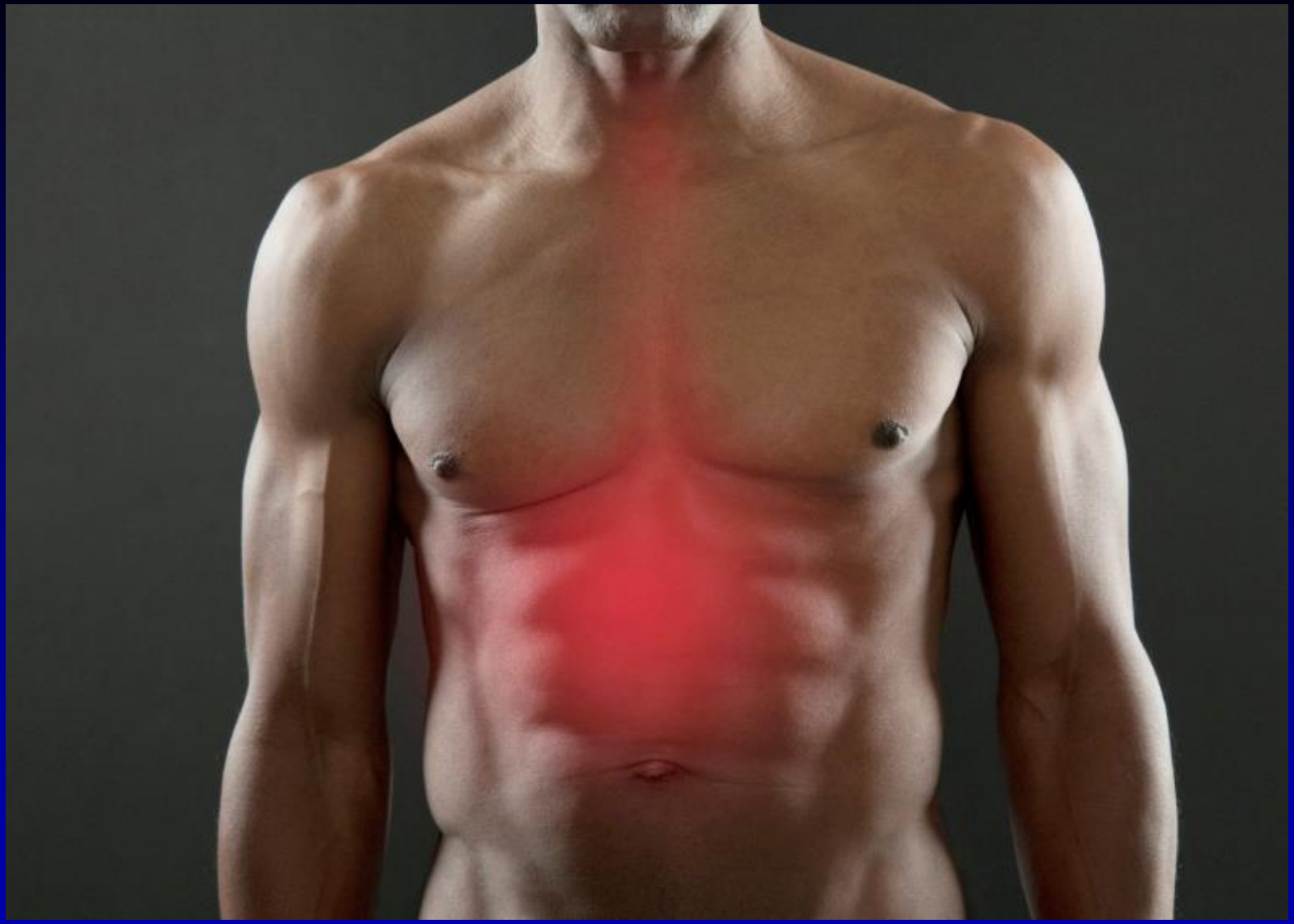
DYSPEPSIA

REIDWAAN ALLY

2019

Case

- A 28yr white male, presents with a 1 year history of Epigastric pain (sometimes associated with meals), which is getting worse despite Antacid therapy.
- He is a non smoker, social drinker, family history of coronary artery disease and colon cancer.
- He has occasional heartburn,no nausea, no vomiting,no early satiety, and no alarm S/S.
- He enjoys spicy foods.



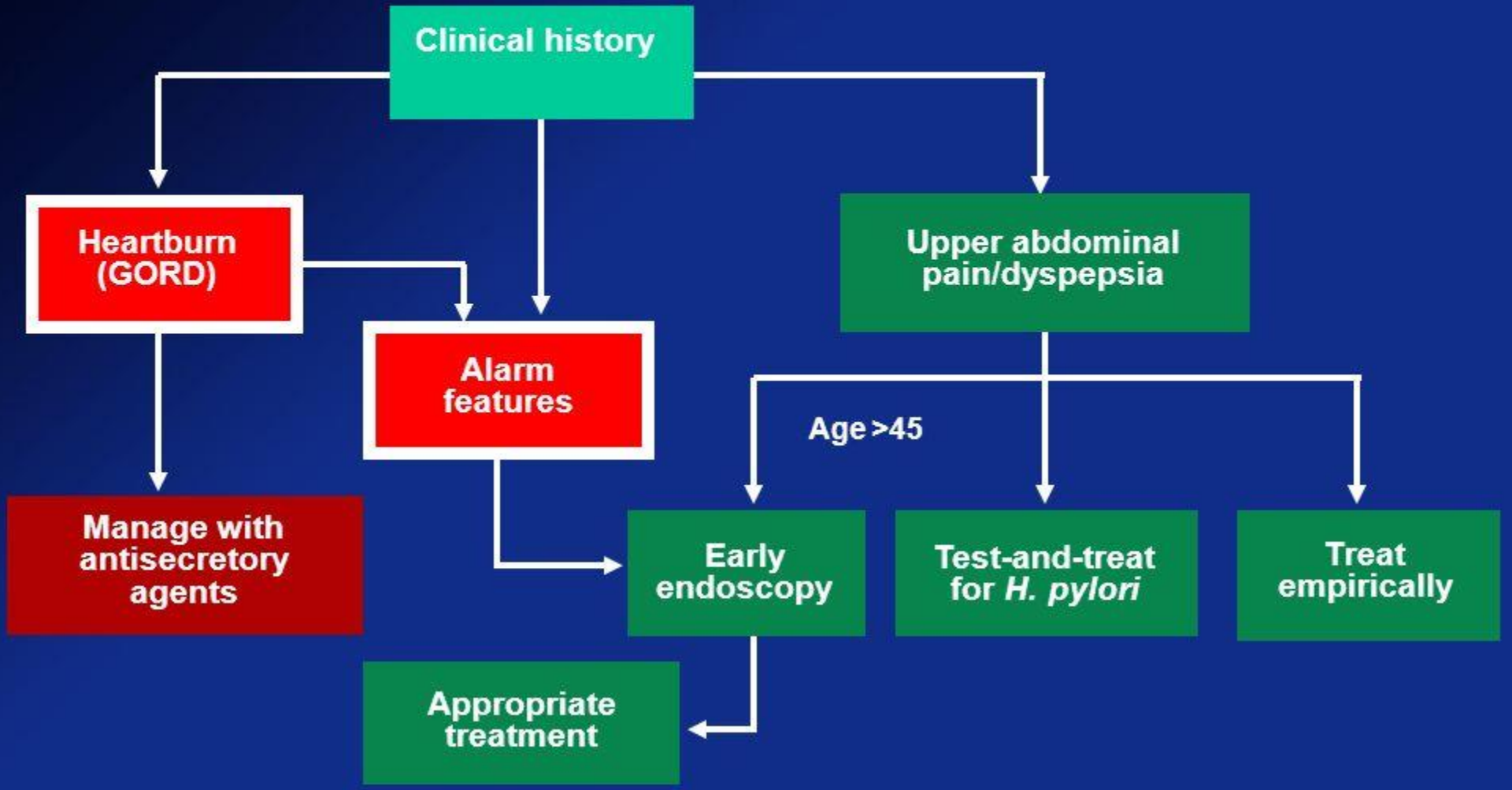
What will you do ?

- 1) Endoscope
- 2) Test and Treat for Hp
- 3) Empiric PPI therapy
- 4) Anti Depressants
- 5) Other

Case

- What if the same patient was 50 yrs old ?

Management of upper GI symptoms in primary care



Outline

- Definitions-Dyspepsia,Functional,Uninvestigated
- Clusters of Symptoms
- Major Organic causes
- Functional
- Approach to Uninvestigated Dyspepsia
- Management.

GASTROENTEROLOGY 2006;130:1466–1479

Functional Gastroduodenal Disorders

JAN TACK,* NICHOLAS J. TALLEY,† MICHAEL CAMILLERI,† GERALD HOLTMANN,§ PINJIN HU,¶ JUAN-R. MALAGELADA,‖ and VINCENZO STANGHELLINI#

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AJG The American Journal of GASTROENTEROLOGY

Clinical Guidelines | Published: 20 June 2017

ACG and CAG Clinical Guideline: Management of Dyspepsia

Paul M Moayyedi MB, ChB, PhD, MPH, FACG, Brian E Lacy MD, PhD, FACG, Christopher N Andrews MD, Robert A Enns MD, Colin W Howden MD, FACG & Nimish Vakil MD, FACG

The American Journal of Gastroenterology **112**, 988–1013 (2017) | Download Citation

An Errata, Corrigenda and Retractions to this article was published on 01 August 2017

Downloaded from http://gut.bmj.com/ on October 5, 2017 - Published by group.bmj.com

ORIGINAL ARTICLE

Global prevalence of, and risk factors for, uninvestigated dyspepsia: a meta-analysis

Alexander C Ford,[1,2] Avantika Marwaha,[3] Ruchit Sood,[1,2] Paul Moayyedi[3]

Gastroenterology 2016;150:1257–1261

INTRODUCTION

Rome IV—Functional GI Disorders: Disorders of Gut-Brain Interaction

Douglas A. Drossman *William L. Hasler*

Dyspepsia

Definition:

Chronic or recurrent pain or discomfort centered in the upper abdomen

Talley NJ, Vakil N. Practice Parameters Committee of the American College of Gastroenterology. Guidelines for the management of dyspepsia. Am J Gastroenterology 2005

Dyspepsia – ROME III

Definition

Dyspepsia is defined as the presence of 1 or more dyspepsia symptoms that are considered to originate from the gastroduodenal region

One or more of the following symptoms:

1. *Post prandial fullness*
2. *Early Satiety*
3. *Epigastric pain*
4. *Epigastric Burning*

