GERD Management

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SCMD
Semaine canadienne des maladies digestives^MC

CDDW
Canadian Digestive Diseases Week™

1st March 2020

CanMEDS Roles Covered

X	**Medical Expert** (as *Medical Experts*, physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional values in their provision of high-quality and safe patient-centered care. *Medical Expert* is the central physician Role in the CanMEDS Framework and defines the physician's clinical scope of practice.)
X	**Communicator** (as *Communicators*, physicians form relationships with patients and their families that facilitate the gathering and sharing of essential information for effective health care.)
X	**Collaborator** (as *Collaborators*, physicians work effectively with other health care professionals to provide safe, high-quality, patient-centred care.)
	Leader (as *Leaders*, physicians engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers.)
	Health Advocate (as *Health Advocates*, physicians contribute their expertise and influence as they work with communities or patient populations to improve health. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change.)
X	**Scholar** (as *Scholars*, physicians demonstrate a lifelong commitment to excellence in practice through continuous learning and by teaching others, evaluating evidence, and contributing to scholarship.)
	Professional (as *Professionals,* physicians are committed to the health and well-being of individual patients and society through ethical practice, high personal standards of behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health.)

Conflict of Interest Disclosure

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(Over the past 24 months)
Name: Adriana Lazarescu

Commercial or Non-Profit Interest	Relationship
Allergan	Speaker, Educational grant

I will discuss the off-label use of medications

Conflict of Interest Disclosure

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(Over the past 24 months)
Name: David Armstrong

Commercial or Non-Profit Interest	Relationship
AbbVie	Consulting, Advisory, Speaking, Research Support, Educational Event
Allergan	Speaking, Educational Event Sponsorship
Ferring	Educational Event Sponsorship
Fresenius-Kabi	Educational Event Sponsorship
Janssen	Consulting, Advisory, Research Support, Educational Event Sponsorship
Lupin	Advisory, Educational Event Sponsorship
Mylan	Speaking, Educational Event Sponsorship
Olympus Canada	Advisory, Educational Event Sponsorship
Pendopharm	Consulting, Advisory, Research Support, Educational Event Sponsorship
Pentax Medical	Consulting, Advisory, Research Support, Educational Event Sponsorship
Pfizer	Consulting, Advisory, Educational Event Sponsorship
Shire Canada	Advisory, Educational Event Sponsorship, Speaking
Takeda Canada	Consulting, Advisory, Speaking, Research Support, Educational Event

Conflict of Interest Disclosure

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(Over the past 24 months)
Name: David Armstrong

Commercial or Non-Profit Interest	**Relationship**
Canadian Association of Gastroenterology (CAG)	Past-President, Board Member
Canadian Digestive Health Foundation (CDHF)	Board Member
American College of Gastroenterology (ACG)	Past Governor, Ontario
World Gastroenterology Organization (WGO)	Vice Chair, WGO Guidelines Committee
Canadian Partnership Against Cancer (CPAC)	Chair, National Colon Cancer Screening Network (NCCSN)
European Commission (EC)	Member, European Commission Initiative on Colorectal Cancer (ECCIC)
Canadian Standards Association (CSA Group)	Member, Electrosurgery Safety Committee

I will discuss the potential off-label use of medications

Objectives

To review optimal medical management of GERD

To discuss which patients with GERD should be managed surgically

Appreciate the management options for refractory heartburn

Case

- 37yo woman with heartburn x 5 years
- Has tried 4 different PPIs – some didn't help at all, some helped a bit for a while then stopped working
- Currently on dexlansoprazole 60mg PO BID – only works partially
- Also take a lot of TUMS

