

GERD-Related Chronic Cough

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Case Study: Patient #3

- A 55-year-old man is referred for evaluation because of a persistent cough for 6 months
- Cough awakens him at night and he reports difficulty with sleeping

Case Study: Patient #3

- Cough is not associated with exertion or shortness of breath
- He is a non-smoker and not on an angiotensin-converting enzyme inhibitor (ACEI)
- No symptoms of rhinitis or sinusitis
- Occasional heartburn in the past 3 years with over-eating

Case Study: Patient #3

- Normal chest X-ray
- Normal pulmonary function tests

Focused Clinical Questions

1. Is this patient's chronic cough due to GERD?
2. What is the next step?

Extraesophageal GERD



ENT

Laryngitis

Sinusitis

Otitis

Hoarseness

Throat clearing

Globus

Sore throat

Pulmonary

Asthma

Chronic Cough

Pneumonia

Chronic bronchitis

Idiopathic pulmonary fibrosis

Chest Pain

Non-cardiac chest pain

Other

Dental erosions

Halitosis

Causes of Chronic Cough

Other
14%

Postnasal
drip
41%

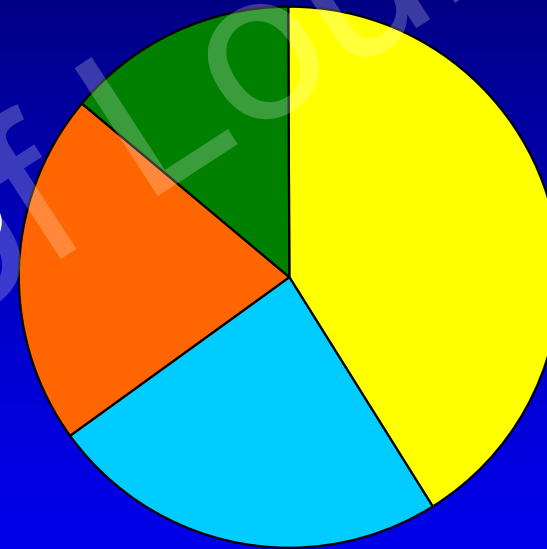
GERD
21%

Asthma
24%

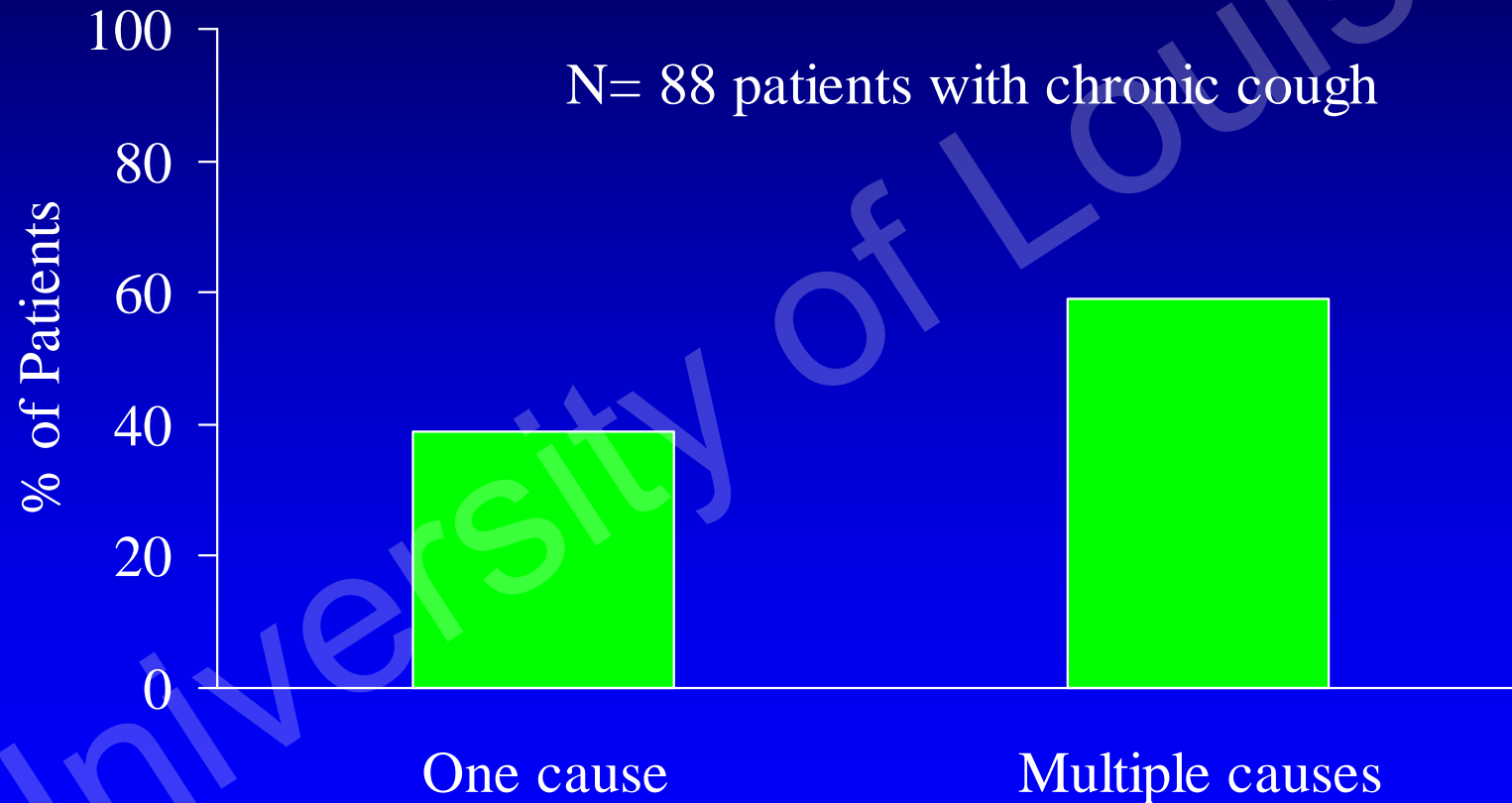
102 patients with
chronic cough

Other causes

- Chronic bronchitis (5%)
- Bronchiectasis (4%)
- Drug induced
- Pulmonary tumors
- Restrictive lung disease
- Postviral
- Aspiration
- Psychogenic



Causes of Chronic Cough May be Multiple



How GERD May Cause Pulmonary Symptoms

REFLUX

Gastro-esophageal reflux to the larynx or aspiration into the lower respiratory tract



REFLEX

Stimulate esophageal-bronchial neural cough reflex

GERD-Related Chronic Cough

- Most patients with GERD-related chronic cough have “silent reflux” without heartburn or regurgitation¹
- Character and timing of cough do not reliably distinguish GERD from other causes²

¹Irwin RS et al. Chest 1993;104:1511-7.

²Mello et al. Arch Intern Med 1996;156:997-1003.