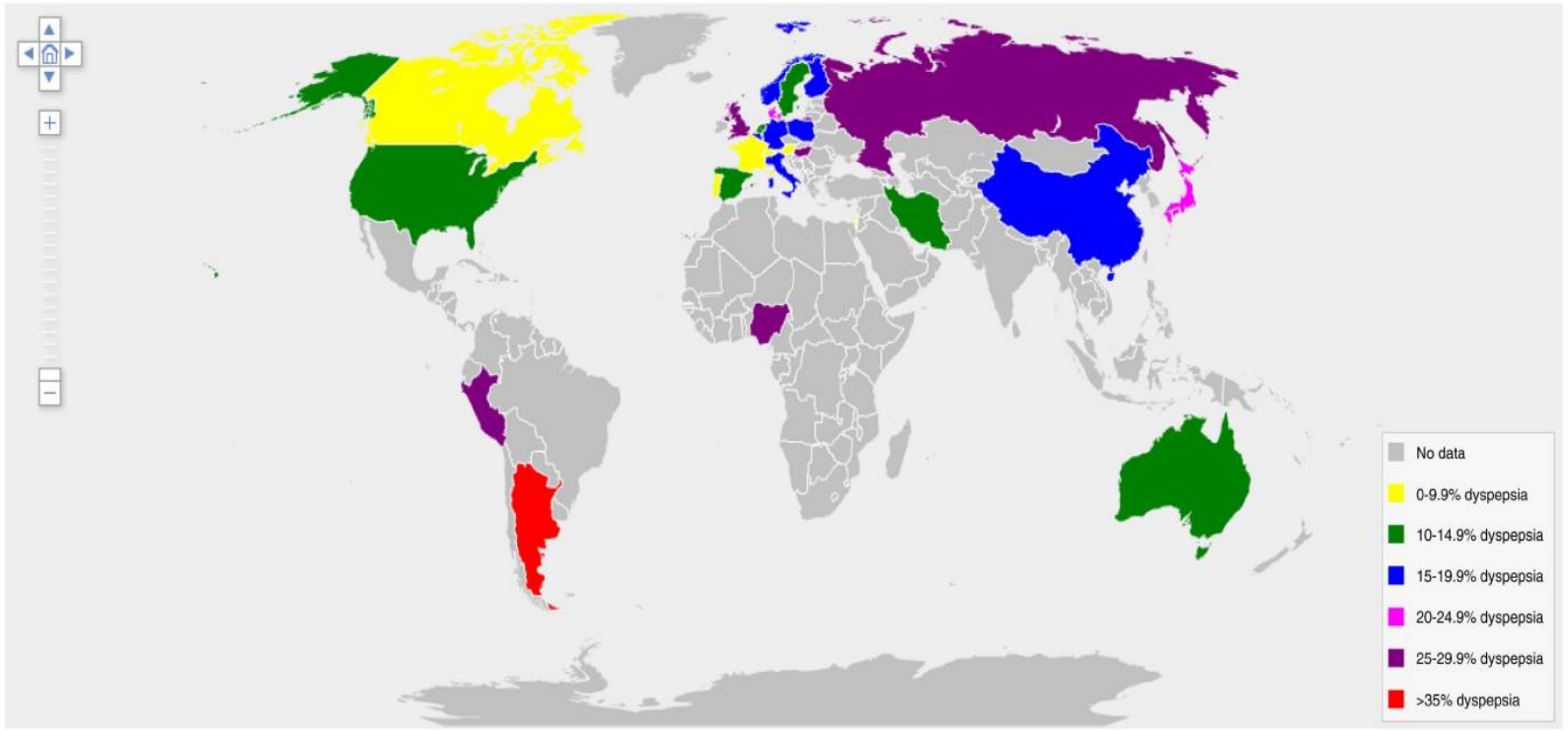
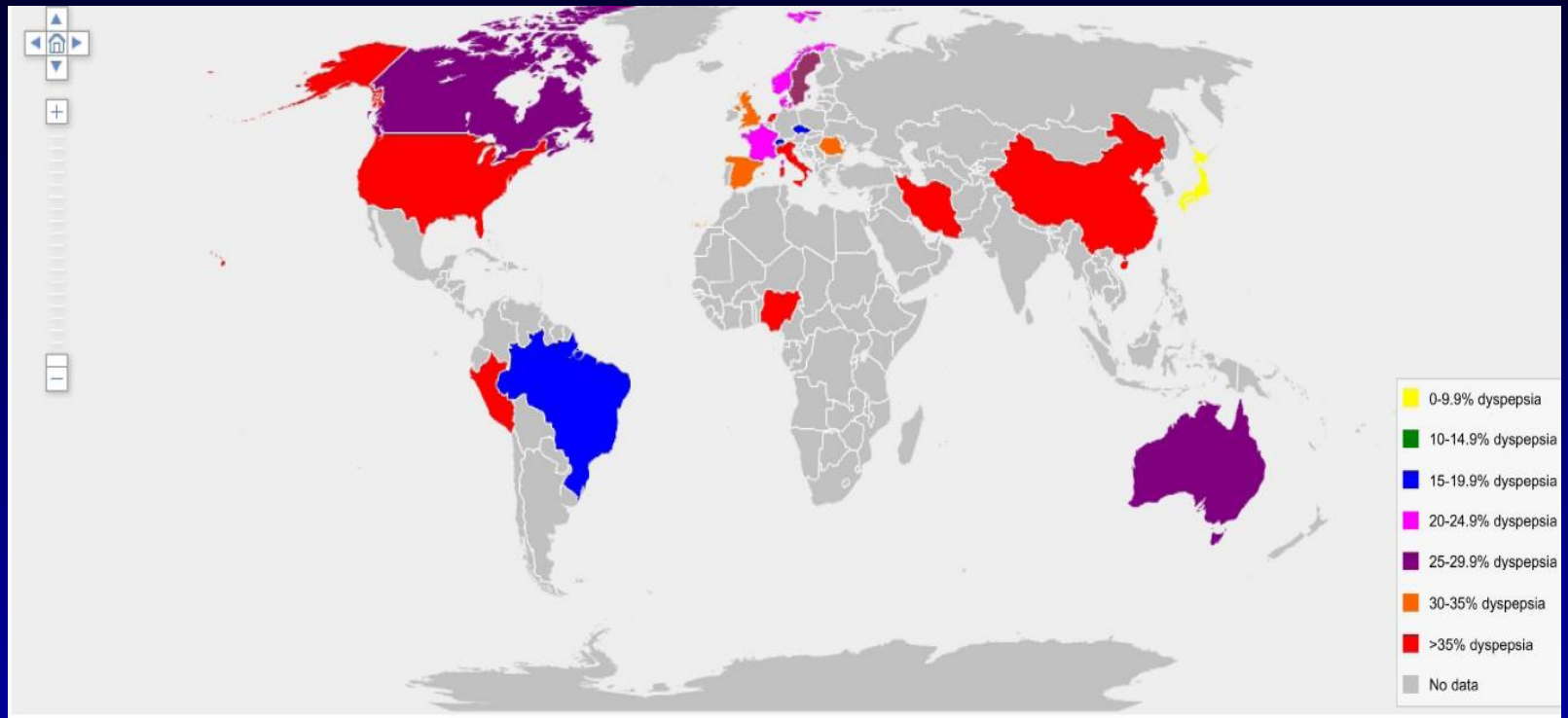


Figure 2 Prevalence of uninvestigated dyspepsia worldwide using upper abdominal or epigastric pain or discomfort.



igure 1 Prevalence of uninvestigated dyspepsia worldwide using a broad definition.

052 Ford AC, *et al*. *Gut* 2015;**64**:1049–1057. doi:10.1136/gutjnl-2014-307

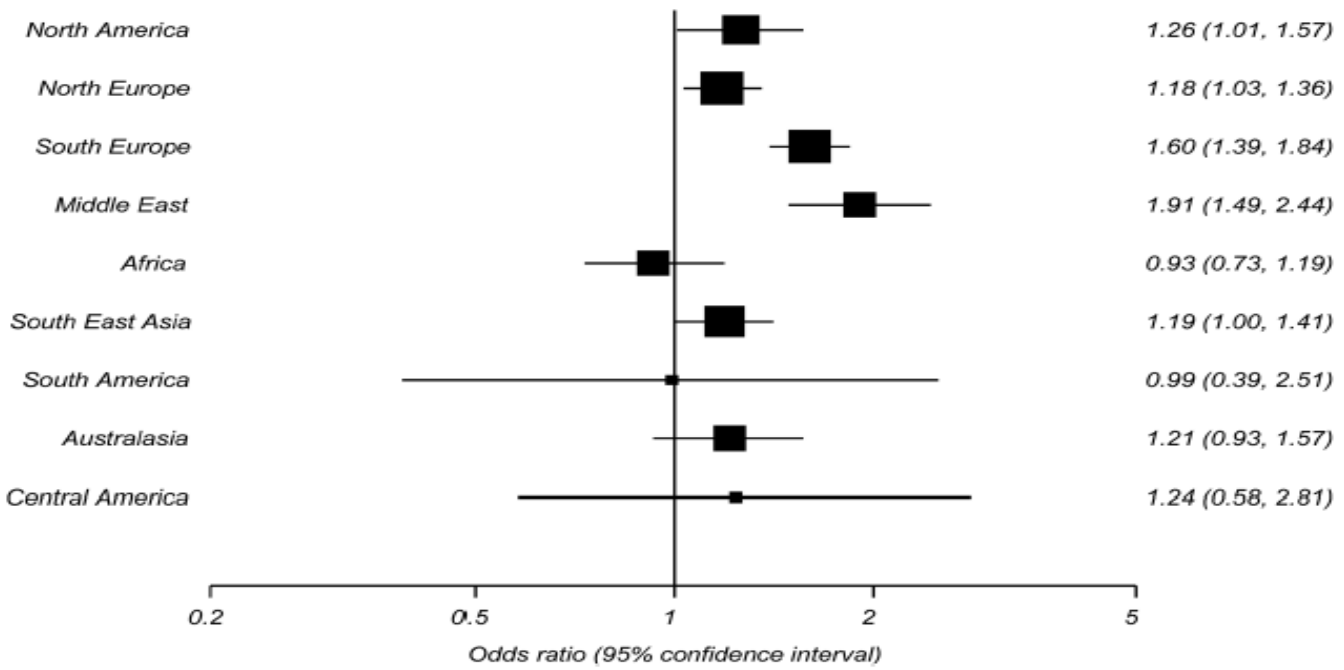
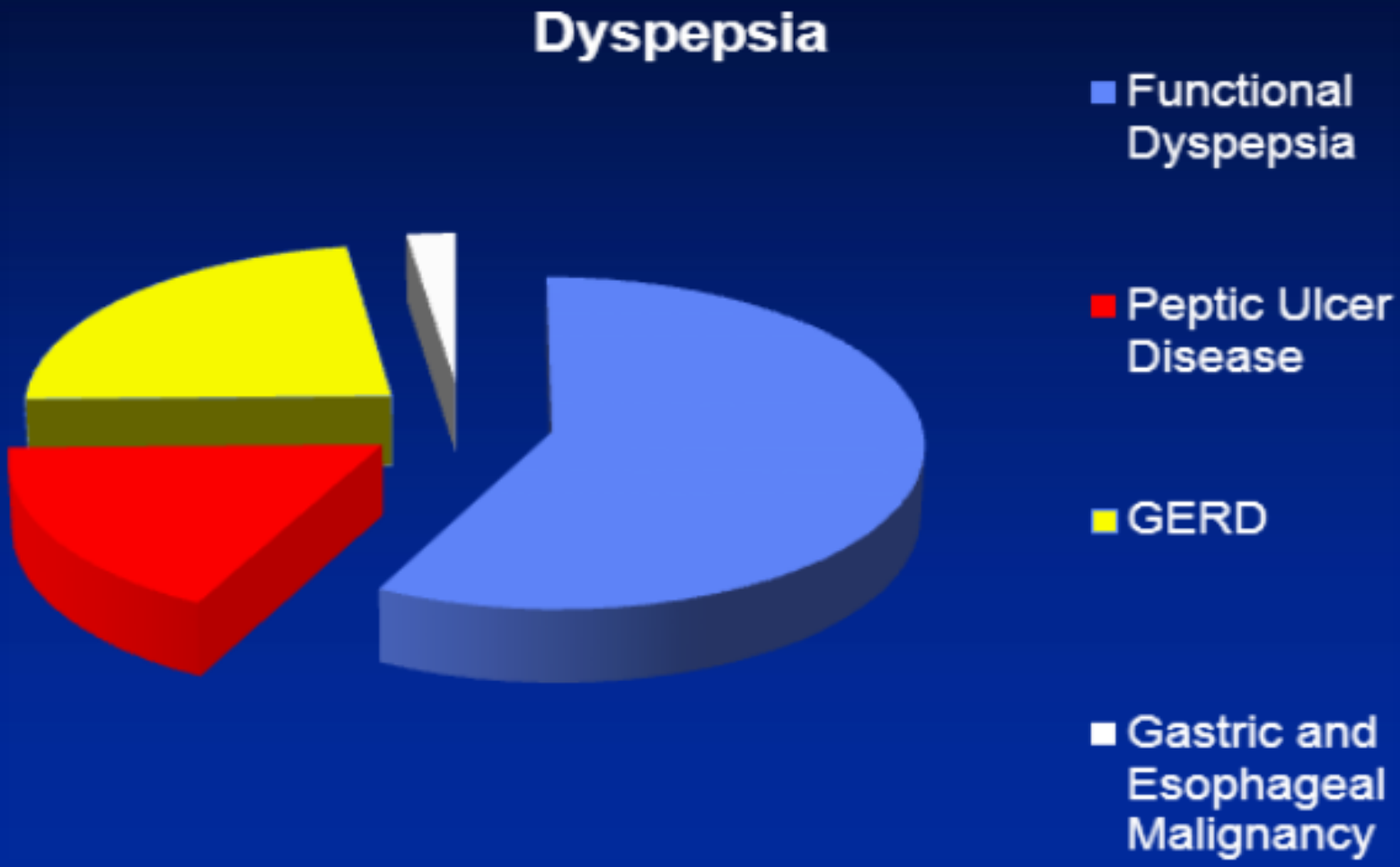


Figure 4 OR for uninvestigated dyspepsia in women versus men according to geographical location.

