Approach to Dyspepsia and *Helicobacter pylori* Therapy

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CME FACULTY DISCLOSURE

Dr. Fallone

has no affiliation with the manufacturer of any commercial product or provider of any commercial service discussed in this CME activity.

All slides were prepared by the author

Note: The content of this presentation is valid on May 6, 2022. Treatment guidelines may change after this date.

Note: Some of the treatments discussed in this presentation may not yet have been approved by Health Canada for this indication

Learning Objectives

- By the end of this session, participants should be able to:
  - Utilize a simple, comprehensive and evidence-based approach to the patient with dyspepsia
  - Describe the two main recommended options for first line therapy of *H. pylori* infection
  - Explain choices for second line therapy depending on the treatment that previously failed

CanMEDS Roles Covered

✔	**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.)
✔	**Communicator** (as Communicators, physicians form relationships with patients and their families that facilitate the gathering and sharing of essential information for effective health care.)
✔	**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.)
✔	**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 behavior, accountability to the profession and society, physician-led regulation, and maintenance of personal health.)

Case presentation

- 42 yo F
- Epigastric discomfort/malaise postprandially
- On / off x 2 yrs
- Associated bloating and heartburn
- On no meds, denies NSAID use
- No vomiting, dysphagia, melena
- Mild epigastric tenderness on exam
- Labs: CBC N, LFTs N, Lipase N

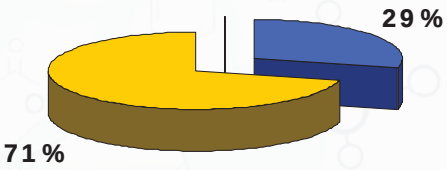
Dyspepsia

- **Un-investgated dyspepsia**
  - Predominant epigastric pain lasting at least 1 month.
  - Can be associated with any other UGI symptom including
    - Epigastric fullness, nausea, vomiting, heartburn
- **Functional dyspepsia**
  - dyspepsia with normal endoscopy

Dyspepsia: epidemiology

Prevalence

- 1036 adult Canadians interviewed
- 29% reported substantial symptoms in the last 3 months
- 15% for more than one year



Tougas et al, Am J Gastroenterol 1999;94:2845

Dyspepsia: Differential Diagnosis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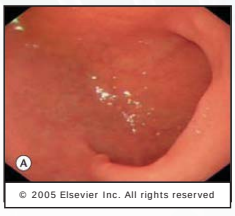
Peptic ulcer disease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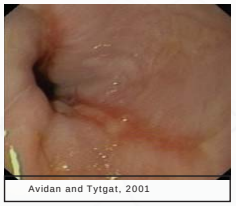
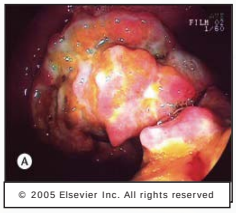
Non ulcer (functional) dyspepsia


Avidan and Tytgat, 2001

Gastro-esophageal reflux disease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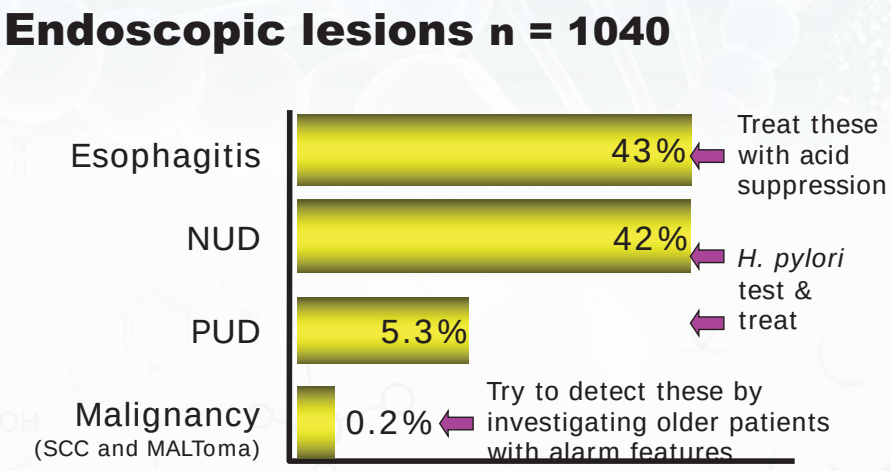
Gastric malignancy

