Management of GORD

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Topics

- Case 1
  - Management of GORD

- Case 2
  - Indications for endoscopy/referral
  - Complications of GORD
  - Barrett’s oesophagus
  - Helicobacter pylori

- Case 3
  - Functional dyspepsia
Case 1: Amanda

- 34 year old woman

- Visits GP because of ‘terrible heartburn’
  - Retrosternal burning everyday for 6 months
  - Occasional acid reflux into mouth
  - Can disrupt sleep
  - Persistent dry cough
  - No haematemesis/melaena
  - No abdominal pain
  - No weight loss
  - No dysphagia
Case 1: Amanda

- No medical history
- No family history
- Non-smoker, binge drinks in weekend

Examination
- BMI 31
- No pallor
- Abdominal examination normal
Case 1: Amanda

- Diagnosis
  - Amanda most likely has gastro-oesophageal reflux disease
Definition of GORD

- GORD

  - Heartburn: burning sensation in retrosternal area
  - Reflux: perception of flow of refluxed gastric content into the mouth or hypopharynx
  - GORD occurs when the reflux of stomach contents causes troublesome symptoms or complications
  - Significant impairment of QOL usually occurs when symptoms occur on ≥ 2 days /week
GORD Symptoms

- Most frequently experienced symptom of GORD
  - Retrosternal burning or heartburn
  - 86% of patients in general practice
  - Jones et al; 1995

- 65% of adults suffer from heartburn
  - 15% longer than 10 years
  - Glise; 1995

- 34% of patients visiting their general practitioner have heartburn for > 3 months
  - Corder et al; 1996
GORD Symptoms

- 15-20% of adults experience heartburn at least once/wk

Case 1: Amanda

Amanda mentioned a persistent cough. Is this likely to be related to reflux?

- Yes
- No

What are the extra-oesophageal symptoms that can be cause by gastro-oesophageal reflux?
<table>
<thead>
<tr>
<th>Oesophageal Syndromes</th>
<th>Extra-oesophageal syndromes</th>
</tr>
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<tbody>
<tr>
<td>Symptomatic syndromes</td>
<td>Syndromes with oesophageal injury</td>
</tr>
<tr>
<td><strong>Typical reflux syndrome</strong></td>
<td>Established associations</td>
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<tr>
<td>Reflux chest pain syndrome</td>
<td>Reflux oesophagitis</td>
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<td></td>
<td>Reflux stricture</td>
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<tr>
<td></td>
<td>Barrett’s oesophagus</td>
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<tr>
<td></td>
<td>Oesophageal adenocarcinoma</td>
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<tr>
<td></td>
<td>Reflux cough syndrome</td>
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<td></td>
<td>Reflux laryngitis syndrome</td>
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<tr>
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<td>Reflux asthma syndrome</td>
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<tr>
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<td>Reflux dental erosion syndrome</td>
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</tbody>
</table>
Symptom Assessment

- Heartburn
- Regurgitation
- Excessive belching, waterbrash
- Quality of life
- Atypical symptoms
  - Chest pain, cough, sore throat, hoarseness, wheeze
Question

- What are the alarm symptoms?
  - Dysphagia
  - Bleeding or iron deficiency anaemia
  - Odynophagia
  - Weight loss
Differential Diagnosis

- GORD
- Peptic ulcer disease
- Impaired gastric emptying
- Functional / non-ulcer dyspepsia

Also
- Infectious oesophagitis
- Pill oesophagitis
- Biliary tract
- Oesophageal dysmotility
- Coronary artery disease
Question

- What are Amanda’s risk factors for reflux?
Risk Factors

- Obesity
- Alcohol consumption (>7 STD drinks/wk)
- Hiatal hernia
- First-degree relative with GORD
- Scleroderma
- Institutionalised or intellectually handicapped
- Patients nursed in supine position for extended period of time
- Medications: Fosamax
Age Range of Patients with Reflux Oesophagitis

Number of patients n=1440 (total)