Common causes of Dyspepsia



Peptic Ulcer Disease and Dyspepsia

- 5-15% of patients with dyspepsia
- Declining in prevalence

Risk Factors

1. Increasing age
2. NSAID use
3. H pylori infection

Hsu, et al . Gut, 2002; 51: 15-20

Heartburn or Dyspepsia

- Considerable overlap noted b/w GERD and Dyspepsia
- Up to 27 % of pts with GERD have associated dyspepsia
- Patients suffering from both GERD and Dyspepsia had higher symptom intensity scores

Lee et al : Digestion 2009

Piessevaux et al : Neurogastrenterol Motility 2009

Malignancy and Dyspepsia

- Estimated to be about 1% of dyspeptic pts (gastric and esophageal)
- Declining incidence of gastric cancer
- Presence of symptoms indicative of advanced disease (32%)
- Alarm features and age limited predictive value

Bai et al . GUT 2010

Pancreatic and Biliary Tract

- Cholelithiasis not associated with "classic" dyspepsia symptoms
- Pancreatic disorders may be found in some patients with unexplained dyspepsia

Sahai AV et al *Gastrointest Endosc 2000*
Kraag, et al, Scand J Gastroenterol, 1995

Intolerance to Food or Drugs

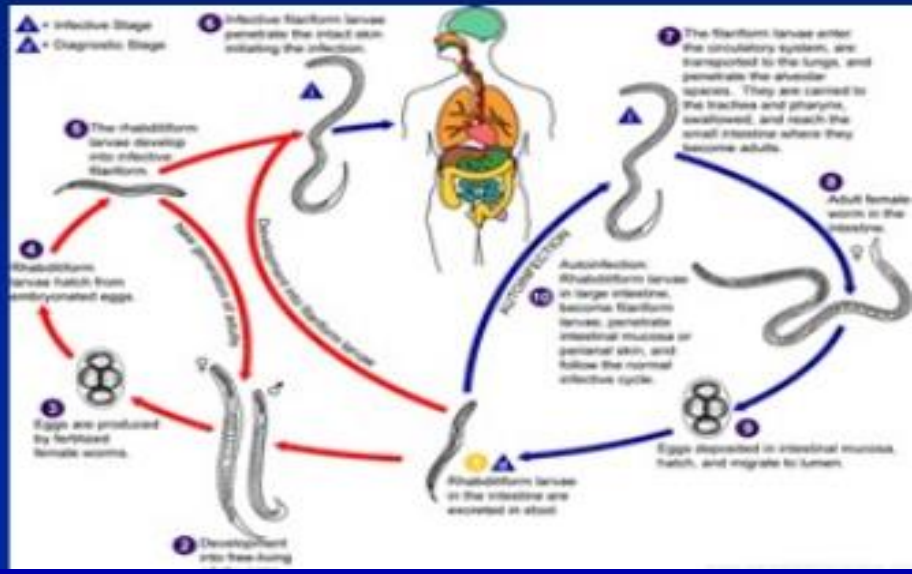
- Ingestion of foods such as spices, coffee, alcohol or excess food not associated with dyspepsia (except when it is)
- Effect related to sensorimotor responses to food
- Common side effect of many medications

Medications and dyspepsia

- Acarbose
- ASA
- Colchicine
- Digitalis
- Estrogens
- Ethanol
- Gemfibrozil
- Glucocorticoids
- *Iron*
- Levodopa
- Niacin
- Narcotics
- Nitrates
- Orlistat
- Potassium chloride
- Quinidine
- Sildenafil
- Theophylline

Things to think about

- Infectious (Strongyloides stercoralis, TB, syphilis, fungal)
- Inflammatory Diseases
- Infiltrative Diseases
- Ischemia
- Pregnancy
- Hyperparathyroidism



Functional Dyspepsia

Definition

Dyspepsia is defined as the presence of 1 or more dyspepsia symptoms that are considered to originate from the gastroduodenal region, in the absence of any organic, systemic, or metabolic disease that is likely to explain the symptoms.

Tack J, Talley NJ, Camilleri M, et al. Functional gastroduodenal disorders. Gastroenterology. 2006;130:1466-1479.

B. Gastroduodenal Disorders

- B1. Functional dyspepsia
  - B1a. Postprandial distress syndrome (PDS)
  - B1b. Epigastric pain syndrome (EPS)
- B2. Belching disorders
  - B2a. Excessive supragastric belching
  - B2b. Excessive gastric belching
- B3. Nausea and vomiting disorders
  - B3a. Chronic nausea vomiting syndrome (CNVS)
  - B3b. Cyclic vomiting syndrome (CVS)
  - B3c. Cannabinoid hyperemesis syndrome (CHS)
- B4. Rumination syndrome

Diagnostic Criteria for Functional Dyspepsia and Subgroups (Rome III)

1. One or more:
   a) Bothersome postprandial fullness
   b) Early satiety
   c) Epigastric pain
   d) Epigastric burning

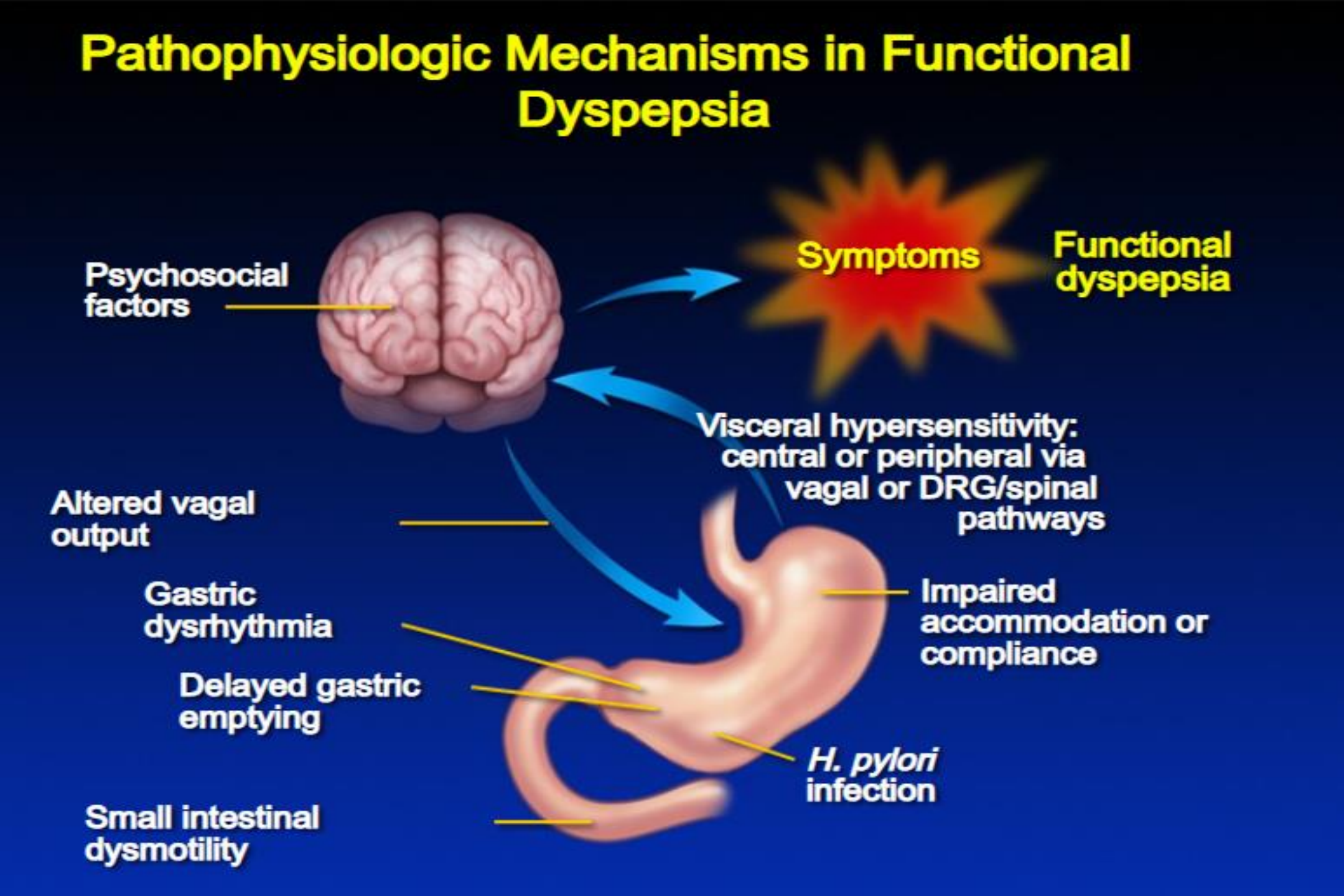
AND

2. No structural disease to explain symptoms

- Postprandial distress syndrome
- Epigastric pain syndrome

**All criteria must be fulfilled for the last 3 months with symptom onset at least 6 months before diagnosis*

Pathophysiologic Mechanisms in Functional Dyspepsia



Duodenal Sensitivity

- Duodenal perfusion with lipids enhances perception of gastric distention

Ishii et al 2010

- 44 FD / 16 control
- 11 PDS / 9 EPS / 24 PDS and EPS
- Transnasal endoscopy after overnight fast with injection of acid
- Increase in symptom severity scale in FD patients
- Bloating , Early Satiety and Heavy sensation in stomach most commonly reported in FD

Ishi et al : J Gastroenterol Hepatol 2011

Duodenal Sensitivity

Futagami et al - 2011

136 FD patients 20 controls

- 35 PI / 36 EPS /65 PDS
- Duodenal biopsies → elevated Eos/Macrophages
- Degree of involvement was correlated with epigastric pain/burning

Infection and FD

- Mearin et al –Outbreak of Salmonella 271 affected – 335 controls
- Compared development of FD between affected and non affected over the course of 1 year
- 14% developed Post Infectious FD
- Prolonged abdominal pain and vomiting predictive of FD

Mearin et al. Gastroenetrology 200

Psychological Factors and FD

- Frequency of anxiety, depression , somatization, abuse increased in FD pts

- Increased number of stressful life events 6 months prior to development of symptoms

Talley et al. 2004

Uninvestigated Dyspepsia

Definition

Dyspeptic symptoms in persons in whom no diagnostic investigations have yet been performed and in whom a specific diagnosis that explains the dyspeptic symptoms has not been determined

History and Physical

- Nature of symptoms
- Chronicity
- Relationship with meals
- Onset (recent infections?)
- Systemic disorders
- Alarm features

