Understanding and Treating Chronic Acid Reflux

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Overview

• Understanding GERD
• Medical Management
• Surgical Therapy
Is This You?

“It’s just a touch of heartburn.”

Symptoms of GERD

- Heartburn
- Acid regurgitation
  - Sour or bitter taste in throat or mouth
  - Esp. after large, late meals
- Water brash
  - Hot sensation in stomach
  - Excess salivation
- Dysphagia and Odynophagia
  - Difficulty or painful swallowing
Other Symptoms of GERD

**Pulmonary**
- Asthma
- Aspiration pneumonia
- Chronic bronchitis

**ENT**
- Hoarseness
- Laryngitis
- Sore throat
- Chronic cough
- Frequent swallowing
- Burning in the throat or mouth

**Other**
- Regurgitation
- Chest pain
- Dental erosion

Atypical symptoms

**Anatomy**

- **Lower Esophageal Sphincter (LES)**: Relaxes to allow swallowing
- **Gastroesophageal Flap Valve (GEV)**: 180° flap valve, maintains closure against lesser curve of stomach, is closed by pressure in the stomach to prevent reflux
- **Angle of His**
- **Diaphragm**
- **Fundus**
- **Esophagus**
- **Z Line**: Marks where stomach and esophagus meet

*Gray’s Anatomy, 1997*
**What causes GERD?**

**Intrinsic Factors:**
- Esophageal clearance of acid
- Mucosal resistance to acid
- Ability of the stomach to empty
- Duodenal-gastric reflux

These can often be medically managed.

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**What Causes GERD?**

**Extrinsic Factors:**
Deterioration of natural barrier to reflux; the Antireflux Valve

**Normal Anatomy**
- Fully Functional Valve Prevents Reflux
- Antireflux Valve Tight to the Scope
What Causes GERD?

Extrinsic Factors:
Deterioration of natural barrier to reflux; the Antireflux Valve

Dysfunctional Valve
Can’t close to prevent reflux of stomach contents

Dysfunctional Valve
Can’t close. Loose to the scope.

This requires surgical management

GERD Facts

• 10 - 15% of adult population suffers from daily GERD (~15 million)

• Incidence of GERD rises rapidly after 40 years of age

• Most GERD gets worse over time. Early correction can prevent further deterioration of the natural barrier to reflux.

• Esophageal cancer is 8X more likely to occur in patients with weekly heartburn or regurgitation
Clinical Progression of GERD

Physiological Reflux → Symptomatic GERD → Esophagitis → Complicated Esophagitis

**Typical**
- Heartburn
- Regurgitation

**Atypical**
- Chest pain
- Swallowing difficulties
- Cough
- Asthma
- Laryngitis

**Complications**
- Ulceration
- Hemorrhage
- Strictures
- Barrett’s
- Adeno-Ca

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Lifestyle/Behavior Modification

- Diet
- Weight loss
- No late night eating
- Bed position
- Sleeping in a chair....

Types of Medications

- Antacids
  - Neutralize or buffer stomach acid
- H2 blockers (ranitidine, cimetidine)
  - Blocks the body's signal to the stomach to produce acid
- Proton Pump Inhibitors (PPIs)
  - Blocks the secretion of acid into the stomach

May be satisfactory for some patients
Continued Reflux Symptoms on Medications

**Gallup Poll Reflux***
72% on Medication

- 79% Nighttime symptoms
- 50% Nighttime reflux worse than daytime reflux
- 63% Ability to sleep affected
- 40% Daytime function affected
- 70% Nighttime discomfort moderate to severe
- 75% Can not fall asleep or wakes them up
- 45% Medication does not relieve all symptoms

20-40% of patients dissatisfied with PPI medication

*Gallup Poll 2000 for AGA N = 1000
American Journal of Gastroenterology 2003; vol. 98 Shaker et al

Severe and Chronic GERD

**PPIs are not the solution for severe or chronic reflux**

Does not stop
- Reflux
- Non Erosive Reflux Disease (NERD)
- Regurgitation

ANATOMICAL CHANGES NEED ANATOMICAL REPAIRS

Chronic GERD

Normal
Long-term PPIs

- May be a significant risk for long-term complications with chronic drug therapy
  - At risk for osteoporosis
  - At risk for gastric polyps
  - Barrett’s and esophageal cancer risk increase
  - Drug-drug interaction issues
  - Adverse events from PPIs

- Patients who do not want to take drugs for life
- Non Erosive Reflux Disease (NERD)
- Expense

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Indications for Surgery

- Esophagitis
- PPIs required for control
- Persistent symptoms despite medications
- Presence of Barrett’s esophagus
- Non-acid symptoms of reflux (asthma, chronic cough, laryngitis…)

Tests for Surgery

You might need one or more of the following tests:

- Endoscopy
- Barium swallow
- pH monitoring
- Manometry
**Surgical Treatment**

Aims to recreate the natural valve that stops fluids from the stomach refluxing back to the esophagus.

**Nissen Fundoplication**

Laparoscopic Fundoplication
Lap Nissen Fundoplication

1,000 cases

- Average hospital stay 1.2 days
- Resolution of symptoms at 1 year: 94%
- Major complications: 2%
- Long term complications: 2-62%
  - Gas bloat
  - Difficulty swallowing


Treatment Options

A NEW Alternative

TIF with EsophyX®
“Front Line Surgical Management”

Mild GERD

Anatomical Changes

Severe GERD

Today’s Approach

Lifestyle Change

Pharmaceutical (Rx and OTC)

Surgical

Limitations
**TIF (Transoral Incisionless Fundoplication)**

No incisions
- No scarring
- No incisional herniation
- Less potential for infection - nosocomial infection minimized

**Patient friendly**
- Rapid return to work and normal activities

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**EsophyX Experience**

Reconstructs the natural primary barrier to reflux by creating a robust valve
- 45 - 60 minute procedure
- Overnight stay (general anesthesia)
- Post-op discomfort minimal
- Rapid recovery – Most patients are back to work and most activities in a couple of days
Multi Center Trial (1 year) N=79

85% of Patients OFF daily PPIs

- Minimal risk of adverse events
- Excellent QOL improvement 73%
- Elimination of PPI use 85%
- Esophagitis resolution 59%
- Hiatal hernia reduction 71%
- pH normalization 49% (Hill grade one)

Clinically Safe & Effective

Multi Center Trial (2 years) N=79

- Minimal risk of adverse events
- Patients satisfied: 86%
- Patients can consume reflux causing foods without symptoms: 60-80%
- **No long term adverse events**

Clinically Safe & Effective
Medical/Surgical Therapies

- **Medical Therapies**
  - PPI, H2
  - Lifestyle/Behavior Modifications

- **Surgical Therapies**
  - TIF Fundoplasty
  - Incisionless TIF Fundoplication
  - Laparoscopic Fundoplication

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Linx

- Titanium case
- Magnetic core
- Titanium arm
Design allows augmentation without compression of esophagus

5 YEARS AFTER LINX

- Off Medication
- Free from Bothersome Regurgitation and Heartburn
- Better Quality of Life
- Less Gas and Bloating
- Normal Stomach Anatomy
- Can Belch and Vomit
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TAKE HOME MESSAGE

Gastrointestinal Reflux Disease is one of the largest and fastest growing disease states in the US that affects 1 in 5 adults and over 20 million patients taking Reflux medications.

Reflux patients are currently treated not only by PCPs and Gastroenterologists but also present in the Emergency Room for non-cardiac chest pain, with ENTs and Pulmonologists for voice and asthma symptoms, and at Sleep and Allergy clinics.
Questions?