Non-cardiac Chest Pain

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Learning Objectives

• Non-cardiac chest pain and GERD
• When and why refer to a gastroenterologist
• Treatment approaches
What is non-cardiac chest pain?

• Recurrent episodes of angina-like retrosternal chest pain
• Absence of cardiac problems especially ischemic heart disease
• Reasonable work-up

Fass et al. J Neurogastroenterol Motil 2011;17:110
How frequently do you see them in your practice?

a) Every day?
b) A few cases in a week?
c) A few cases in a month?
d) A few cases in a year?
e) I never see them in my practice
How frequently do you see them in your practice?

Most patients are managed by the general practitioners rather than the gastroenterologists!

What are the views of gastroenterologists in Asia?

• 64% It is an increasing problem
• 85% believed it is GERD
• 94% believed they should manage them (serious?)
• Only 41% making a diagnosis?

Cheung et. al. APT 2007;26:597
Why is it important?

- Many patients will seek healthcare providers
- Affect both sexes equally but females are more likely to see you and may have more ‘intense’ symptoms
- More likely to report poor quality of life
- Considerable economic burden to patients and also healthcare system
- Many patients on some form of heart medications

Fass et. al. J Neurogastroenterol Motil 2011;17:110
Most importantly address patients’ concerns

- NOT heart attack or cancer
- NO impact on mortality\(^1\)
- Most (67\%) will continue to report symptoms\(^1\)
- A small number may turn out to have heart disease if followed long term
- Those who understood the problem is esophageal in origin may feel less disabled by their symptoms\(^2\)

Case Scenario

• 63 Malay female, postmenopausal
• Symptoms including chest pain (> once/week, moderate intensity and last > 30 min), abdominal pain, shortness of breath, heartburn and nausea
• No other medical illnesses or any other IHD risk factors
What else should we consider?

- Gastroesophageal reflux disease (60%)
- Functional chest pain/heartburn (15%)
- Esophageal dysmotility (15%)
- Lung pathology including pneumonia, pleural effusion and cancer
- Musculoskeletal including costochondritis and fibromyalgia
- Others including Herpes Zoster and psychological problems
How much of it is really GERD locally?

66.7% of non-cardiac chest pain is due to GERD!

Hanizam et al. J Gastroenterol Hepatol 2009;24:288
When should you suspect GERD?

Besides chest pain, patients may have other GERD symptoms especially heartburn and regurgitation.

A positive **PPI test** clinch the diagnosis.

Eslick et. al. APT 2003;17:1115
**GERDQ**

<table>
<thead>
<tr>
<th>No.</th>
<th>Question (based on past 7 days experience)</th>
<th>Frequency (day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>How often did you have a burning feeling behind your breastbone (heartburn)?</td>
<td>0 day 1 day 2-3 days 4-7 days</td>
</tr>
<tr>
<td>A2</td>
<td>How often did you have stomach contents (liquid or food) moving upwards to your throat or mouth (regurgitation)?</td>
<td>0 day 1 day 2-3 days 4-7 days</td>
</tr>
<tr>
<td>B1</td>
<td>How often did you have pain in the centre of the upper stomach?</td>
<td>0 day 1 day 2-3 days 4-7 days</td>
</tr>
<tr>
<td>B2</td>
<td>How often did you have nausea?</td>
<td>0 day 1 day 2-3 days 4-7 days</td>
</tr>
<tr>
<td>C1</td>
<td>How often did you have difficulty getting a good night’s sleep because of your heartburn and/or regurgitation?</td>
<td>0 day 1 day 2-3 days 4-7 days</td>
</tr>
<tr>
<td>C2</td>
<td>How often did you take additional medication (such as Gaviscon, Zantac, Omeprazole) for your heartburn and/or regurgitation, other than what the physician told you to take?</td>
<td>0 day 1 day 2-3 days 4-7 days</td>
</tr>
</tbody>
</table>

A cut-off value $\geq 8$ has 65% sensitivity and 71% specificity

Jones R et al. Aliment Pharmacol Ther 2009; 30: 1030-8
Higher QERDQ means better PPI response

$P < 0.001^*$

GERDQ score

PPI responsive

PPI unresponsive

He S et al. Dis Esophagus 2015; Ahead of Print
How useful is the PPI test in your practice?

a) Not useful at all
b) A third will response
c) Half will response
d) More than two-thirds will response
e) All my patients respond!
How useful is the PPI test in your practice?

Sensitivity
69 to 95%

Specificity
67 to 86%

Should you refer to a gastroenterologist?

a) YES, when my patient is not responding to PPIs

b) YES, to do further tests including pH-impedance and manometry studies

c) NO, they will only do an endoscopy and then pass the patient back to me

d) NO, I will refer to a psychiatrist instead

e) NO, I can manage on my own
Case Scenario

• 63 Malay female, postmenopausal → chest pain → no risk factors for IHD
• Echo normal & stress test negative
• Given PPI for 8 weeks but minimal response
Should you refer to a gastroenterologist?

- Endoscopy
- Unresponsive to PPI test
- To exclude esophageal dysmotility
- If suspect ‘functional’ components to the symptoms
- Or if you are UNSURE
Role of upper endoscopy?

• **Minimal** – at least that’s what Dr. Ronnie Fass says
  - Erosive esophagitis only in 5-10% of cases
  - Invasive
  - Costly
  - Most likely will not change management

Cherian et al. Dis Esophagus 1995;8:129
Unresponsive to PPI test?

24-hour pH-impedance study

Off-PPI for two-weeks

If positive - GERD

If negative – hypersensitive or functional in origin
Esophageal dysmotility?

High-resolution Impedance Manometry

Nutcracker esophagus (14.4%)  
Distal esophageal spasm  
Achalasia  
Scleroderma  
Non-specific motility disorders
A ‘functional’ component to symptoms?

• pH study indicates symptoms in the absence of reflux events
• Negative endoscopy/imaging studies
• Other overlapping symptoms including abdominal pain, altered bowel habits, constipation etc.
• Association with stressful life events or previous psychological co-morbidities
Case Scenario

• 63 Malay female, postmenopausal → chest pain → no risk factors for IHD → Echo normal & stress test negative → minimal response to PPI test

• OGD showed mild gastritis

• Proceed with high resolution esophageal manometry
Manometry diagnosis?
Post-Botox injection
What can we offer?

- **Esophageal dysmotility**
  - Calcium channel blocker (nifedipine, diltiazem), nitrates, role of POEM?

- **Achalasia**
  - Balloon dilation, botulinum toxin, or myotomy/POEM in refractory cases

- **Hypersensitive esophagus**
  - Pain modulators including tricyclics (e.g. imipramine), SSRI (e.g. sertraline), SNRI (e.g. venlafaxine) or theophylline

Patient still have persistent symptom. What to do?

a) Better leave to the specialists (bye?)
b) Difficult patient
c) Underlying psychological issues
d) No further tests can be done
e) I don’t know.....
How common is underlying psychological factors?

K Y Ho et al. Gut 1998;43:105-10
If all else fails, consider behavioural approaches

- Hypnotherapy
- Cognitive behavioural therapy
- Biofeedback therapy
- Johrei treatment (spiritual energy healing)
Summary

• A common problem in general practice
• Always consider gastroesophageal reflux disease; a PPI test would be a good start
• Do not forget ‘functional’ component or psychological issues
Take home message – A conclusion?

• Non-cardiac chest pain is a common encounter in the general practice but occasionally management can be tricky and therefore a shared plan with a gastroenterologist/psychiatrist would be helpful
Thank you