Age in years

Normal endoscopy
GORD

Smout; 1997
Spectrum of GORD

- Oesophagitis in 30-40%
  - Complications in 5%
- Non-oesive reflux disease (NERD) in 60-70%
Severity of Heartburn in Patients With and Without Oesophagitis

Severity of Heartburn

Smout; 1998
Frequency of Heartburn in Patients With and Without Oesophagitis

Frequency of Heartburn

Patients with oesophagitis

Patients without oesophagitis

Smout; 1997
Pathophysiology

Peristaltic Abnormality
Esophageal Body
LES Pressure

Duodenal Reflux

Modlin & Sachs; 1997
Case 1: Amanda

Would you manage Amanda by:

- Referral to a gastroenterology unit?
- Reassurance?
- Treatment with a proton pump inhibitor?
- Referral for endoscopy?
- Lifestyle modification?
Case 1: Amanda

- Would you manage Amanda by:
  - Referral to a gastroenterology unit? **No**
  - Reassurance? **Yes**
  - Treatment with a proton pump inhibitor? **Yes**
  - Referral for endoscopy? **No**
  - Lifestyle modification? **Yes**
Therapeutic Trial of PPI as Diagnostic Test

- Symptom based diagnosis of GORD (without alarm symptoms)
  - Standard dose PPI
  - Response supports the diagnosis
  - Typical symptoms respond within 2 weeks
  - Atypical symptoms may take 8 weeks
Therapeutic Trial as Diagnostic Test

- “Pantoprazole 40 mg bd given for 10 days to patients with symptoms suggestive of GORD showed a sensitivity of 75%”
  
  Neville et al; 1998

- Sensitivity and specificity moderate but may be comparable to pH monitoring
Management

- PPI therapy
  - Rapid and reliable resolution and healing of oesophagitis
  - 80% after 8 weeks
  - Initial trial of once-daily PPI
    - Before breakfast for 4-8 wks
    - Evening or nocturnal Sx may be dosed before the evening meal

- Minority will not achieve symptom resolution
  - Most likely to have NERD
Maintenance Therapy

- Lowest dose and frequency of drug

- Who needs long-term treatment?
  - Long-standing severe symptoms or a higher grade of oesophagitis need continuous therapy
  - A few need twice daily dosing

- Trial of treatment cessation for short-term symptoms

- Intermittent ‘on demand’ therapy can be effective

- Prokinetic agents have little role in management
Lifestyle modification

- Weight loss
- Dietary fat reduction
- Avoidance of foods that precipitate symptoms
- Smoking cessation
- Reduction in alcohol intake
- No food 3 hours before bed
- Frequent, moderate sized meals
- Elevate bed-head

Kitchin & Castell, Arch Intern Med 1991;151:448-54
Are PPI’s safe?

- Minor adverse effects
  - Headache
  - Nausea
  - Diarrhoea
- Slightly increased risk of community-acquired pneumonia and bacterial gastroenteritis
- Rarely interstitial nephritis
Refractory Symptoms

- Lifestyle!
- PPI
  - 30 mins pre meals
  - Twice daily dosing
  - Increase dose
  - Switch drug
- Stop NSAIDs
- Endoscopy
- ? Other causes of symptoms
  - Altered motility
  - Functional dyspepsia
- Trial of prokinetic agent
- pH testing
Surgery

- Laparoscopic vs open
  - Comparable efficacy
- Mortality 0.3%
- 94% 1yr satisfaction
- 86-88% off PPI at 5y
- Experience important
- New symptoms common

Case 2: John

- 53 year old man
- Presents to your clinic
  - Heartburn for > 5 years
  - Worsening symptoms
  - Occasional dysphagia for solids
  - No melaena, haematemesis, weight loss
  - No odynophagia
  - Smoker
- Examination normal
Case 2: John

- What would you do next?
  - Reassure patient
  - Treat with trial of PPI
  - Refer to gastroenterology service
  - Refer for endoscopy
Case 2: John

- What would you do next?
  - Reassure patient
  - Treat with trial of PPI
  - Refer to gastroenterology service
  - Refer for endoscopy
**Endoscopy Recommendations**

