed in patients with endoscopy-negative (presumed) reflux disease before pursuing antireflux endoscopic or surgical interventions with their inherent procedural risks.^{7–9}

PPI-Refractory GERD Symptoms

The definition of PPI-refractory GERD or PPI-nonresponsive GERD can vary, often differing in whether this includes patients who do not respond to daily PPI, or more commonly, only to patients with continued symptoms on high-dose, twice-daily PPI. Regardless of definition, refractory symptoms are the most common use for

Download English Version:

<https://daneshyari.com/en/article/3300974>

Download Persian Version:

<https://daneshyari.com/article/3300974>

[Daneshyari.com](https://daneshyari.com)