- Abdominal pain
- Abdominal mass
- Organomegaly
- Ascites
- FOB

Alarm features

- Unexplained weight loss (>10%)
- Overt Bleeding
- Anemia
- Early satiety
- Previous hx of gastric surgery
- Jaundice
- Progressive dysphagia
- Odynophagia
- Persistent vomiting
- Previous PUD
- Lymphadenopathy
- Abdominal Mass
- Family hx of UGI malignancy

Talley, et al. Gastroenterology, 2005

Alarm Features

- Meta analysis of 15 studies
- 57,363 pts / 458 with malignancy

1. Low positive predictive value <10
2. High negative predictive value 97%
3. Varying thresholds to determine whether alarm feature present

Vakil N, Moayyedi P, Fennerty MB, Talley NJ. **Limited value of alarm features in the diagnosis of upper gastrointestinal malignancy: systematic review and meta-analysis.** Gastroenterology 2006

Age

"Age threshold should be assessed locally based on known regional correlation between age and incidence of upper GI malignancies"

Breslin et al - retrospective study of 3634 pts

- Less than 45 yrs old with no alarm features
- 3 gastric cancers, 10 Barrett's, 1 moderate dysplasia
- Prevalence 1.05 / 1000

Liou JM et al – retrospective study of 17894 pts with dyspepsia

- 225 (Gastric Cancer) , 111 (alarm symptoms), 11 (age <45) (9.9%)

Breslin et al: Gut 2000

Liou et al: Gastrointest Endos 2005

ACG Dyspepsia management

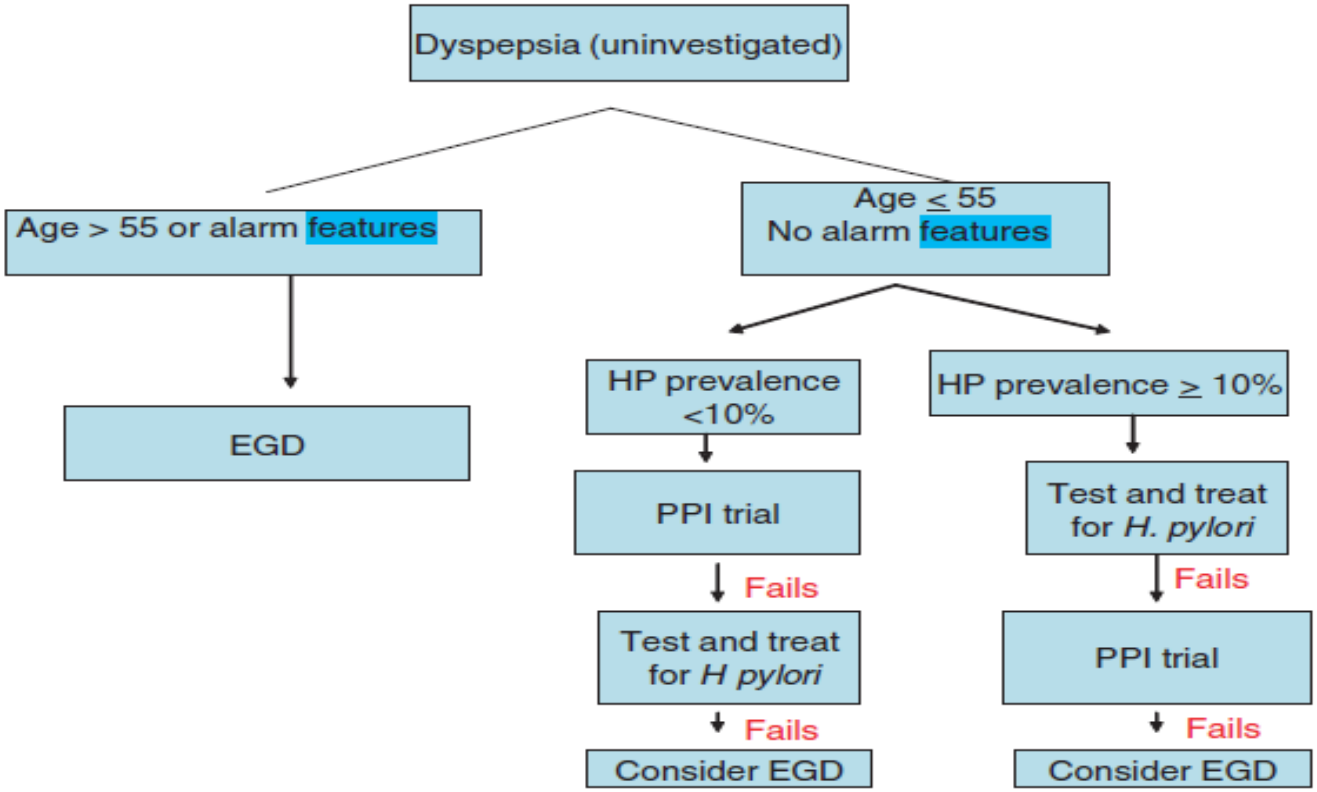


Figure 1. Algorithm for the management of uninvestigated dyspepsia

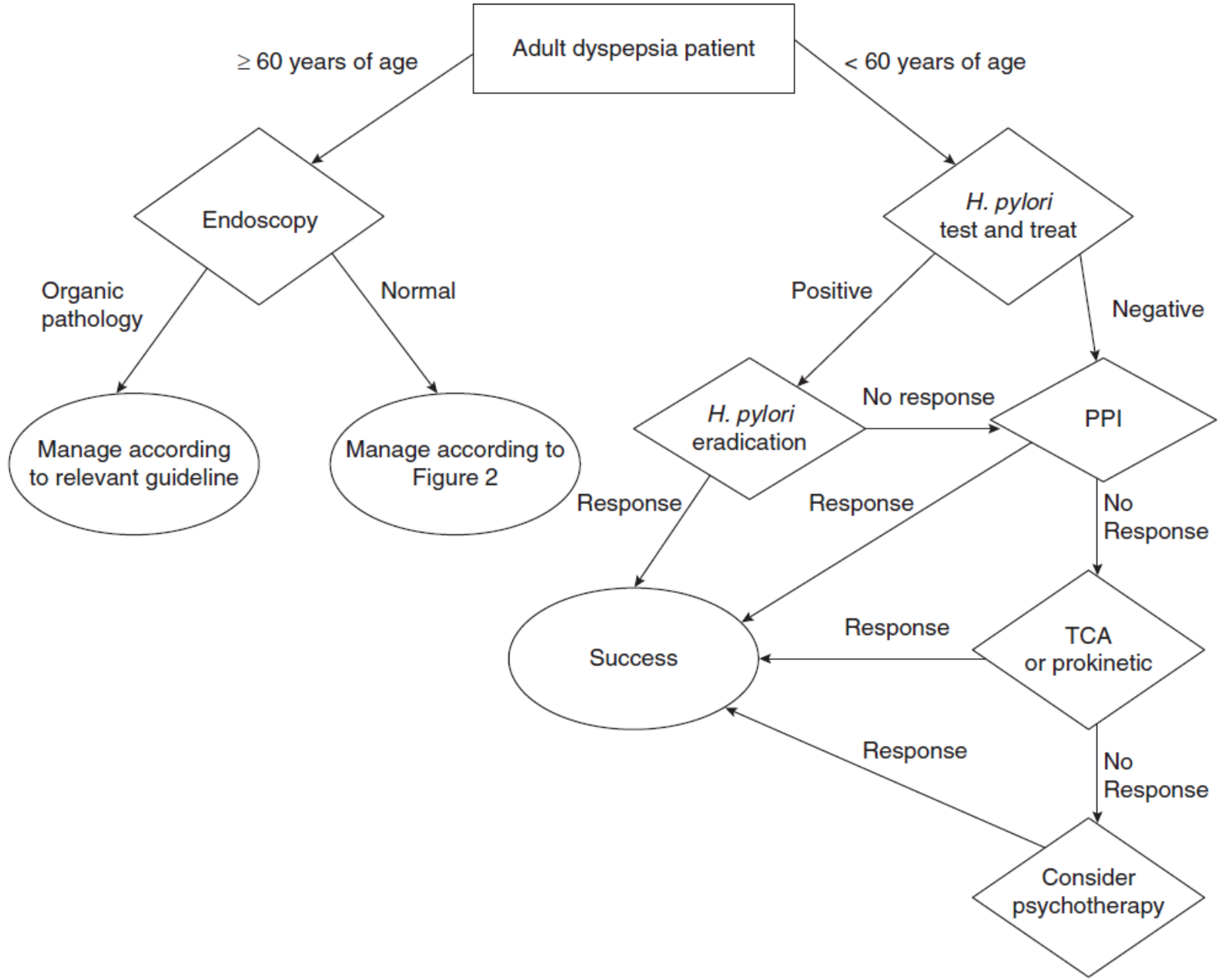


Figure 1. Algorithm for the management of undiagnosed dyspepsia.

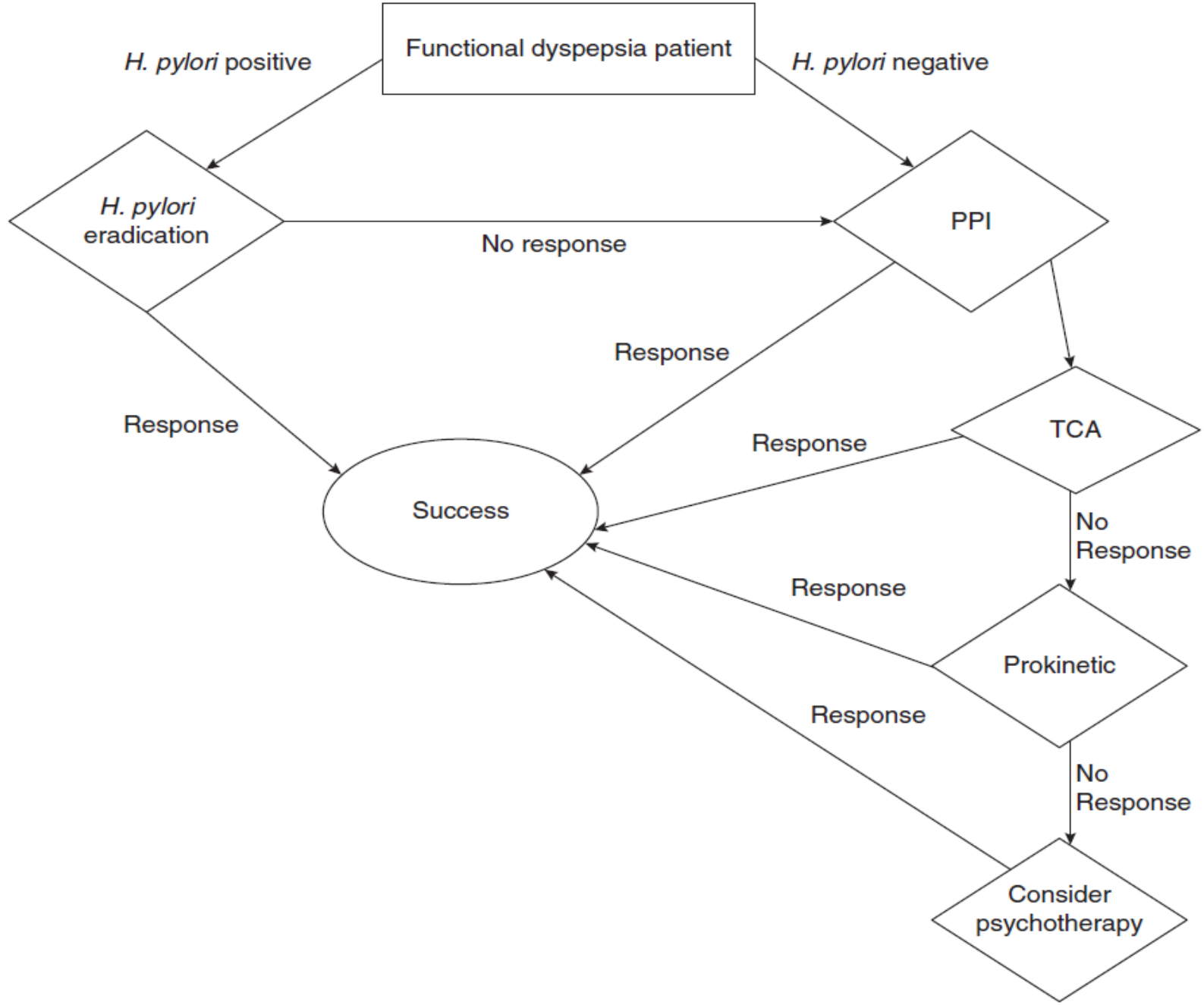


Figure 2. Algorithm for the treatment of functional dyspepsia.

