

ABSTRACT

Introduction

Chronic hiccups can be distressing and may substantially reduce quality of life. Gastroesophageal acid reflux is in the differential for underlying non-neuroleptic and non-respiratory causes of intractable symptoms. However, proton pump inhibitor (PPI) therapy is often underdosed or mistimed, promoting medication abandonment or polypharmacy. Alternative pharmaceutical therapies are associated with side effects that may lead to eventual patient intolerance.

Case Description/Methods

A 67-year-old male presented to gastroenterology clinic with two years of hiccups and frequent nocturnal awakening. Additional symptoms included intermittent oral regurgitation without pyrosis, nausea, vomiting, or chest/abdominal pain. Prior therapies consisted of chlorpromazine and once daily pantoprazole without benefit. In addition, the patient was previously prescribed baclofen, which provided incomplete relief. Initial CBC, CMP, and thyroid function tests were unremarkable. Index radiographic imaging showed a patulous esophagus.

High resolution esophageal manometry (HREM) was nondiagnostic due to hiccups occurring during the study. Ambulatory pH/impedance testing, performed off acid suppression therapy, demonstrated elevated DeMeester score of 49.8, Acid Exposure Time (AET) of 13.2%, an elevated proportion of weakly acidic refluxate, and low mean nocturnal baseline impedance, consistent with reflux. Next, the patient underwent EGD, where a 1 cm hiatal hernia, regular Z-line, and Los Angeles Grade D esophagitis were discovered. Non-bleeding erosions were found in the distal stomach, and gastric biopsies returned negative for intestinal metaplasia or *Helicobacter pylori*. He was recommended to continue baclofen, start colestipol 1 gm daily, and start omeprazole 40 mg twice daily for 3 months.

Five months after his initial visit, the patient reported improved symptoms with resolution of nocturnal episodes. He was planned for a surveillance EGD after 3 months of twice daily PPI therapy.

Discussion

Chronic hiccups are atypical symptoms of gastroesophageal acid reflux. Important diagnostic steps include ruling out alternative etiologies, in order to tailor specific therapy. PPI are frequently prescribed but are often underdosed or lower potency options (eg. pantoprazole) are utilized. Our case suggests a limited trial of high-potency twice daily PPI therapy is effective and should be initially considered for chronic hiccups from an acid reflux etiology.

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INTRODUCTION

Regarded as a common natural behavior, hiccups can however become chronic and then intractable. Once left unchecked, these involuntary spastic contractions of the respiratory muscles can become socially distressing. One of the etiologies of persistent hiccups includes gastroesophageal reflux disease (GERD). The presumed pathophysiology includes intermittent stimulation of the gastroesophageal mucosal neural terminals thereby affecting the afferent/efferent pathways of the reflex arc. When appropriately diagnosed and alternative etiologies ruled-out, GERD-based chronic intractable hiccups may respond well to high-potency proton pump inhibitor (PPI) therapy.

CASE DESCRIPTION

- 67-year-old male with chronic hiccups for 2 years
- Associated symptoms: oral regurgitation and unintentional weight loss for 1 year
- Previous Rx: once-daily pantoprazole 40mg and scheduled baclofen
- HREM - non-diagnostic
- Ambulatory pH testing OFF acid-suppressive therapy - GERD and weakly acidic refluxate
- EGD - small hiatal hernia and LA Grade D esophagitis
- At next clinic visit, started twice daily omeprazole 40mg and continue baclofen with symptom benefit

DISCUSSION

Chronic intractable hiccups warrant investigation into etiology. Persistent hiccups can alter esophageal motility and impedance, as well as lower esophageal sphincter pressure.

Once diagnosis of GERD is shown to be contributory to the patient's presentation - through upper endoscopy, esophageal manometry, and/or ambulatory pH study - therapy should be initiated. In the reported patient, the patient had experienced no symptomatic benefit from once daily low-potency PPI therapy, even when in combination with GABA agonists (ex. baclofen). The transition to twice-daily high-potency PPI therapy significantly improved symptoms.

In those with GERD as the underlying pathophysiology of persistent hiccups, high-potency PPI therapy may be explored as a therapeutic option with lower neurologic side effect profiles compared to the use of many neuroleptic medications acting on dopaminergic or GABA-ergic receptors.