<table>
<thead>
<tr>
<th>Indications for Early Endoscopy</th>
</tr>
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<tbody>
<tr>
<td>▪ Alarm Symptoms</td>
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<tr>
<td>▪ Diagnostic problems: mixed, non-specific, atypical symptoms</td>
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<tr>
<td>▪ Recurrence of symptoms on appropriate Rx</td>
</tr>
<tr>
<td>Check compliance, choice of agent, timing of dosing</td>
</tr>
<tr>
<td>▪ Symptoms &gt;5-10 years or age &gt;50 years</td>
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<tr>
<td>Cannot predict Barrett’s oesophagus/CA</td>
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<tr>
<td>▪ Preoperative assessment</td>
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<table>
<thead>
<tr>
<th>Additional situations in which endoscopy may be appropriate</th>
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</thead>
<tbody>
<tr>
<td>▪ To detect and manage Barrett’s oesophagus</td>
</tr>
<tr>
<td>▪ Provision of reassurance when verbal reassurance is inadequate</td>
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</tbody>
</table>
Barium Swallow

- Has a minor role in the investigation of GORD

- Selected cases it may be useful to plan management
  - Persistent dysphagia where a stricture suspected
  - Assessment of a large hiatus hernia
Case 2: John

- Referred to gastroenterologist who performed a gastroscopy
- Grade 3 oesophagitis
# Oesophagitis

## Endoscopic Grading System for Reflux Esophagitis

<table>
<thead>
<tr>
<th>Classification</th>
<th>Grade</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Savary-Miller classification</td>
<td>I</td>
<td>Single lesion (erosive or exudative) involving only one longitudinal fold</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>Multiple lesions (erosive or exudative) involving more than one longitudinal fold but not circumferential</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>Circumferential (erosive or exudative) lesions</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>Chronic lesions: ulcer, stricture, or short esophagus ± lesions of grades I to III</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>Barrett's epithelium ± lesion of grade I through IV</td>
</tr>
<tr>
<td>Los Angeles classification</td>
<td>A</td>
<td>One or more mucosal breaks (erosions) confined to the folds, each no longer than 5 mm</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>At least one mucosal break more than 5 mm long confined to the mucosal folds but not continuous between the tops of the mucosal folds</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>At least one mucosal break continuous between the tops of two or more mucosal folds but not circumferential</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>Circumferential mucosal break</td>
</tr>
<tr>
<td>Hetzel (Hetzel-Dent) classification</td>
<td>O</td>
<td>Normally appearing mucosa</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>Mucosal edema, hyperemia, or friability</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>Erosions that involve &lt; 10% of the lower 5 cm of the esophagus</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>Erosions that involve 10% to 50% of the distal esophagus</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>Deep ulceration or erosions that involve &gt; 50% of the distal esophagus</td>
</tr>
</tbody>
</table>
Case 2: John

- Management?
  - Course of PPI therapy with trial of cessation
  - Long-term maintenance PPI therapy
  - Repeat endoscopy
  - Testing for Helicobacter pylori
Case 2: John

- Management?
  - Course of PPI therapy with trial of cessation
  - Long-term maintenance PPI therapy
  - Repeat endoscopy
  - Testing for Helicobacter pylori
Case 2: John

- PPI omeprazole 40mg daily
- Symptoms improve
- Repeat endoscopy in 8 weeks time
Case 2: John

- What is this finding?
Barrett’s Oesophagus

- **Definition**
  - Metaplastic columnar epithelium from the GOJ extending proximally
  - Specialised intestinal metaplasia (SIM) can be found
  - Increases risk of dysplasia and adenoCA

- 4-8% Caucasians with GORD who have endoscopy will have Barrett’s
  - Men >50 yrs at highest risk
  - Smoking and obesity added risk
  - Frequency and severity of heartburn NOT predictive
Barrett’s Oesophagus

- No evidence that acid control with PPI or surgery reverses the condition
- Whether PPI reduces risk of progression to dysplasia yet to be determined
- No evidence that screening the general population or those with GORD for Barrett’s would be beneficial
- When patients found to have Barrett’s ongoing surveillance offered
  - No evidence of benefit
- Risk of CA for Barrett’s >3cm 0.5%/year
What are the other complications of GORD?
Oesophageal Stricture