Prompt Endoscopy

- **FIRST CHOICE**
  Delaney et al

- **1) Significant improvement in symptom scores**
- **2) 48% reduction in PPI use**
- **3) Reduced further investigations.**

- **Delaney , Cochrane Library , Volume 4 , 2008**

Disadvantages - Endoscopy

- Invasive procedure with inherent risks
- Young pts without warning symptoms unlikely to have organic disease
- Most common finding is esophagitis
- Expensive

Sleisenger and Fordtrans Gastrointestinal and Liver disease
Tack et al . Functional Dyspepsia J Gastroenterology 2008

Test and Treat vs Endoscopy

- Ford et al – Meta analysis 1924 patients

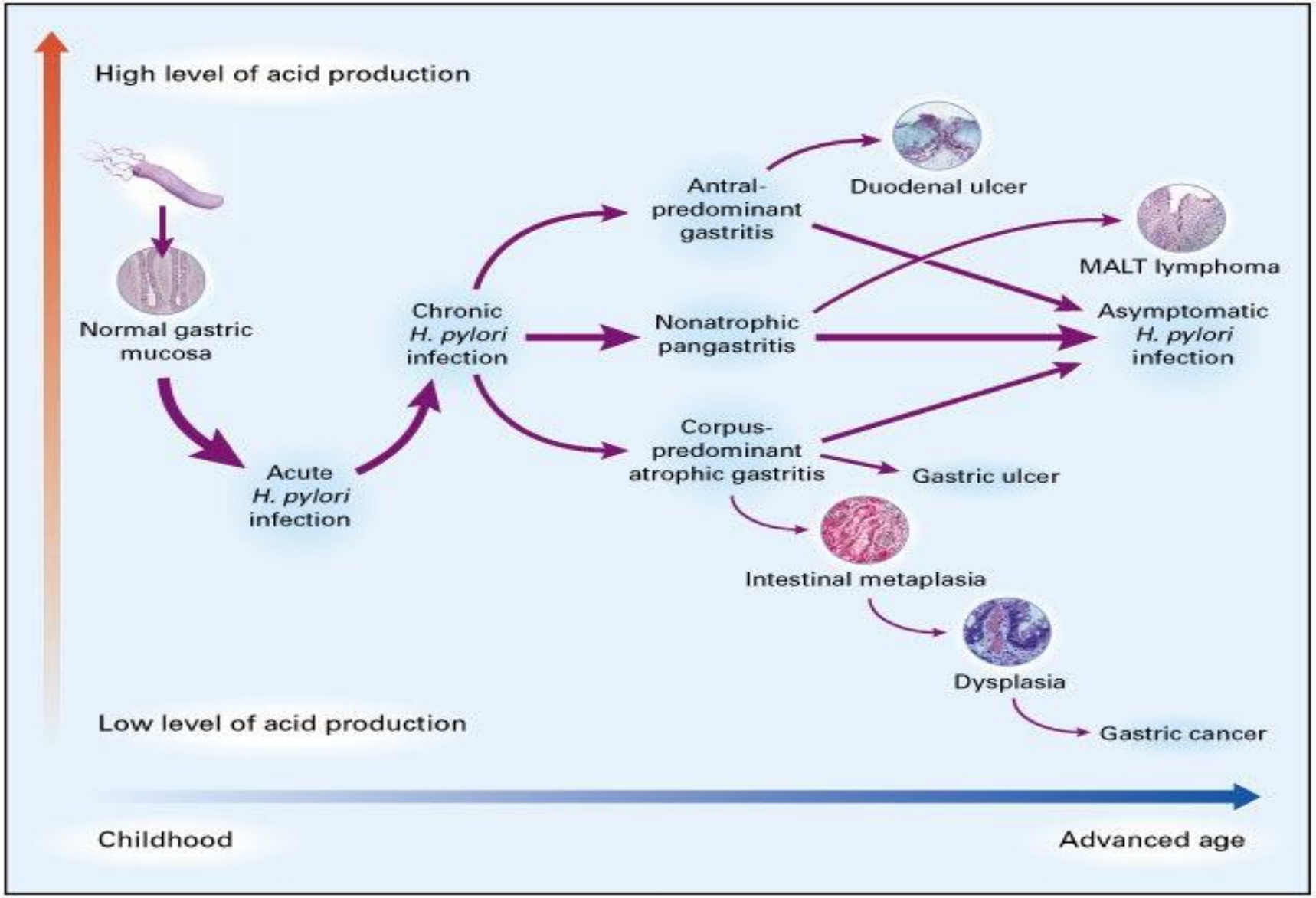
1. The relative risk of remaining symptomatic after 1 year was reduced with endoscopy compared with "test and treat" (RR = 0.95)
2. Endoscopy Not cost effective

- Cochrane review, 2008

1. Test and treat reduced EGD by 66%
2. Test and treat more cost effective

Delaney: The Cochrane Library, Volume (4).2008

Ford et al -Helicobacter pylori "test and treat" or endoscopy for managing dyspepsia: an individual patient data meta-analysis. Gastroenetrology 2005


High level of acid production
Normal gastric mucosa
Acute H. pylori infection
Chronic H. pylori infection
Antral-predominant gastritis
Duodenal ulcer
Nonatrophic pangastritis
MALT lymphoma
Asymptomatic H. pylori infection
Corpus-predominant atrophic gastritis
Gastric ulcer
Intestinal metaplasia
Dysplasia
Gastric cancer
Low level of acid production
Childhood
Advanced age

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Concurrent enteric helminth infection modulates inflammation and gastric immune responses and reduces helicobacter-induced gastric atrophy

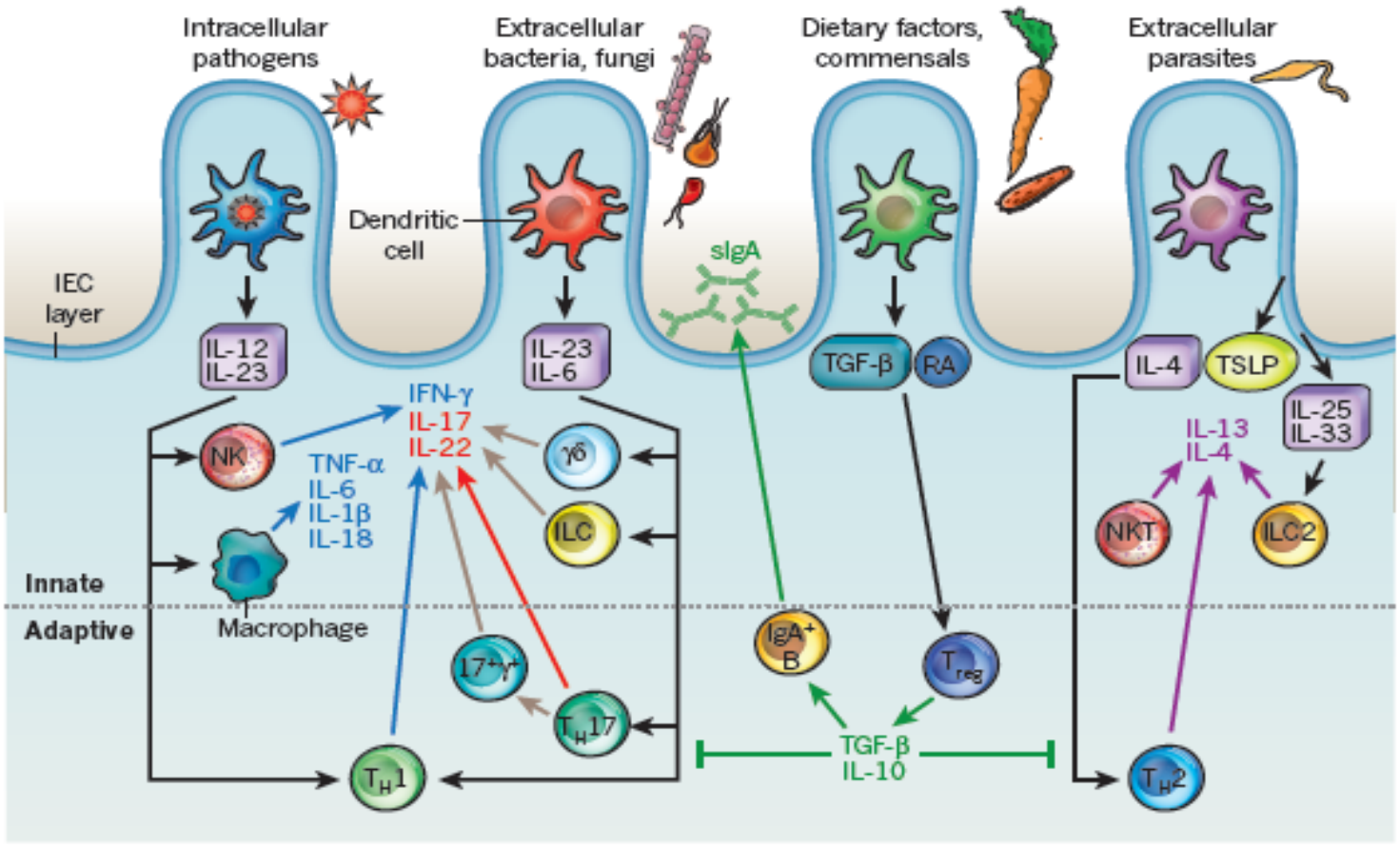
JAMES G. FOX[1], PAUL BECK[3], CHARLES A. DANGLER[1], MARK T. WHARY[1], TIMOTHY C. WANG[3], HAI NING SHI[2] & CATHRYN NAGLER-ANDERSON[2]