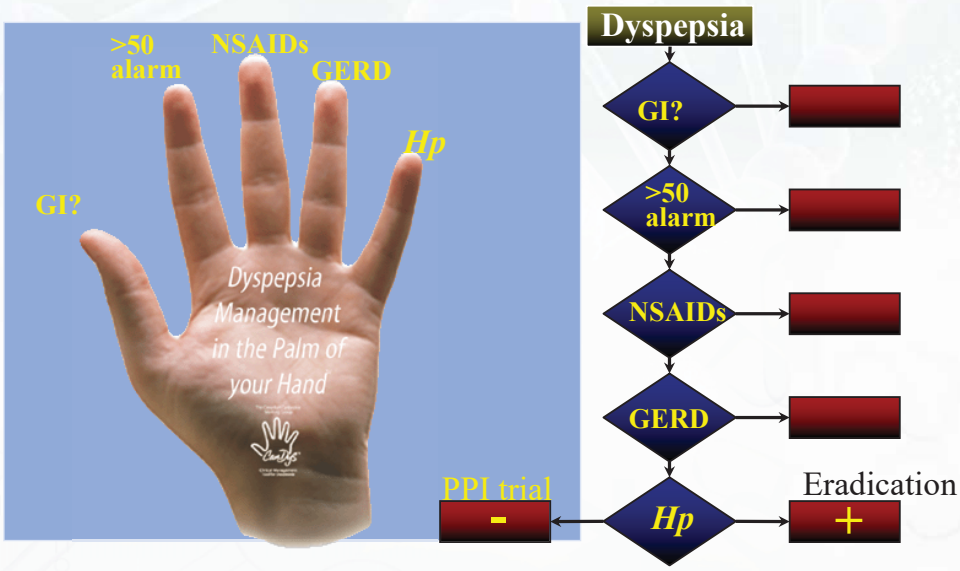
Uninvestigated Dyspepsia (CanDys):



Thomson et al, CADET-PE study, Aliment Pharmacol Ther 2003; 17: 1481-91

Dyspepsia: CanDys Approach

Take home message



vanZanten S et al, CMAJ 2000:162 (12 Suppl)

ACG - CAG Guidelines on Dyspepsia

- **Investigate if > 60**
- **Investigate if alarm symptoms “significant”**
- **Test for Hp and treat for all under 60**

Moayyedi et al. **ACG / CAG Dyspepsia Guidelines** ***Am J Gastroenterol 2017;112:988-1013***

Case presentation

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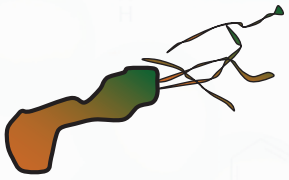
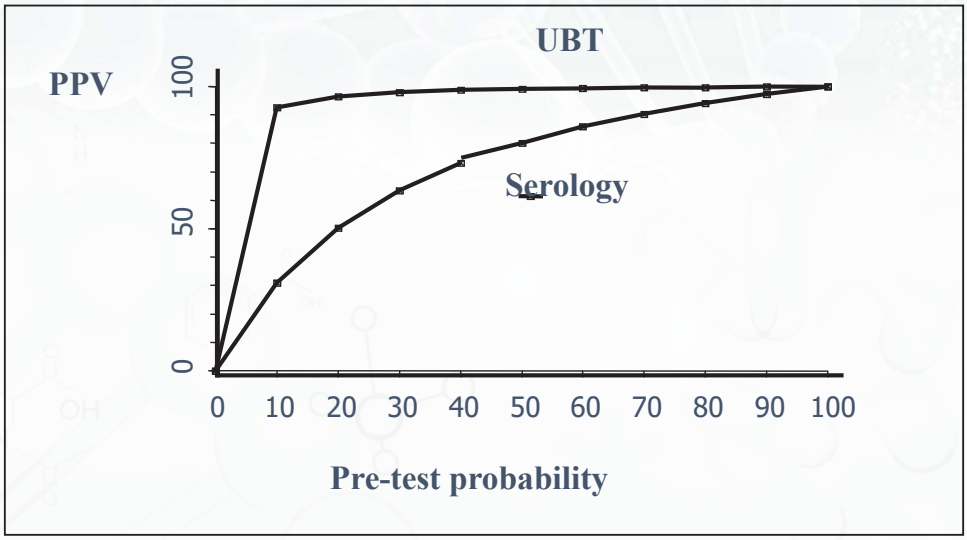
H. pylori diagnostic tests