- No chest pain, no dysphagia, no weight loss

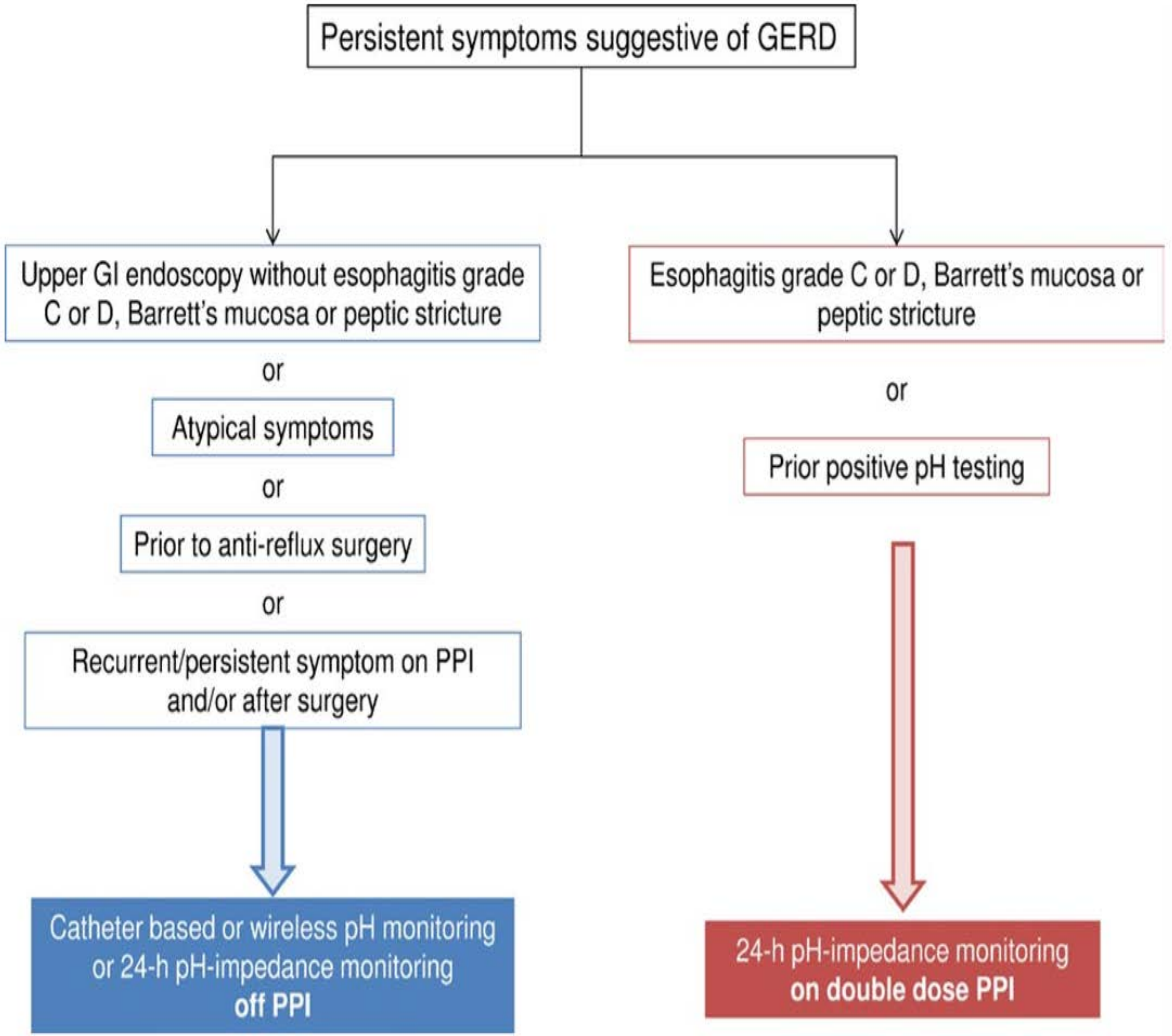
- PMHx hypothyroidism on levothyroxine, appendectomy
- No other meds
- No contributory FHx
- No alcohol, smoking, marijuana

Case

- Upper GI series 2 years ago
  - Normal esophageal peristalsis
  - Some instances of gastroesophageal reflux noted