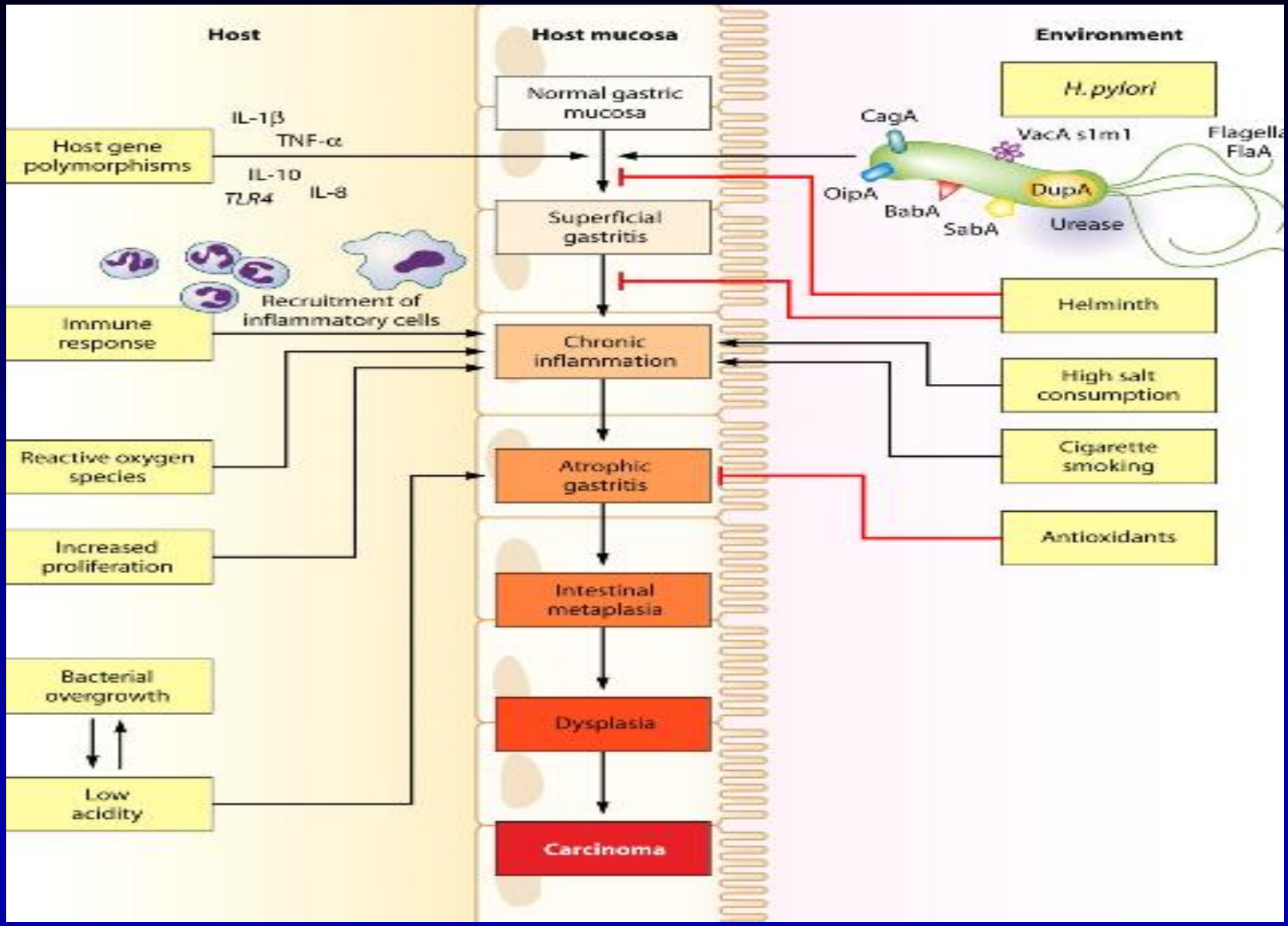
NATURE MEDICINE • VOLUME 6 • NUMBER 5 • MAY 2000

HOST

- Developed Countries: HP → Th1 → mucosal damage
  Developing Countries: HP → Th2 → mucosal protecting

- Fox: Pretreated animal – protozoal response to Helicobacter infection shifted from Th1 → Th2


Intracellular pathogens
Extracellular bacteria, fungi
Dietary factors, commensals
Extracellular parasites
Dendritic cell
IEC layer
sIgA
IL-12
IL-23
IL-23
IL-6
TGF-β
RA
IL-4
TSLP
IL-25
IL-33
IL-13
IL-4
IFN-γ
IL-17
IL-22
NK
γδ
ILC
TNF-α
IL-6
IL-1β
IL-18
NKT
ILC2
Innate
Adaptive
Macrophage
IgA+ B
Treg
17+γ+
TH17
TH1
TH2
TGF-β
IL-10


Host
Host mucosa
Environment
Normal gastric mucosa
Superficial gastritis
Chronic inflammation
Atrophic gastritis
Intestinal metaplasia
Dysplasia
Carcinoma
Host gene polymorphisms
IL-1β
TNF-α
IL-10
TLR4
IL-8
Immune response
Recruitment of inflammatory cells
Reactive oxygen species
Increased proliferation
Bacterial overgrowth
Low acidity
H. pylori
CagA
VacA s1m1
Flagella
FlaA
OipA
BabA
SabA
DupA
Urease
Helminth
High salt consumption
Cigarette smoking
Antioxidants

H.Pylori - Soweto

Acid- H.Pylori -

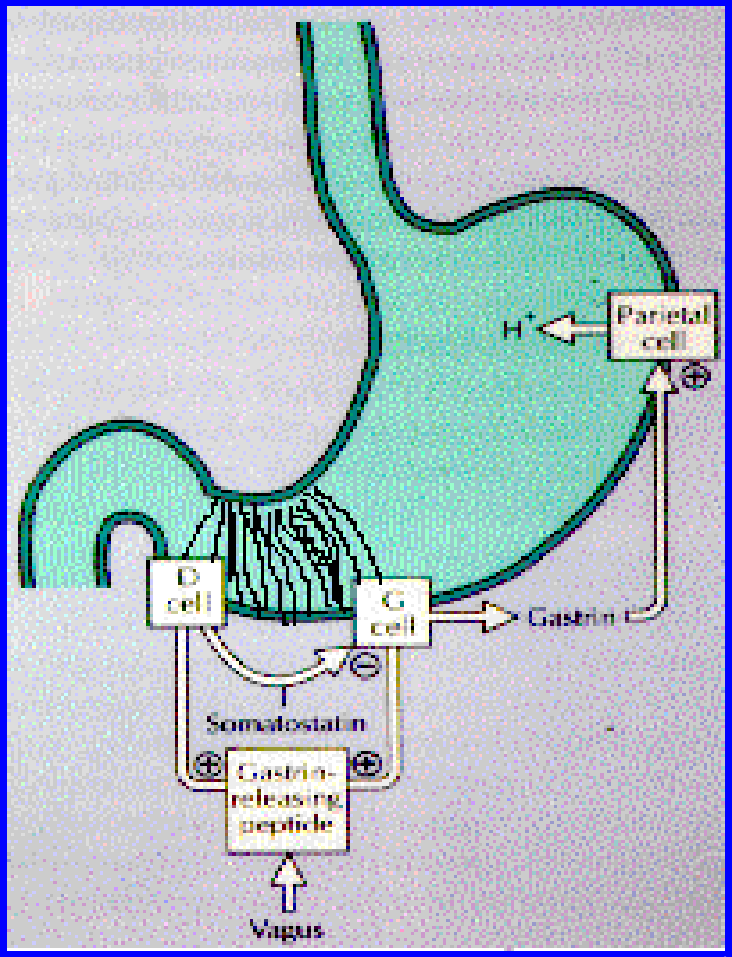
A.Lee/MacColl

Antral Predominant Gastritis

→ ↑ Gastrin

→ ↑ Acid

→ Ulcer



H.Pylori - Soweto

Acid - H.Pylori

Corpus

Predominant/Pangastritis

→ Low Gastrin

→ Low Acid

→ Atrophy

→ I.M.

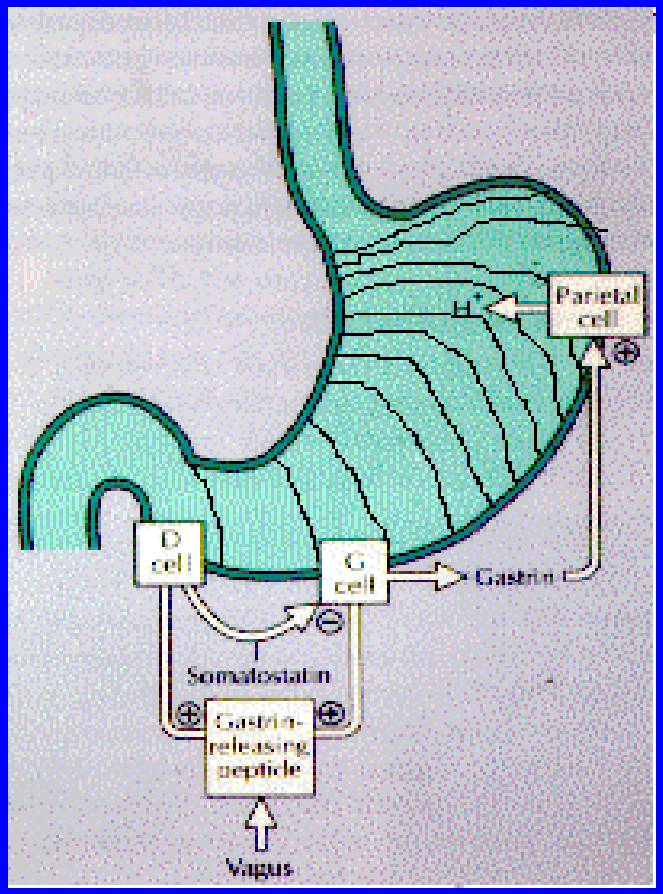
→ Cancer

Acid ≡ Gastrin; Pepsinogen A/C Ratio

PGA < 70ng/m

PGA/PGC < 3

≡ Atrophy



OPEN ACCESS

Kyoto global consensus report on *Helicobacter pylori* gastritis

Kentaro Sugano,[1] Jan Tack,[2] Ernst J Kuipers,[3] David Y Graham,[4] Emad M El-Omar,[5] Soichiro Miura,[6] Ken Haruma,[7] Masahiro Asaka,[8] Naomi Uemura,[9] Peter Malfertheiner,[10] on behalf of faculty members of Kyoto Global Consensus Conference

BMJ Sugano K, *et al*. *Gut* 2015;**64**:1–15. doi:10.1136/gutjnl-2015-309252 bsg 1

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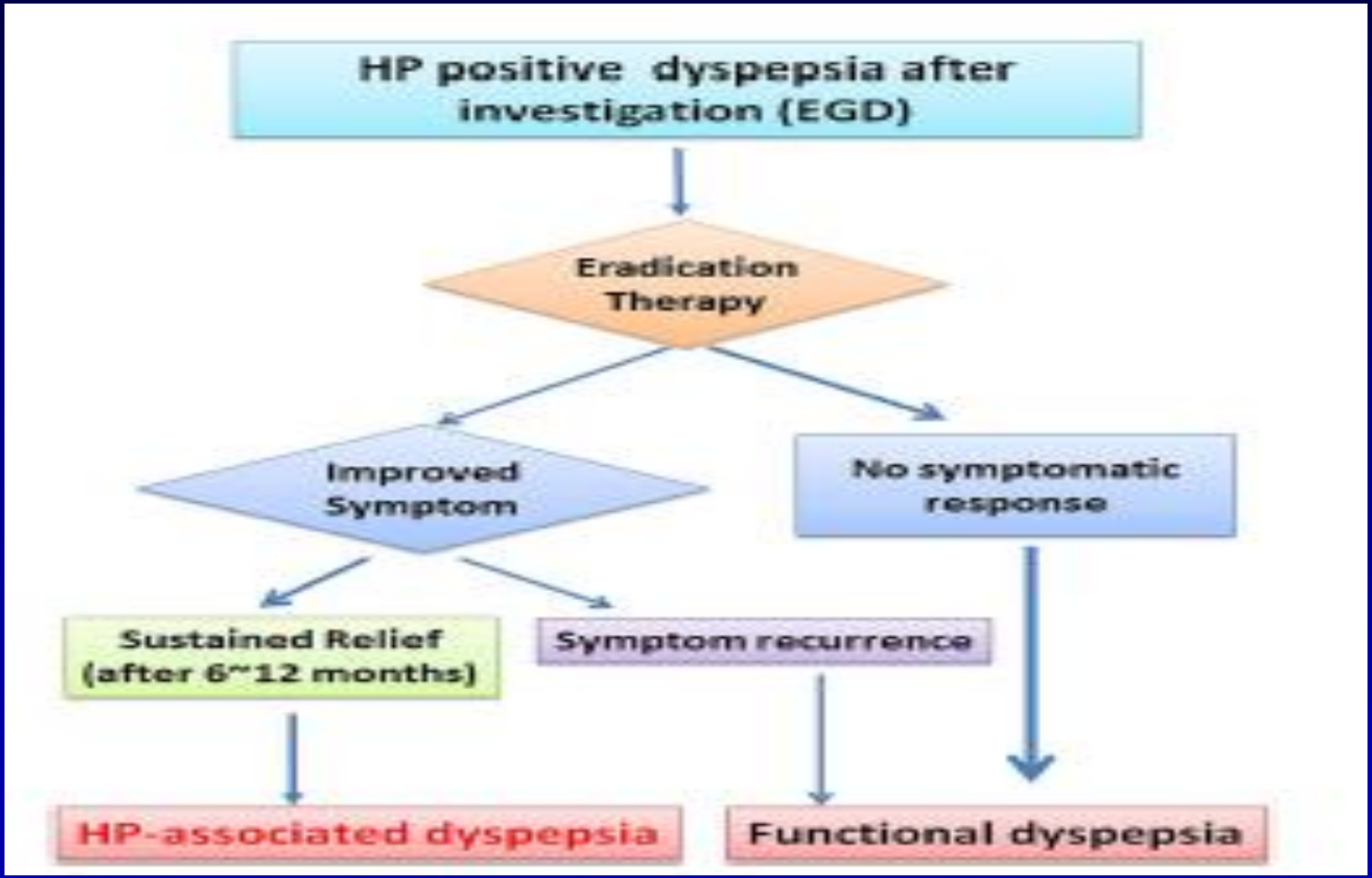
- Pepsinogens better than Histology

