H. Pylori: Should We Still Be Looking for It?
What Should We Be Doing About It?

Treating it when we find it

VA Greater Los Angeles Healthcare System
David Geffen School of Medicine at UCLA
CURE Digestive Diseases Research Center
UCLA/VA Center for Outcomes Research and Education (CORE)

Yes, we should: Treating it when we find it

www.ResearchCORE.org
Case History

- 40 yo woman from large U.S. urban environment presents with intermittent epigastric pain after meals for 12 months
- No heartburn, regurgitation, dysphagia, vomiting, or weight loss
- Not taking NSAIDs or aspirin and has no history of peptic ulcer disease
- No GI alarm symptoms
- Examination unremarkable
- Guaiac negative, CBC normal
What Do You Do?

A) Start 4-week trial of PPI therapy
B) Refer for prompt upper endoscopy
C) Test for *H. pylori* and treat if positive
D) Lifestyle modifications and follow-up
E) Something else altogether…

“Test & Treat” vs. PPI

Uninvestigated Dyspepsia

Test and Treat for *H. pylori* first?  Treat with empiric PPI first?
Impact of *H. pylori* Prevalence on Cost-Effectiveness

Spiegel et al. *Gastroenterol* 2002;122:1270-85

ACG 2011

**ACG Dyspepsia Guidelines**

Talley et al. ACG Dyspepsia Practice Guidelines *Am J Gastro* 2005;100:2324

ACG 2011
Case #2

• 28 yo man with epigastric and chest burning pain for “at least a year”
• Pain rises up into chest and back of throat, worse when lying down
• No GI alarm symptoms
• Guaiac negative, CBC normal

What Do You Do?

A) Start 4-week trial of PPI therapy
B) Refer for prompt upper endoscopy
C) Test for *H. pylori* and treat if positive
D) Lifestyle modifications and follow-up
Why Start PPI Therapy?

• If acid reflux is predominant complaint, then usually has GERD

• Definition of dyspepsia in U.S. does not include reflux symptoms

• *H. pylori* eradication may not help and *may* worsen reflux symptoms

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**H. pylori** and Acid

• Two forms of *H. pylori* infection
  – “Corpus predominant”
  – “Antrum predominant”

• Important physiological and clinical differences between forms

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Talley et al. ACG Dyspepsia Practice Guidelines Am J Gastro 2005;100:2324
Chey et al. ACG *H. pylori* Practice Guidelines Am J Gastro 2007;102:1808

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Corpus Predominant *H. pylori* Infection

- Associated with atrophic gastritis
- Reduced parietal cell mass
- Low acid secretion
- Reflex hypergastrinemia

Antrum Predominant *H. pylori* Infection

- Parietal cell mass unharmed
- Selective loss of D-cells in antrum
- Antral G cells unregulated
- Primary hypergastrinemia
- High acid secretion
Question:

What is the potential harm of eradicating *H. pylori* in the setting of acid reflux disease?
However: only applies to corpus-predominant *H. pylori*, which is less prevalent than antrum-predominant in the U.S.
Bottom Line on GERD and *H. pylori*

“There is no clear evidence to support that a test-and-treat strategy for *H. pylori* consistently worsens or improves GERD symptoms. Therefore, it is reasonable to conclude that therapy for *H. pylori* should not be withheld related to concerns of creating or worsening GERD.”

- ACG *H. pylori* Practice Guidelines

Case #3

- 28 yo with GERD on PPIs presents with acute upper GI bleeding from pre-pyloric ulcer
- IV PPI started and hemostasis subsequently achieved endoscopically
- Gastric biopsies submitted for rapid urease testing which are negative
What Do You Do?

A) Treat empirically for HP without further testing
B) Send biopsies to path for HP – treat if positive
C) Obtain a stool sample for HP antigen – treat if positive
D) Do not treat for *H. pylori*
E) Test serum for presence of anti-HP IgG – treat if positive

Complicated Ulcer and H.P. Status

- With complicated ulcer, be sure there is no HP present before moving on
- Blood in stomach and PPIs may cause false negative for active tests:
  - Active tests: Rapid urease test; fecal antigen test; urea breath tests; biopsies for organisms
- Anti-HP IgG not affected by gastric blood or PPIs
  - Reasonable second-line test in this setting

Chey et al. ACG H. pylori Practice Guidelines Am J Gastro 2007;102:1808
Case #3 - Continued

Serum positive for anti-HP IgG. Past medical history significant for community acquired pneumonia 6 months prior to the bleed, for which he was treated with clarithromycin. There are NKDA. How will you treat?

A) Omeprazole 20mg BID + clarith 500mg BID + amox 1 g BID × 7 d
B) Omeprazole 20mg BID + clarith 500mg BID + amox 1 g BID × 14 d
C) Omeprazole 20mg BID + clarith 500mg BID + metronidazole 500 mg BID x 7 d
D) Omeprazole 20mg BID + clarith 500mg BID + metronidazole 500 mg BID x 14 d
E) Omeprazole 20mg BID + bismuth 525mg QID + metronidazole 250mg BID + tetracycline 500mg QID x 14 d

Treating *H. pylori*

• Current treatment of choice is a combination of:
  – **PPI** (standard dose BID)
  – **Amoxicillin** (1g BID)
  – **Clarithromycin** (500mg BID)

• Metronidazole (400mg BID) may be substituted for amoxicillin if allergic to penicillin

• Treatment should be **10-14 days**
**H. Pylori** Resistance Increasing

- Cure rates with standard triple therapy are falling all around the world
  - Averaging around 75% eradication rate.
- Resistance rates are increasing for macrolides and metronidazole in particular:
  - Clarithromycin ~15%
  - Metronidazole ~25%
  - Amoxicillin ~1% (still holding strong)

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**Treating H. pylori: One Size Does not Fit All**

**Recent macrolide exposure?**
- Yes
- No

**Penicillin Allergic?**
- Yes
- No

**Penicillin Allergic?**
- Yes
- No

**Quadruple Tx**
- Quadruple Tx or Sequential Tx
- PPI Clarithro Metro
- PPI Clarithro Amox

**Quadruple: PPI + Bismuth + Metronidazole + Tetracycline**
**Sequential: 5d PPI+Amox, then 5d PPI+Clarith+Tinidazole**
Sequential Therapy

- **Two-part anti-HP therapy**
  - 5 days PPI+amoxicillin
  - 5 days PPI+Clarithomycin+Tinidazole
- >90% eradication rates
- Requires validation in North America

Chey et al. ACG H. pylori Practice Guidelines Am J Gastro 2007;102:1808

Take-Home Messages

- *H. pylori* is as relevant as ever
- In most urban centers, HP “test and treat” remains first-line for uncomplicated dyspepsia
- Role of HP eradication in GERD remain controversial – PPIs still mainstay
- Need to double-check for HP in complicated ulcers – watch for false negative results
- Account for macrolide exposure and penicillin allergy when selecting treatment regimens
  - Days of “one size fits all” are long gone