Typical Profile of Patients with GERD-Related Chronic Cough

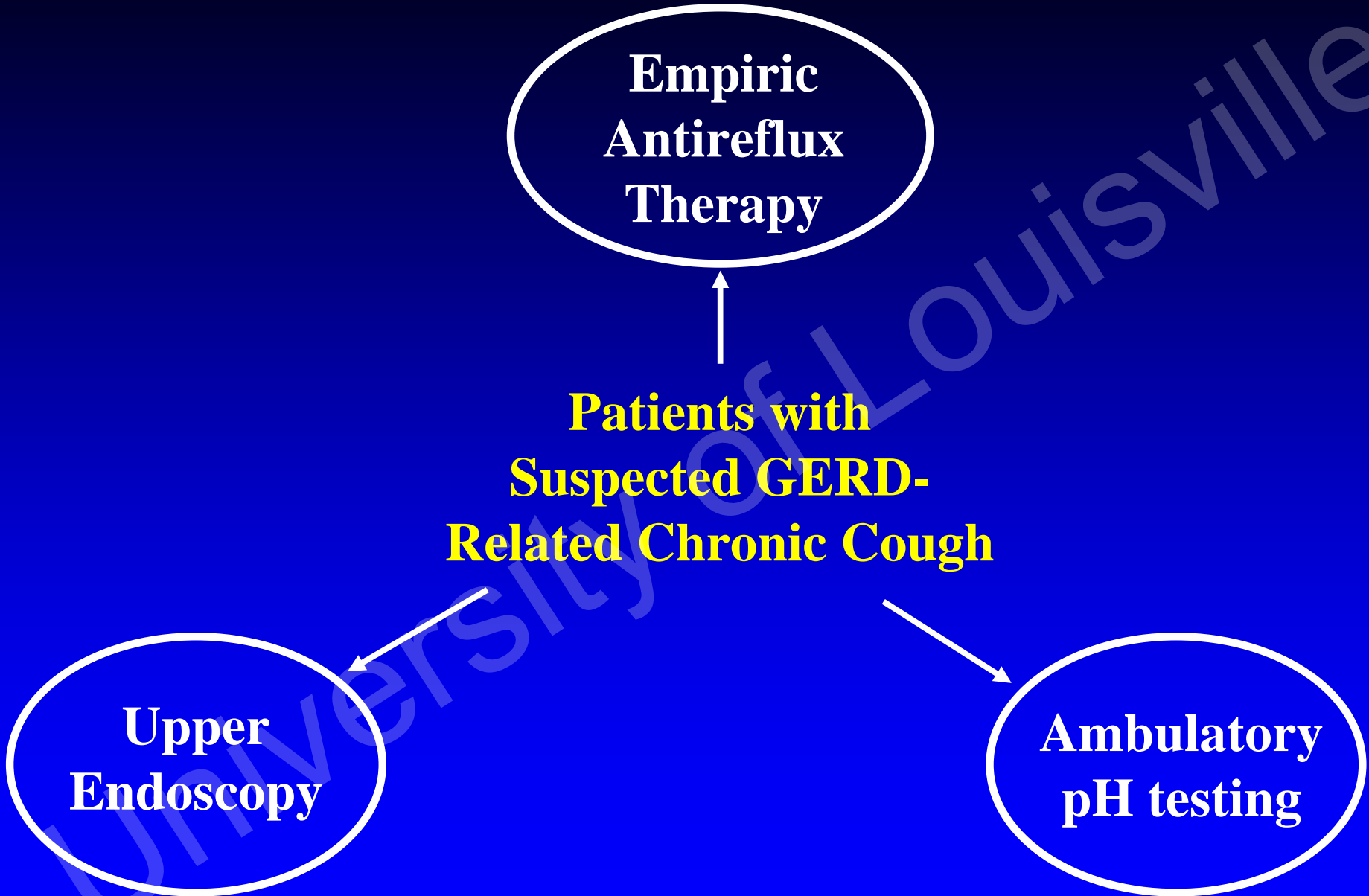
- No exposure to environmental irritants
- Non-smoker
- Not on angiotensin-converting enzyme inhibitor
- Normal or stable chest X-ray
- Asthma, post-nasal drip, and non-asthmatic eosinophilic bronchitis has been excluded

**Empiric
Antireflux
Therapy**

**Patients with
Suspected GERD-
Related Chronic Cough**

**Upper
Endoscopy**

**Ambulatory
pH testing**



Upper Endoscopy in Patients with Chronic Cough

- Only 16% of patients with chronic cough had mucosal complications of GERD on endoscopy
- Given its low yield, endoscopy is not recommended as part of the initial workup

Ambulatory pH Monitoring in Patients with Chronic Cough

- Results of ambulatory pH testing do not predict response to PPI therapy¹
- It is difficult to prove a causal relationship between acid reflux and chronic cough
- Given these limitations, pH testing should be reserved for non-responders to empiric PPI therapy²

¹Baldi F et al. World J Gastroenterol 2006;12:82-8.

²Fass et al. Aliment Pharmacol Ther. 2004;20(Suppl. 9):26-38.

Empiric Antireflux Therapy for Chronic Cough

- Empiric trial of antireflux therapy is indicated if
 - Patient meets clinical profile of GERD-related chronic cough, or
 - heartburn or regurgitation is present
- Twice daily PPI is reasonable
- Response to empiric PPI is 50-70%
- Failure of empiric trial does not rule out GERD

Antireflux Therapy for GERD-Related Chronic Cough

- Randomized controlled trials (RCTs) are limited; small numbers of patients
- Meta-analysis of 5 RCTs in adults with GERD-related chronic cough gave inconclusive results¹

¹Chang et al. Cochrane Database Syst Rev 2005;CD004823.

Summary:

GERD-Related Chronic Cough

- GERD is a common cause of chronic cough
- Causes may be multifactorial
- Heartburn and regurgitation are often absent
- Empiric PPI therapy is recommended in a patient with the proper clinical profile
- Ambulatory pH monitoring should be reserved for PPI non-responders

Case Study: Patient #3

- Patient was started on twice daily PPI therapy for 3 months
- Coughing spells improved significantly
- Subsequent, endoscopy revealed a 5-cm hiatal hernia
- His cough readily recurred when PPI was stopped
- Patient was maintained on once daily PPI therapy