FIGURE A

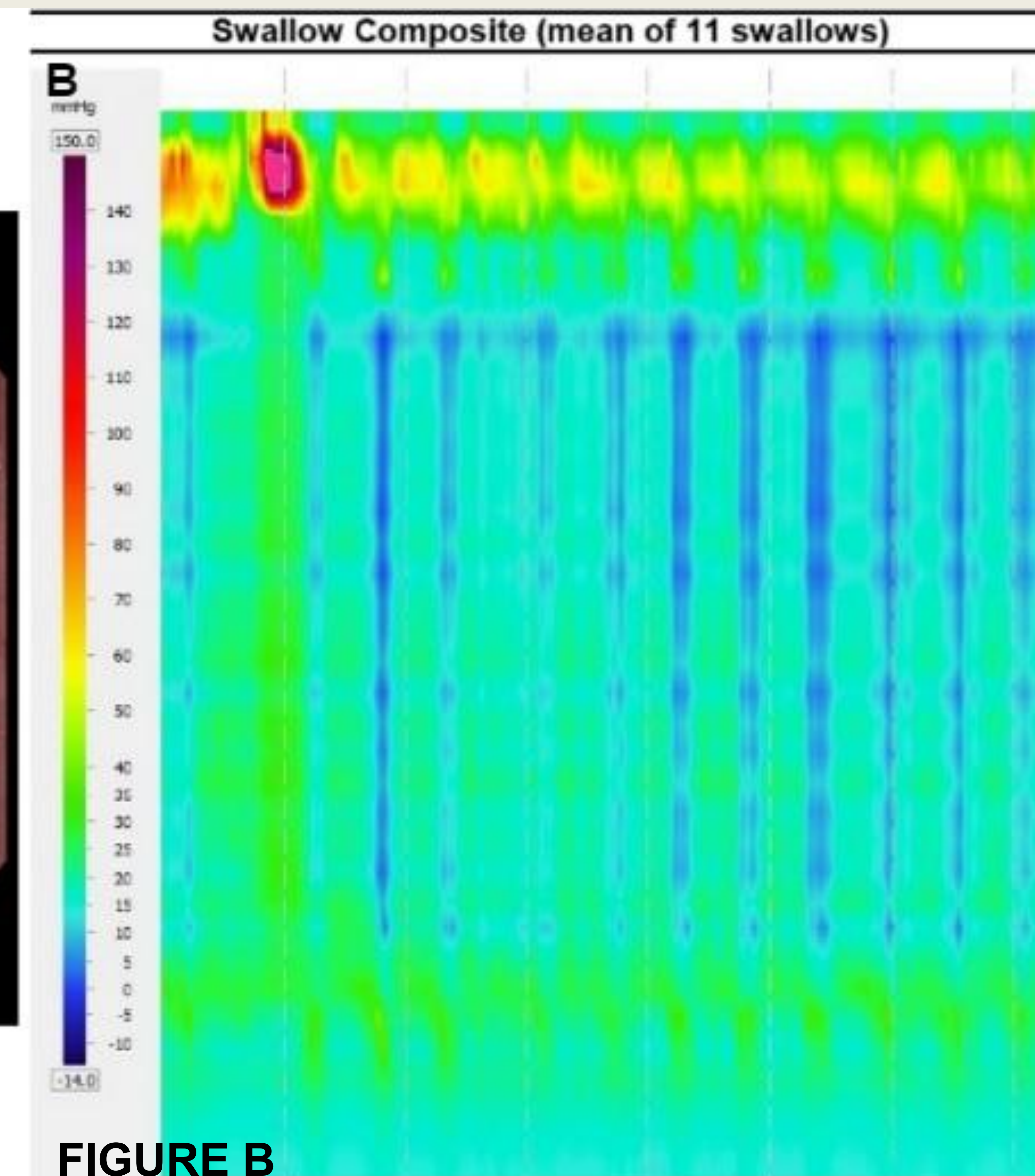


FIGURE B

PPI	Relative potency (OE)
Rabeprazole	1.82
Esomeprazole	1.60
Omeprazole	1.00
Lansoprazole	0.90
Pantoprazole	0.23

Table 1. OE - omeprazole equivalent

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