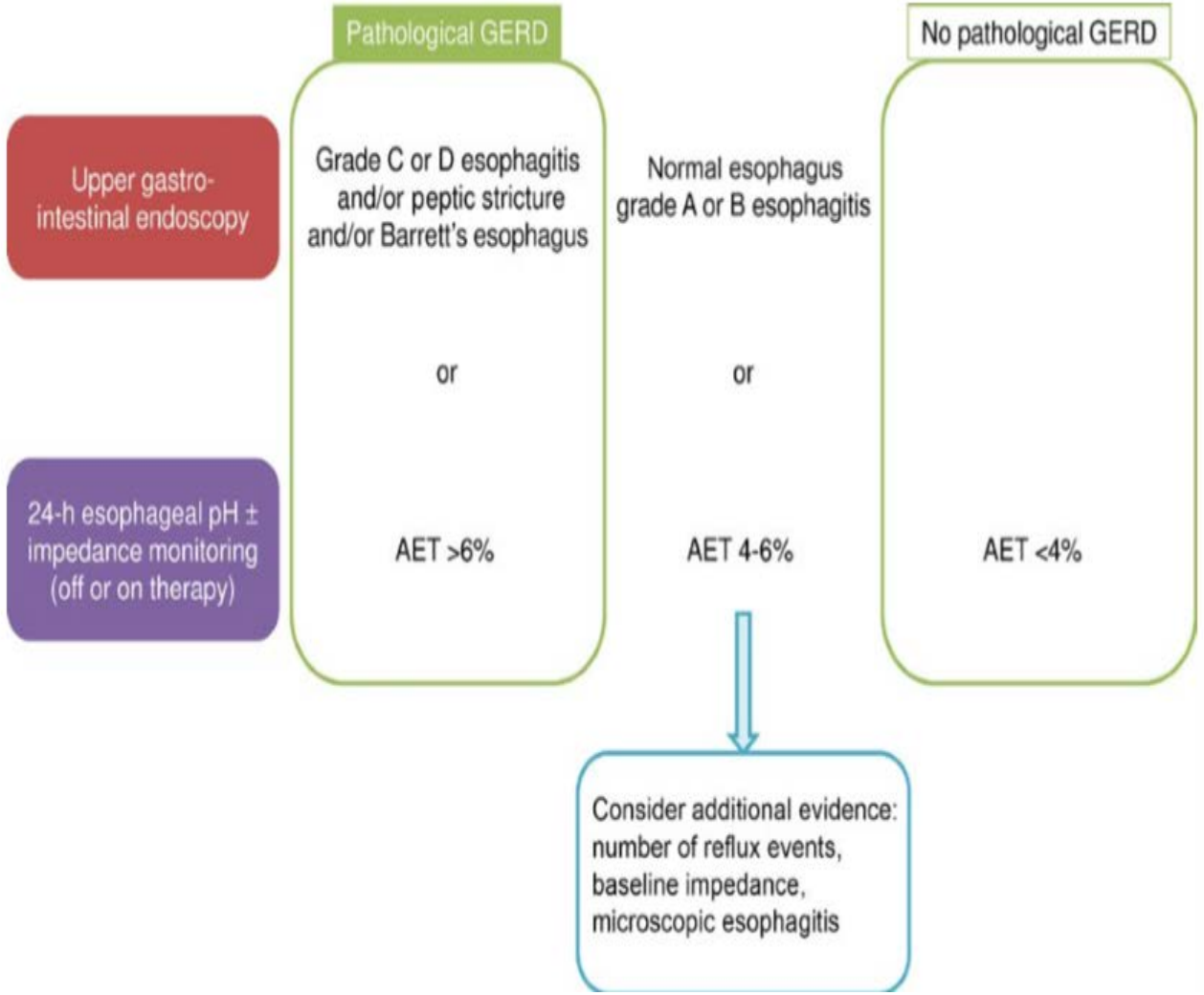
- Gastroscopy 3 years ago
  - normal

Persistent GERD Management



Roman S et al. Neurogastroenterol Motil 2017 29.e13067

Investigations for GERD



Roman S et al. Neurogastroenterol Motil 2017 29.e13067

Heartburn Syndromes: Esophageal Hypersensitivity & Acid Exposure

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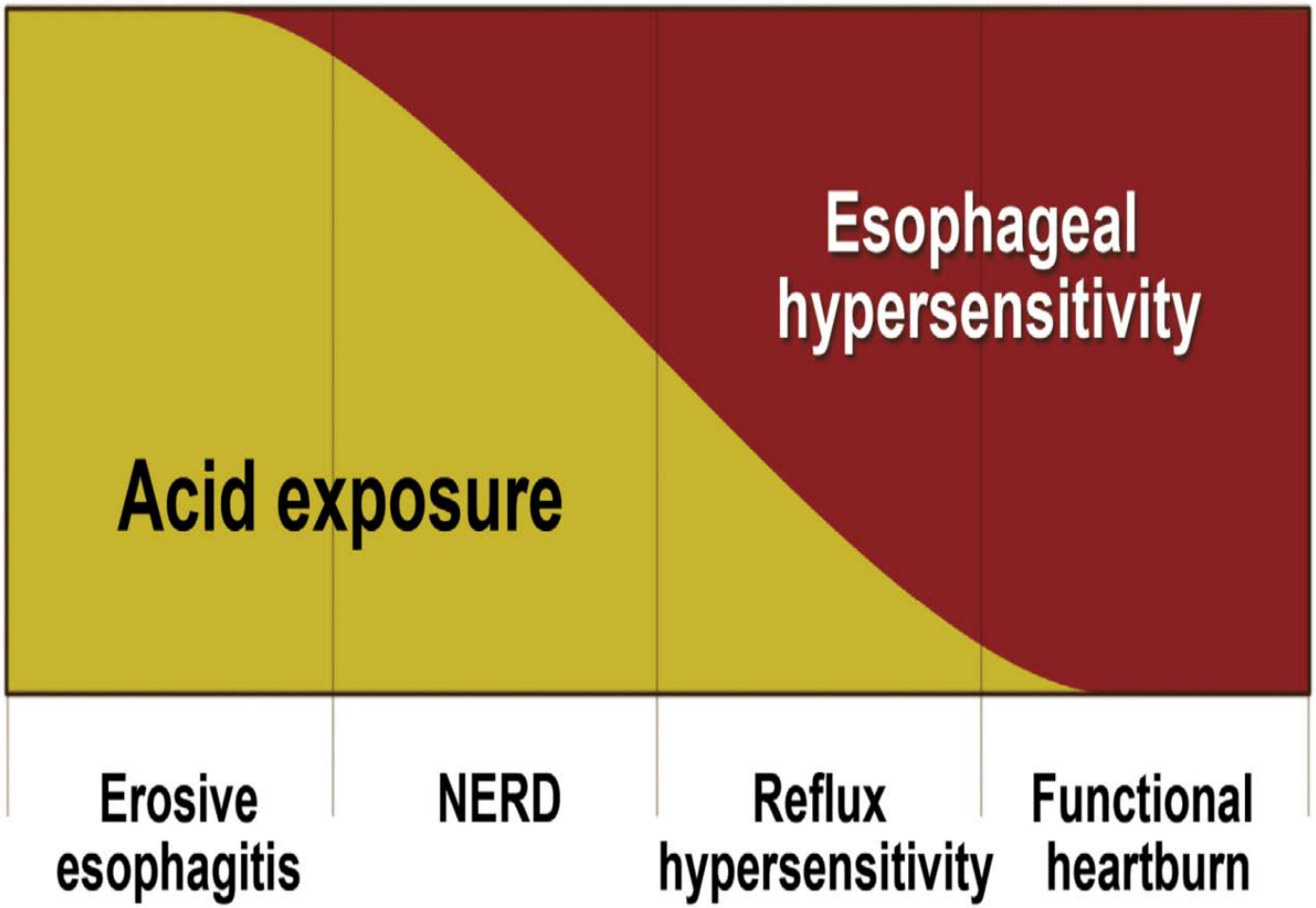

Aziz Q et al: Functional Esophageal Disorders. Gastroenterology 2016

Why Patients May Not Respond to PPI Therapy

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- Dose
- Timing
- Adherence
- Different metabolism (cytochrome P450)
- Severe esophagitis with delayed healing
- *Helicobacter pylori*
- NSAIDs
- Gastroparesis – diabetic, narcotic

Why Patients May Not Respond to PPI Therapy

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- Patients with achalasia can complain of a “heartburn” sensation due to fermentation of food retained in the esophagus, not acid reflux
- Rumination
- Visceral hypersensitivity – can overlap with GERD
- Psychological comorbidity
- Functional heartburn

Other Options

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- Baclofen
  - Decreases the number of TLESRs
  - Studies have been underwhelming
  - Limited tolerability due to side effects

Other Options

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- Prokinetics
  - Domperidone, Metoclopramide
    - Empty the stomach faster so less volume to reflux
    - Poor evidence if patient does not have delayed gastric emptying
    - Side effects
  - Prucalopride
    - $5HT_4$ agonist
    - Approved by Health Canada for idiopathic constipation
    - Higher dose (4mg daily) has promotility benefit in UGI tract
      - Off-label use
    - No QT_c interval prolongation