- **Invasive (gastric biopsies)**
  - Histology
  - Rapid urease test
  - Culture
- **Non-Invasive**
  - Serology
  - UBT
  - Stool Antigen

H. pylori diagnostic tests



Barrier to practice: availability of UBT

Case presentation

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- UBT +

Treatment of *H. pylori*

H. pylori – who do we treat?

Anyone who is positive should be offered treatment

- prevents peptic ulcer disease
- reduces the risk of gastric cancer
- may help functional dyspepsia

H. pylori – who do we test?

- Duodenal ulcer, past and present
- Gastric ulcer, past and present

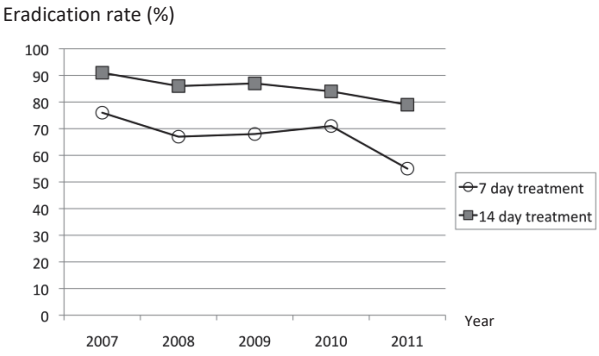
- MALToma
- Gastric cancer to prevent recurrence
- FHx gastric cancer
- Individuals from regions with high gastric cancer risk

- Uninvestigated dyspepsia
- Functional (non-ulcer dyspepsia)

- Patients starting long term ASA or NSAIDs
- Long term PPI use
- Others (idiopathic urticaria, ITP, etc)

H. pylori – first line treatment

- PPI triple therapy
  - only works if organism susceptible to clarithromycin
  - Clarithromycin resistance is increasing in many communities including ours



Fallone CA et al. Can J Gastroenterol 2013;27:397-402

Dose: PPI, Amoxicillin 1g and Clarithromycin 500 mg all BID x 14 days

PPI triple therapy should be 14 days and restricted to areas with known low Clarithormycin resistance (<15%) or proven high local eradication (>85-90%)

Fallone CA et al. Toronto Consensus. Gastroenterology 2016; 151:51-69

H. pylori – first line treatment

Take home message

- Bismuth quadruple therapy (PBMT)

  Dose: PPI BID, Bismuth 262mg, Metronidazole 500 mg & Tetracycline 500 mg all QID x 14 days

- Concomitant non-bismuth quadruple therapy (PAMC)

  Dose: PPI, Amoxicillin 1g, Metronidazole 500 mg & Clarithromycin 500 mg all BID x 14 days

Fallone CA et al. Toronto Consensus. Gastroenterology 2016; 151:51-69

H. pylori – first line treatment

- Bismuth quadruple therapy (PBMT)
  - Good for penicillin allergic patients also
  - Avoids issue of Clarithromycin resistance and works for some metronidazole resistant organisms because of synergy with bismuth
  - Preferred because of antibiotic stewardship
  - BUT
    - large pill burden (QID and bismuth and tetracycline side effects)
    - Bismuth not available everywhere
- Concomitant non-bismuth quadruple therapy (PAMC)