KYOTO CONSENSUS



Test and Treat vs Endoscopy

- Several studies which show no difference in symptomatic outcomes
- Decreased rates of further evaluations via EGD

Lassen et al. Lancet 2000
McColl et al. BMJ 2002
Jones et al. Int J Clin Pract 1999

Test and Treat Disadvantages

- Only leads to a small percentage of patients improving symptomatically
- Complications of therapy
- False-positive test results
- Delays endoscopy

Sleisenger and Fordtrans Gastrointestinal and Liver disease
Tack et al . Functional Dyspepsia J Gastroenterology 2008

Empiric Antisecretory Therapy

- May provide symptomatic benefit in 1/3 of FD pts
- PPI more effective than H2 blockers
- Usually respond within 2 weeks of therapy

Delaney B, Ford AC, Forman D, et al. Initial management strategies for dyspepsia. Cochrane Database Syst Rev 2005; (4):CD001961

Test and Treat vs Empiric AS

- Consider in recent immigrants from developing countries

Ford et al - Meta analysis 1547 pts

1. No difference in symptom cure at 12 months
2. No significant trend towards cost saving with test and treat vs empiric acid supp

Ford et al : Alimentary Pharmacology & Therapeutics
Volume 28, Issue 5, pages 534–544, September 2008

Management Functional Dyspepsia

- Reassurance and education
- Impact of dietary interventions not well studied
- Avoiding meals with high fat content advisable
- Treatment of coexisting anxiety should be considered

Tack et al : Current Opinion Gastroenterology 2011

Tack et al: Gastroenterology 2004

Prokinetic Agents

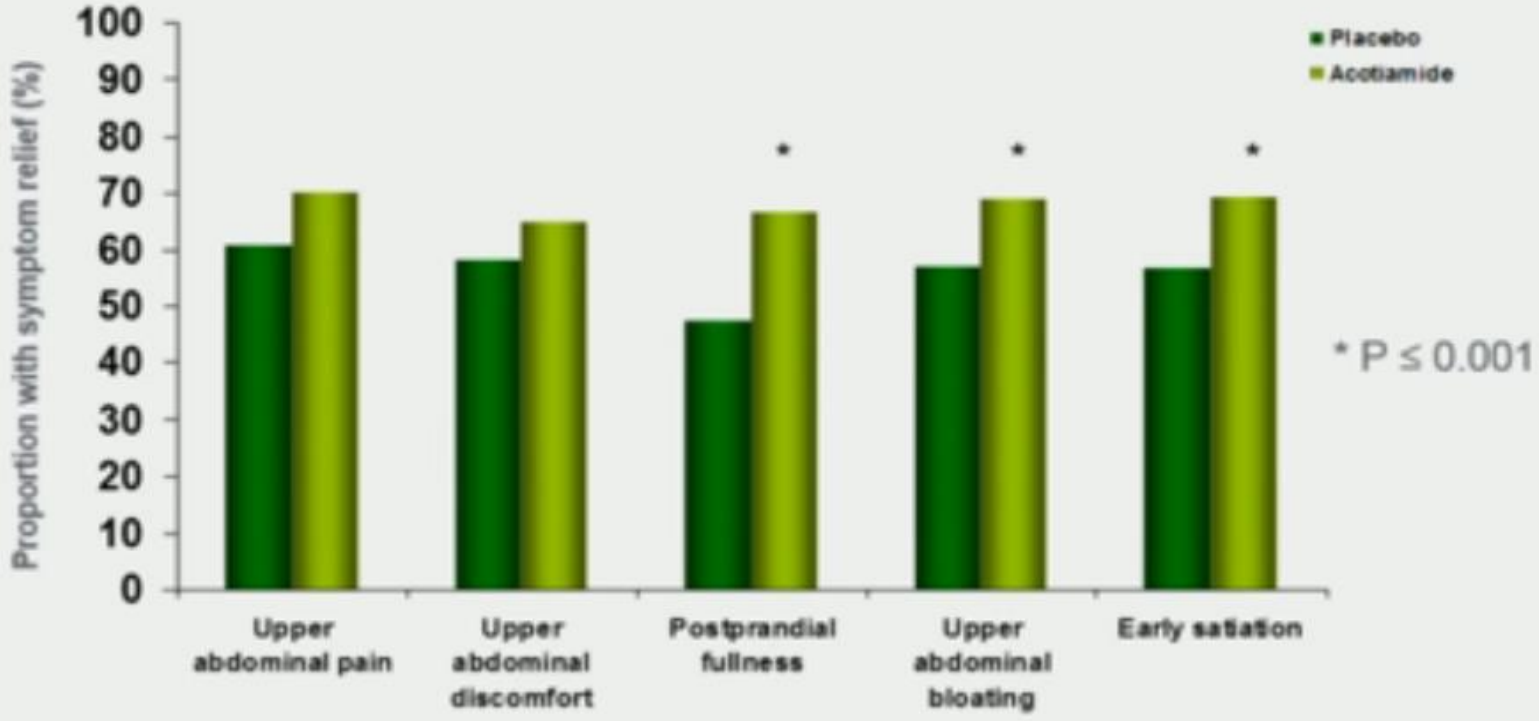
- Moayyedi et al - Meta-analysis of 24 RCTs
  - Compared Cisapride / Domperidone/Reglan
  - Response rates vs placebo (57% v. 43%)
  - Publication bias

Reglan – Black box warning- tardive dyskinesia
Cisapride – withdrawn due to cardiotoxicity
Domperidone – not FDA approved

- Recent studies have not demonstrated clinical benefit of prokinetic agents

- Moayadi, et al, Pharmacologic interventions for non-ulcer dyspepsia, Cochrane Database of Systematic Reviews, 2006

Effect of Acotiamide on Individual Symptoms of Functional Dyspepsia



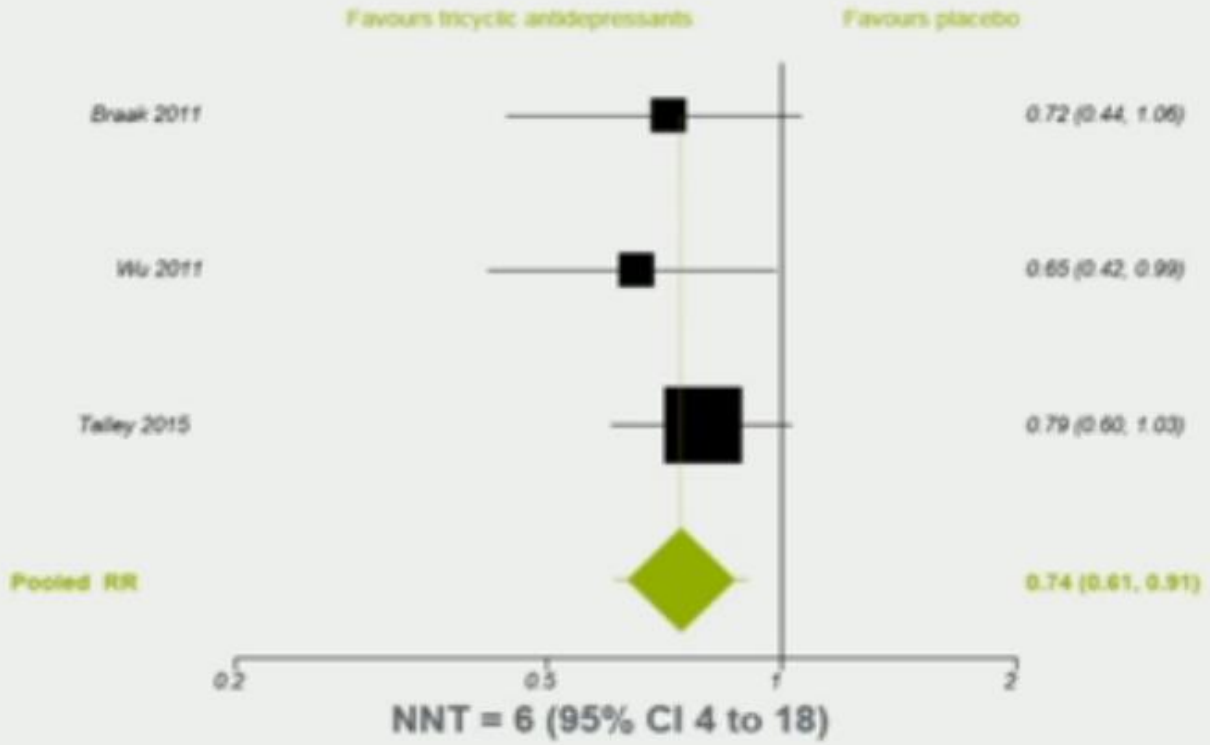
Matsueda *et al. Gut* 2012;61:821-8

Antidepressants

- Available trials small and of poor quality
- Evidence for efficacy is limited
- Should be used for patients with psychological comorbidities or long persistent symptoms that failed conventional therapy

Sleisenger and Fordtrans Gastrointestinal and Liver disease
Tack et al . Functional Dyspepsia J Gastroenterology 2008

Effect of Tricyclic Antidepressants on Functional Dyspepsia



Ford *et al.* Gut 2016;doi:10.1136/gutjnl-2015-310721

Psychological Interventions

- Group Support
- Cognitive Therapy
- Psychotherapy
- Hypnotherapy
- Relaxation therapy

Soo et al – insufficient evidence to support use as therapy

- Soo, et al. Psychological Interventions for non-ulcer dyspepsia. Cochrane Library, 2008; 4

SUMMARY

- Define Dyspepsia
- Have an approach to Uninvestigated Dyspepsia
- Understand Functional Dyspepsia
- Rationalize the benefits vs harm

Endoscopy
Test and Treat
Empiric PPI
Antidepressants
Prokinetics
Psychotherapy

THANK YOU

Dyspepsia Questions

A patient with dyspeptic symptoms undergoes endoscopy which yields no remarkable findings. Physical exam, routine blood tests, and abdominal ultrasonography are unremarkable. She has not yet been given a trial of any medications. At this point, what is the best initial choice of empiric therapy for this patient?

A. Proton pump inhibitor
B. Alonsetron
C. Ondansetron
D. Tegaserod
E. Sumatriptan

Dyspepsia Questions

- The recommended response is A.
- A subset of patients with non-ulcer dyspepsia (NUD) may actually have acid hypersensitivity or GERD, which can present in an atypical fashion. Acid inhibitory therapy with proton pump inhibitors may lead to complete symptom resolution in 25% to 50% of NUD patients. Efficacy of 5-HT3 antagonists (alonsetron, granisetron and ondansetron) or the 5-HT4 antagonist tegaserod, in NUD has not yet been clearly demonstrated. Clinical studies of 5-HTI agonists (sumatriptan, buspirone) demonstrate improved gastric accommodation in NUD patients. However, due to significant side effects these agents are not currently recommended as first line therapy for NUD.

