

An Impedance/pH Fact Sheet

Donald O. Castell, MD, MACG , FAGA

Professor of Medicine, Department of Medicine, Division of Gastroenterology and Hepatology

Director, Esophagus Disorders Program, Medical University of South Carolina

Summary of Facts:

Over 40% of patients with Erosive Esophagitis have persistent symptoms despite PPI therapy and this number climbs to over 60% in patients with “non-erosive” GERD; the so-called NERD group¹.

Testing for non-acid reflux (NAR) and its relation to symptoms has truly “come of age” world-wide in recent years. With the increasing use of combined MII-pH monitoring, greater diagnostic information is now available, particularly in the large group of patients with continuing symptoms due to suspected GERD despite adequate acid suppression therapy with a PPI².

Approximately one-third of patients with continuing symptoms will be shown to have a positive symptom association for NAR when tested with MII-pH while on their therapy.

In a large US multi-center study of 168 patients, this figure was 35% with an additional 8% having symptoms with continued acid reflux using the Symptom Index as the diagnostic finding³. This result was supported in a European study by a French/Belgian consortium in which 60 patients were studied on PPI therapy and 32% had a positive Symptom Association Probability for NAR, with an additional 20% having symptoms with acid reflux⁴. (The authors of this study commented that regurgitation and cough were the symptoms most frequently associated with NAR).

The most frequent finding during MII-pH testing is that the persistent symptoms were not associated with any kind of reflux.

Approximately 55% of patients did not have a positive symptom association. In our experience, this “negative” finding is extremely helpful in the subsequent care of the patient since it directs further diagnostic efforts towards

seeking a diagnosis other than GERD, which is all too often an “easy” escape with which to label the confusing patient.

Consider “Reflux Reduction” therapies for patients with symptoms on PPI therapy where MII-pH has established a relationship of the symptom with NAR.

Support for this is now available from two recent publications:

- In the first, a group of patients with symptomatic NAR have been shown to respond very well to fundoplication, with 94% success after average follow-up of 14 months⁵.
 - A similar result has been shown in patients with chronic cough in whom the Symptom Index was positive for NAR⁶. A recent publication from Belgium has also suggested that NAR is a potential mechanism for chronic cough and that this can be demonstrated using MII-pH monitoring⁷.
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pH monitoring alone is inaccurate when compared to combined MII-pH monitoring in measuring both NAR and acid reflux⁸.

As we have often seen, NAR is poorly diagnosed by pH only testing, resulting in almost 70% false negative results. As we have often suspected, even acid reflux is poorly diagnosed by pH only testing, resulting in 32% false positive results. One has to question why anyone would perform pH only testing today.

1. Dean et al: Clin Gastroenterol Hepatol 2004
 2. Sifram et al: GUT 2004; 53: 1024-1031
 3. Mainie I et al: GUT 2006; 55 : 1398-1402
 4. Zerbib F et al: Am J Gastroenterol 2006;101:1-8
 5. Mainie I et al: Br J Surg 2006; 93: 1483-1487
 6. Tutuian R Et al: CHEST 2006: 130: 386-391
 7. Blondeau K et al: Aliment Pharmacol Therp 2007; 25: 723-732
 8. Hila A et al: Clin Gastroenterol Hepatol 2007; 5: 172-177
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