Hypersensitive Esophagus & Functional Heartburn

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- Reassurance regarding benign nature of symptoms
- Neuromodulators
  - Tricyclic antidepressants (TCA)
    - e.g. amitriptyline 10-20 mg or
    - imipramine 25-50 mg qhs
  - Selective serotonin reuptake inhibitors (SSRI)
    - e.g. citalopram 20 mg od
  - Small short term studies – 40-60% response rates
  - Gabapentin (300 mg) for prominent globus sensation
- Cognitive behavioral therapy (CBT)
- Hypnotherapy

Indications for Fundoplication

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- Regurgitation (volume reflux)
- Ongoing reflux esophagitis despite BID PPI
- Patient does not want to take or cannot take PPI or H_2RA
- Barrett's esophagus

- **A patient who does not respond to PPI therapy is <u>not</u> a good can for fundoplication**

What about BMI?

- Increasing weight is associated with greater incidence and severity of GERD
- BMI >35 is generally considered a contraindication to fundoplication
- Anti-reflux procedure of choice for patient with GERD and high BMI is a Roux-en-Y Gastric Bypass

Back to the Case

- 24hr pH impedance study done off PPI

- Acid exposure time: 2% (normal)
- Total number of reflux episodes: 23 (normal)
- Symptom association: positive (SI and SAP) for heartburn and acid reflux
  - SI: Symptom Index; SAP: Symptom Association Probability

- → **Diagnosis: Reflux Hypersensitivity**

- → Treated with amitriptyline 50mg PO qhs

Case #1

- 54-year old man
- Intermittent heartburn for > 30 years
  - Worse over last 6 months
  - Heartburn 5-7 days per week
- No alarm features
- PH / DH / Exam – unremarkable
- Prior EGD – normal (small hernia)
- Omeprazole 20 mg od
  - Somewhat better; heartburn 2-3 days /week

Case #1

- 54-year old man
- Intermittent heartburn for > 30 years

Review at 12 weeks

- Adherence
- Timing of symptoms
- Lifestyle triggers
- Offer further testing
  - Fasting serum gastrin: Normal
  - Esophageal manometry:
    Low basal LESP & Normal peristalsis
  - 24-hour MII-pH: Time pH < 4 = 12.6%; SAP +ve

Case #2

- 76-year old woman: Heartburn for > 20 years
  - Chronic cough & intermittent hoarseness
- EGD – normal
- Rx – Pantoprazole 40 mg bid to tid
- Heartburn 1–4 times /week
  - Occasional nocturnal heartburn
- Offer further testing
  - Esophageal manometry: Normal LES, peristalsis
  - 24-hour MII-pH: Time pH < 4 = 2.1%; SAP +ve

Case #2

- 76-year old woman
- Heartburn for > 20 years
  - Chronic cough & intermittent hoarseness

- Stress: husband has Alzheimer's disease
- Rx – Pantoprazole 40 mg bid to tid
  Amitriptylline 10 mg qhs
- Heartburn 0 - 1 times /week
  - Decreased noctumal heartburn
  - 'My reflux is manageable'

Case #3

- 63-year old man: Heartburn for > 40 years
  - Much more troublesome over last year
- Metabolic syndrome
- Rx – Lansoprazole 30 mg bid
- Severe heartburn 1 to 3 times /week
- EGD - Normal
- Offer further testing
  - Esophageal manometry: Normal LES, peristalsis
  - 24-hour MII-pH: Time pH < 4 = 6.3%; SAP -ve

Case #3

- 63-year old man: Heartburn for > 40 years
- Increase lansoprazole 30 mg tid
- Continued episodes of retrosternal burning
  - Some episodes with exercise (relieved by GTN)
  - No benefit from antacids / alginates
- Cardiology opinion
  - Coronary artery disease
- Post CABG – asymptomatic on PPI BID
- Concurrent GERD & Ischemic Heart Disease