Groskreutz JL, Kim CH. Schatzki's ring: Long-term results following dilation. Gastrointest Endosc 1990;36:479.

Dyspepsia Questions

- A 66-year-old black male with a 6-month history of dyspepsia presents for evaluation. His symptoms previously responded well to antacids and over-the-counter H2-receptor antagonists, but have not been relieved by these treatments in the past two months. He does not have dysphagia or weight loss. Physical examination and blood counts are normal. Which of the following is most appropriate as the next step in the management of this patient?
- A. Treatment for *Helicobacter pylori*
- B. CT scan
- C. Upper endoscopy
- D. Gastric motility testing
- E. Proton pump inhibitor

Dyspepsia Questions

The recommended response is C.

- An important early decision in the evaluation and management of patients with dyspepsia is to determine whether presenting symptoms and signs are of sufficient concern to suggest the possibility of gastric malignancy or an ulcer complication (e.g., alarm symptoms). These would be new onset of symptoms after age 50 (as in this case), anorexia, dysphagia, gross or occult gastrointestinal bleeding, unexplained anemia, weight loss, significant vomiting or an upper gastrointestinal barium study suspicious for cancer. The presence of these features are indications for early endoscopy.
- Groskreutz JL, Kim CH. Schatzki's ring: Long-term results following dilation. Gastrointest Endosc

Dyspepsia Questions

25 y/o Chinese graduate student with a 6 month hx of dyspepsia is referred for your evaluation by her laboratory supervisor. Her symptoms previously responded well to antacids and over the counter H2RA, but have not been relived by these treatments in the past 2 months. She does not have typical acid reflux symptoms and takes no other prescription or over the counter medications. Physical examination and blood counts are normal. Which of the following is the most appropriate as the next step in the management of this patient?

Dyspepsia Questions

A. Upper Endoscopy
B. PPI
C. CT Scan of the abdomen and pelvis
D. Testing for HP
E. RUQ US

Dyspepsia Questions

- Answer – D

  An important early decision in the evaluation and management of patients with dyspepsia is to determine whether presenting symptoms and signs are of sufficient concern to suggest the possibility of gastric malignancy or an ulcer complication. In the absence of alarm features , testing for H pylori is advisable as the initial step in management, particularly in populations of high HP prevalence.

Table 2. Dyspeptic symptoms and their definitions

Symptom	Definition
Epigastric pain	Epigastric refers to the region between the umbilicus and lower end of the sternum, and marked by the midclavicular lines. Pain refers to a subjective, unpleasant sensation; some patients may feel that tissue damage is occurring. Other symptoms may be extremely bothersome without being interpreted by the patient as pain.
Epigastric burning	Epigastric refers to the region between the umbilicus and lower end of the sternum, and marked by the midclavicular lines. Burning refers to an unpleasant subjective sensation of heat.
Postprandial fullness	An unpleasant sensation like the prolonged persistence of food in the stomach
Early satiation	A feeling that the stomach is overfilled soon after starting to eat, out of proportion to the size of the meal being eaten, so that the meal cannot be finished. Previously, the term "early satiety" was used, but satiation is the correct term for the disappearance of the sensation of appetite during food ingestion.

Epidemiology

- Difficult to assess given variability in definition
- Fairly common ranging between 10-45 % of general population
- Estimated prevalence of 25% in the United States
- Annual incidence of 1% - 6%
- Slightly higher frequency in women than men

Organic Causes

1. Peptic Ulcer Disease
2. GERD
3. Intolerance to food or drugs
4. Gastric and Esophageal Cancer
5. Pancreatic and Biliary Tract Disorders
6. Other

GERD and Dyspepsia

- Approximately 20% of dyspeptic pts
- 15-20% of patients with dyspepsia have erosive esophagitis
- 20% of patients have endoscopy negative GERD (i.e., NERD)
- 40% of patients with Barrett's had no symptoms

Ronkainen J. Aliment Pharmacol Ther 2006

Risk Factors

Gastric Cancer

1. Male
2. Age greater than 50
3. Tobacco/ ETOH
4. ***H pylori (60%)***
5. Atrophic gastritis
6. Inherited syndromes
7. Prior partial gastrectomy

Esophageal Adenocarcinoma

1. **Male > Female**
2. **Tobacco**
3. **ETOH**
4. **Long standing history of heartburn (Barrett's esophagus)**

Malignancy and Dyspepsia

Metastasis to stomach is rare (1%)

Sites

1. Breast
2. Lung
3. Melanoma
4. Ovarian
5. Cervical
6. Pancreatic
7. Hepatocellular

Symptoms

1. Melena
2. *Epigastric Pain*
3. Anemia

Journal of Gastroenterology and Hepatology

Development and Evaluation of a Modified Frequency Scale for the Symptoms of Gastroesophageal Reflux Disease to Distinguish Functional Dyspepsia From Non-erosive Reflux Disease

Motoyasu Kusano; Hiroko Hosaka; Akiyo Kawada; Shikou Kuribayashi; Yasuyuki Shimoyama; Osamu Kawamura

Fumitaka Moki

Disclosures

J Gastroenterol Hepatol. 2012;27(7):1187-1191.

Print

Table 1 Modified frequency scale for the symptoms of gastroesophageal reflux disease (GERD)

Question		Circle the appropriate response				
		Never	Occasionally	Sometimes	Often	Always
1	Do you get heartburn?	0	1	2	3	4
2	Does your stomach get bloated?	0	1	2	3	4
3	Does your stomach ever feel heavy after meals?	0	1	2	3	4
4	Do you sometimes subconsciously rub your chest with your hand?	0	1	2	3	4
5	Do you ever feel sick after meals?	0	1	2	3	4
6	Do you get heartburn after meals?	0	1	2	3	4
7	Do you have an unusual (e.g. burning) sensation in your throat?	0	1	2	3	4
8	Do you feel full while eating meals?	0	1	2	3	4
9	Do some things get stuck when you swallow?	0	1	2	3	4
10	Do you get bitter liquid (acid) coming up into your throat?	0	1	2	3	4
11	Do you burp a lot?	0	1	2	3	4
12	Do you get heartburn if you bend over?	0	1	2	3	4
13	Do you get epigastric pain (burning) after meals?	0	1	2	3	4
14	Do you get epigastric pain (burning) before meals?	0	1	2	3	4

Functional Dyspepsia

- Accounts for 50-60% of all dyspepsia [1]
- 40 to 60 % of patients with dyspepsia evaluated via EGD will have normal findings
- Often chronic and intermittent symptoms
- > 75% of patients have aggravation of symptoms after meals

1. Talley NJ, Silverstein MD,Agreus L, Nyren O, SonnenbergA, Holtman G. AGA technical review: evaluation of dyspepsia. Gastroenterology 1998

Diagnostic Criteria for Functional Dyspepsia and Subgroups (Rome III)

Postprandial Distress Syndrome

One or both:

- Bothersome postprandial fullness, occurring after ordinary size meals, at least several times a week
- Early satiety, preventing finishing a regular meal that occurs at least several times a week

Epigastric Pain Syndrome

All of the following:

- Pain/burning in epigastrium of moderate severity at least once a week
- Pain is intermittent
- Not generalized or localized to other abdominal or chest regions
- Not relieved by defecation or passage of flatus
- Not fulfilling criteria for gallbladder or Sphincter of Oddi disorders

**All criteria must be fulfilled for the last 3 months with symptom onset at least 6 months before diagnosis*

AJG The American Journal of GASTROENTEROLOGY

Clinical Guidelines | Published: 20 June 2017

ACG and CAG Clinical Guideline: Management of Dyspepsia

Paul M Moayyedi MB, ChB, PhD, MPH, FACG, Brian E Lacy MD, PhD, FACG, Christopher N Andrews MD, Robert A Enns MD, Colin W Howden MD, FACG & Nimish Vakil MD, FACG

The American Journal of Gastroenterology **112**, 988–1013 (2017) | Download Citation

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Table 2. PICO statements evaluated in the dyspepsia guideline

Informal Question	PICO Question				Method
	Population	Intervention(s)	Comparator	Outcome	
What is the most appropriate initial evaluation for patients ≥60 years of age with dyspepsia?	Adult uninvestigated dyspepsia patients stratified by age	Endoscopy	Symptomatic management	1. Upper GI cancers detected 2. Early upper GI cancers detected 3. Rates of upper GI malignancy by age 4. Adverse events	Observational data

STATEMENT 1. WE SUGGEST DYSPEPSIA PATIENTS AGED 60 OR OVER HAVE AN ENDOSCOPY TO EXCLUDE UPPER GASTROINTESTINAL NEOPLASIA

Conditional recommendation, very low quality evidence

STATEMENT 2. WE DO NOT SUGGEST ENDOSCOPY TO INVESTIGATE ALARM FEATURES FOR DYSPEPSIA PATIENTS UNDER THE AGE OF 60 TO EXCLUDE UPPER GI NEOPLASIA

Conditional recommendation, moderate quality evidence

Disadvantages of Empiric Antisecretory therapy

- Rapid relapse of symptoms after cessation of therapy
- Delays diagnostic testing
- Concern that PUD is inadequately treated
- Long term therapy that is not required

Sleisenger and Fordtrans Gastrointestinal and Liver disease
Tack et al . Functional Dyspepsia J Gastroenterology 2008

Test and Treat

" Small but significant therapeutic gain achieved with H pylori eradication in functional dyspepsia "

McNamara et al – RCT 100 patients

- 5 year followup - symptom questionaire
- Sustained remission of symptoms with TT

Moayyedi et al: Cochrane database 20
Talley et al : American Journal of Gastro 200

Management Functional Dyspepsia

Acid suppressive therapy

Moayyedi et al – Meta analysis of 8 RCT

1. PPI superior to placebo (NNT 9)
2. No difference in PPI dosing regimens
3. Most effective when dyspepsia and reflux

- PPI with better response rate vs H2RB (31 to 21 %)(p <0.05)

Veldhuyzen et al AM J Gastroenterology 2005

Moayyedi, et al, Pharmacologic interventions for non-ulcer dyspepsia, Cochrane Database of Systematic Reviews 2006

Own Bias – ERADICATION

- **Endoscopically diagnosed PUD/Complicated**
- Dyspepsia – Uninvestigated (Test and Treat) – NO
  - Serological Markers – Pep I,II
- Endoscopic Gastritis – NO(Kyoto – HP associated)
  - Serological Markers
  - Histology

Family Members / Malt Lymphoma

OTHERS : Long Term PPI – Reflux Disease (Hp +)
NSAID initiation

Viceral Hypersensitivty

- Up to 30% - Visceral hypersensitivity
- Abnormally enhanced perception to visceral stimuli
- Not related to gastric acid secretion, accommodation, compliance or emptying

- *Tack J, et al. Gastroenterology 2001; 121:536*

Impaired fundic accomodation

- 40% of FD patients
- Increased intra gastric pressure which leads to activation of mechanoreceptors in the abdominal wall, inducing symptoms

Delayed Gastric Emptying

- 25 - 45% of all FD pts
- Waldron et al - Meta analysis 17 studies- 868 dyspeptic pts/397 controls

  40% significant delay of gastric emptying
- Failed to find correlation between symptoms and DGE

Tack J, Bisschops R, Sarnelli G. Pathophysiology and Treatment of Functional Dyspepsia. Gastroenterology 2004

H pylori and FD

- Role remains controversial
- No consistent differences in symptom patterns for H pylori + vs negative pts
- Dyspepsia improved with tx
- Ang et al - 31% of patients treated had complete resolution of symptoms at 1 year

Folk et al. J Gastroenetrology. 2011
Ang et al. J. Gastroenterology. 2006
Moayyedi et al . AmJ Gastroenterology. 2003