Fallone CA et al. Reconciliation of recent guideline… Gastroenterology 2019; 157:44-53

H. pylori – first line treatment

- Bismuth quadruple therapy (PBMT)
- Concomitant non-bismuth quadruple therapy (PAMC)
  - Less pill burden (BID)
  - No bismuth
  - But
    - ”unnecessary” antibiotic

Fallone CA et al. Reconciliation of recent guideline… Gastroenterology 2019; 157:44-53

H. pylori – treatment after failed attempt

- Don’t repeat same treatment
- Avoid clarithromycin if previously used
- Avoid levofloxacin if previously used
- Avoid metronidazole if previously used or use with bismuth as PBMT at 500 mg qid

Fallone CA et al. Toronto Consensus. Gastroenterology 2016; 151:51-69

H. pylori – second line treatment

Take home message

- PBMT

  Dose: PPI BID, Bismuth 262mg, Metronidazole 500 mg & Tetracycline 500 mg all QID x 14 days

- PAL

  Dose: PPI BID, Amoxicillin 1000 mg BID & Levofloxacin 500 mg DIE x 14 days

  - Levofloxacin resistance increasing
  - Aortic rupture described (FDA but older at risk)

Fallone CA et al. Toronto Consensus. Gastroenterology 2016; 151:51-69

H. pylori – second line treatment

<u>If first line was…….then:</u>

- PAC……PBMT or PAL
- PMC……..PAL or PBMT
- PAMC……PAL or PBMT
- PBMT……PAL

Fallone CA et al. Toronto Consensus. Gastroenterology 2016; 151:51-69

H. pylori – rescue treatment

- High dose dual therapy (HDDT)

  Dose: PPI & Amoxicillin 750 mg both QID x 14 days

- Rifabutin therapy (PAR)

  Dose: PPI, Amoxicillin 1000 mg & Rifabutin 150 mg bid x 10 days

Fallone CA et al. Reconciliation of recent guideline… Gastroenterology 2019; 157:44-53

Case presentation

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- UBT +
- Treatment with PBMT x 14 days

H. pylori - confirming eradication

- We should confirm eradication post treatment given *Hp* is a carcinogen
- UBT, stool antigen or endoscopic biopsy can be used

Case presentation

- Our patient responded and UBT post treatment was negative
- But what if the patient did not respond?
  - Gastroscopy – Normal, Hp neg

Diagnosis: functional dyspepsia

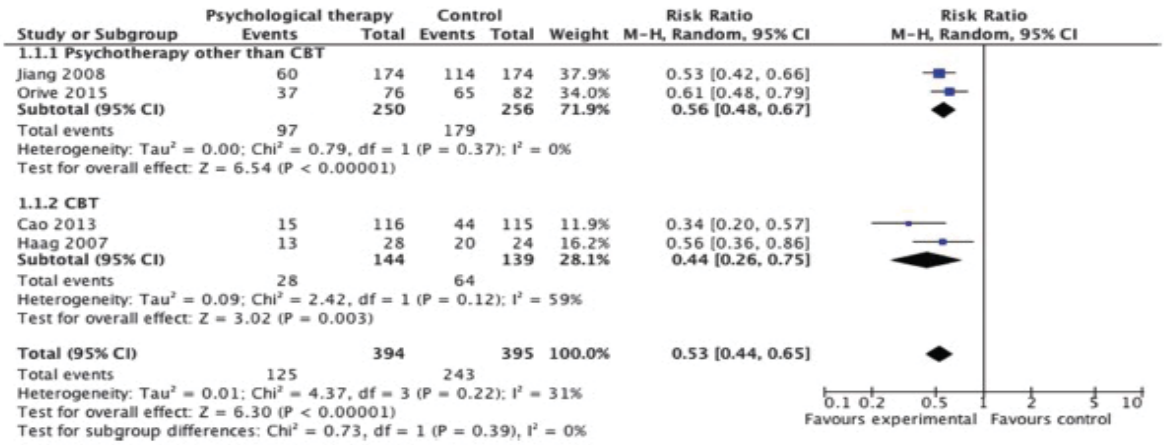
Functional dyspepsia

- Treat *H. pylori* if present
- Proton pump inhibitor trial
- Tricyclic antidepressants
- Prokinetic
- Consider psychotherapy