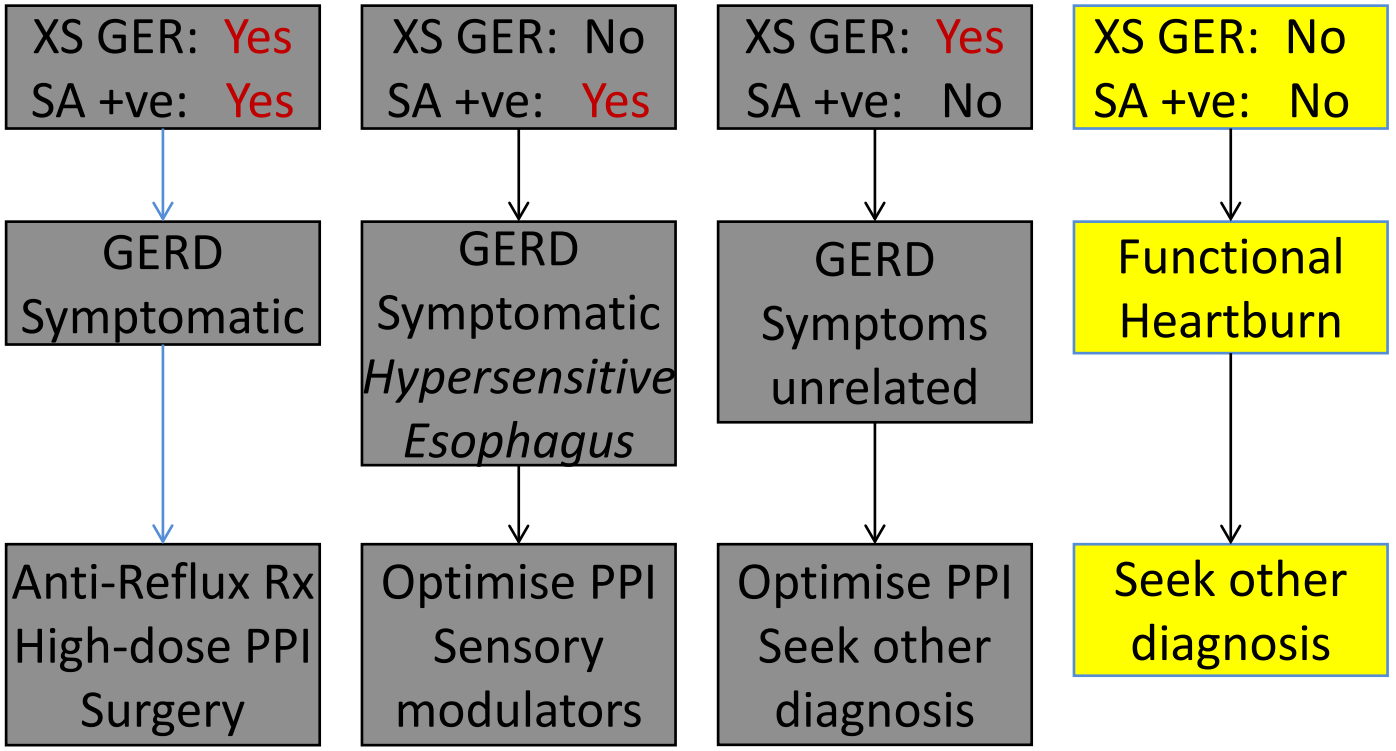
Case #4

- 35-year old woman: Heartburn for 10 years
  - Much more troublesome over last year
- Healthy
- Rx – Rabeprazole 20 mg bid
- Heartburn 1 to 3 times /week
- EGD – Normal; Biopsies – Normal
- Offer further testing
  - Esophageal manometry: Normal LES, peristalsis
  - 24-hour MII-pH: Time pH < 4 = 1.1%; SAP -ve

Case #4

- 35-year old woman: Heartburn for 10 years
- Declined antidepressant:
- Pt: ‘It’s just masking the problem!’
- MD: ‘What’s the problem?’
- Pt: ‘Reflux! It’s more than just heartburn!’
- MD: ‘You will not get esophageal cancer.’
- Pt: ‘Are you sure?’
- MD: ‘Yes. Do you want another PPI script?’
- Pt: ‘Oh, No! The symptoms are fine.’
  ‘As long as I don’t have cancer.’

Esophageal pH-Impedance Monitoring Off PPI Therapy



Boeckxstaens G et al. Gut 2014; 63: 1185-1193