- Oesophageal stricture
Haemorrhage

- Haemorrhage
Adenocarcinoma of the Oesophagus

- Adenocarcinoma
  - Dramatic rise in incidence 20\textsuperscript{th} century
  - Risk factors
    - Smoking
    - Obesity
    - GORD
  - Most arise from Barrett’s oesophagus
  - >50% asymptomatic for reflux
Case 2: John

- You receive results from John’s biopsies confirming he is Helicobacter pylori positive

- Questions
  - Should this be treated?
  - Will eradication improve his symptoms?
  - Will treatment increase or decrease his cancer risk?
John

- Answers
  - Should this be treated? Yes
  - Will eradication improve his symptoms? No
  - Will treatment increase or decrease his cancer risk? Decrease – gastric cancer
Helicobacter pylori and GORD

- Frequently present in GORD as both conditions common
- H. pylori does not cause GORD
- Infection does not reduce the risk of GORD
Helicobacter pylori and GORD

- PPIs cause a worsening of the histological grade of gastritis
  - Accelerate gastric mucosal atrophy and intestinal metaplasia
  - Not seen when PPIs used in uninfected patients or in those in whom H. pylori eradicated prior to long-term PPI use
  - Changes are risk factors for adenocarcinoma stomach

- Eradication recommended prior to long term PPI use for GORD, especially in young patients
Case 3: Cathy

- 37 year old woman
- Epigastric pain 3 times per week
- Over 6 months symptoms
- Burning sensation
- Moderate severity
- Not relieved by belching or passage of flatus
- Usually occurs after meals but can occur at other times
- No reflux
- No alarm symptoms
Case 3: Cathy

- Regular NSAID use for headaches
- No other medical problems
- Lives with husband and 2 children
- No alcohol, non-smoker
- Works part-time receptionist
Case 3: Cathy

- What is the diagnosis?
- What is the first step in management?
Dyspepsia

- Defined as pain or discomfort located in central upper abdomen
- May co-exist and be difficult to differentiate from GORD
- Most common cause of organic dyspepsia is reflux oesophagitis followed by PUD
- Functional dyspepsia accounts for >60% of all dyspepsia
Management

- Stop aspirin or NSAID!
- If clear symptoms of heartburn trial PPI
- If age >55 yrs or alarm symptoms
  - Gastroscopy

- Cathy stops NSAID
  - 4 weeks later no improvement
  - What should be done next?
Management

- Symptoms refractory to treatment
  - Test for H. pylori

- H. pylori positive
  - Eradicate

- H. pylori negative or no improvement after eradication
  - Trial of PPI therapy for 4-8 weeks
Case 3: Cathy

- Cathy is positive for H. pylori and has no improvement after eradication or PPI therapy
- Has normal gastroscopy

- Is there anything that can be done to relieve her symptoms?
Functional Dyspepsia

- Re-evaluate symptoms and diagnosis
- Consider other sources of abdominal pain
  - Pancreas, colon, biliary tract
- Does the patient have symptoms of delayed gastric emptying?
- Does the patient have IBS?
- Does the patient have panic disorder or psychological issues?
Functional Dyspepsia

- Consider:
  - Antidepressants
  - Hypnotherapy
  - Behaviour therapy
  - Prokinetic agents
Summary

- GORD is defined as a condition that develops when the reflux of stomach contents causes troublesome symptoms or complications.
- Most GORD is non-erosive but about one third have oesophagitis.
- GORD symptoms overlap with peptic ulcer disease, delayed gastric emptying and functional dyspepsia.
- Positive response to a therapeutic trial of PPI therapy supports diagnosis.
Summary

- **Endoscopy**
  - Diagnosis is unclear
  - Refractory symptoms
  - Alarm symptoms

- **Management involves an initial trial of PPI therapy then a tailored long-term treatment plan**
  - Lowest effective PPI dose and frequency
  - Lifestyle modification
  - Eradicate H. pylori if long-term treatment