Moayyedi et al. **ACG / CAG Dyspepsia Guidelines** ***Am J Gastroenterol 2017;112:988-1013***

Functional dyspepsia

Figure 15. Forest plot of randomized controlled trials comparing psychological therapies with controls in functional dyspepsia patients.



Moayyedi et al. **ACG / CAG Dyspepsia Guidelines** ***Am J Gastroenterol 2017;112:988-1013***

Take home - *dyspepsia*

Take home message

- Investigate at age 60 (not 50) in Canada
- Alarm feature in under 60 not automatically get scope
- *H. pylori* test and treat in all these patients
- PPI second line
- TCA or prokinetics if PPI doesn't work in functional dyspepsia
- Consider Psychotherapy if drugs don't work in functional dyspepsia

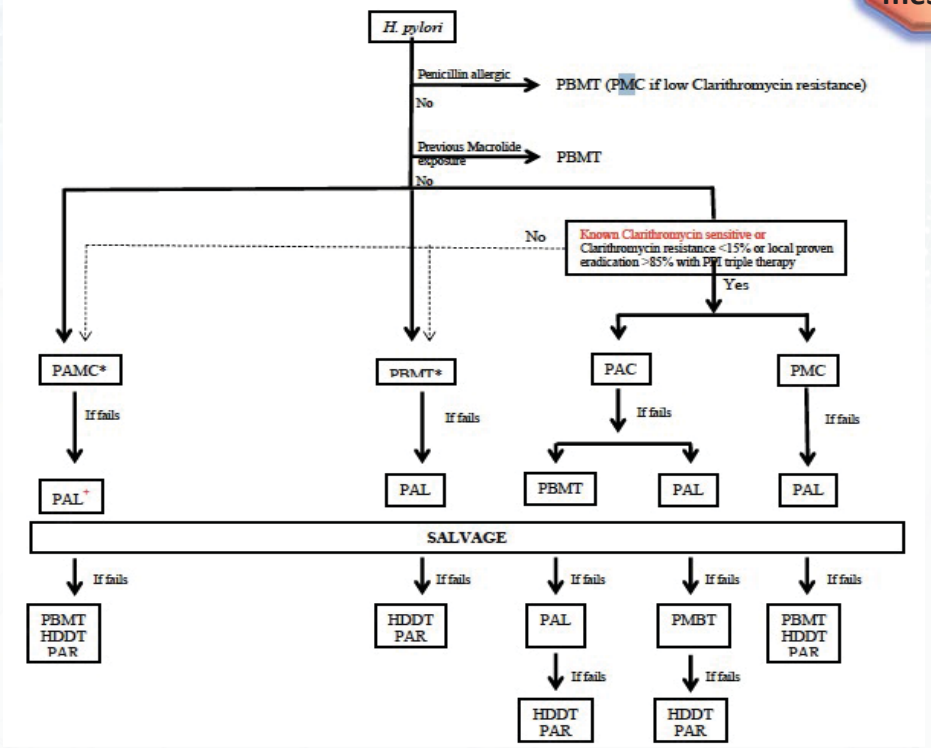
Take home – *H. pylori*

Take home message

- First line treatment with bismuth quadruple or concomitant non-bismuth quadruple x 14 days
- Always confirm eradication with UBT or stool antigen
- If fails, don't reuse same treatment and avoid reuse of same antibiotics (except amoxicillin since resistance rare to amoxicillin)
- Second line treatment with a levofloxacin combination or bismuth quadruple therapy depending on what was used initially
- Rescue treatments include high dose dual therapy or a rifabutin combination

H. pylori – algorithm of treatment

Take home message



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