Current Trends in Gastroenterology 2020

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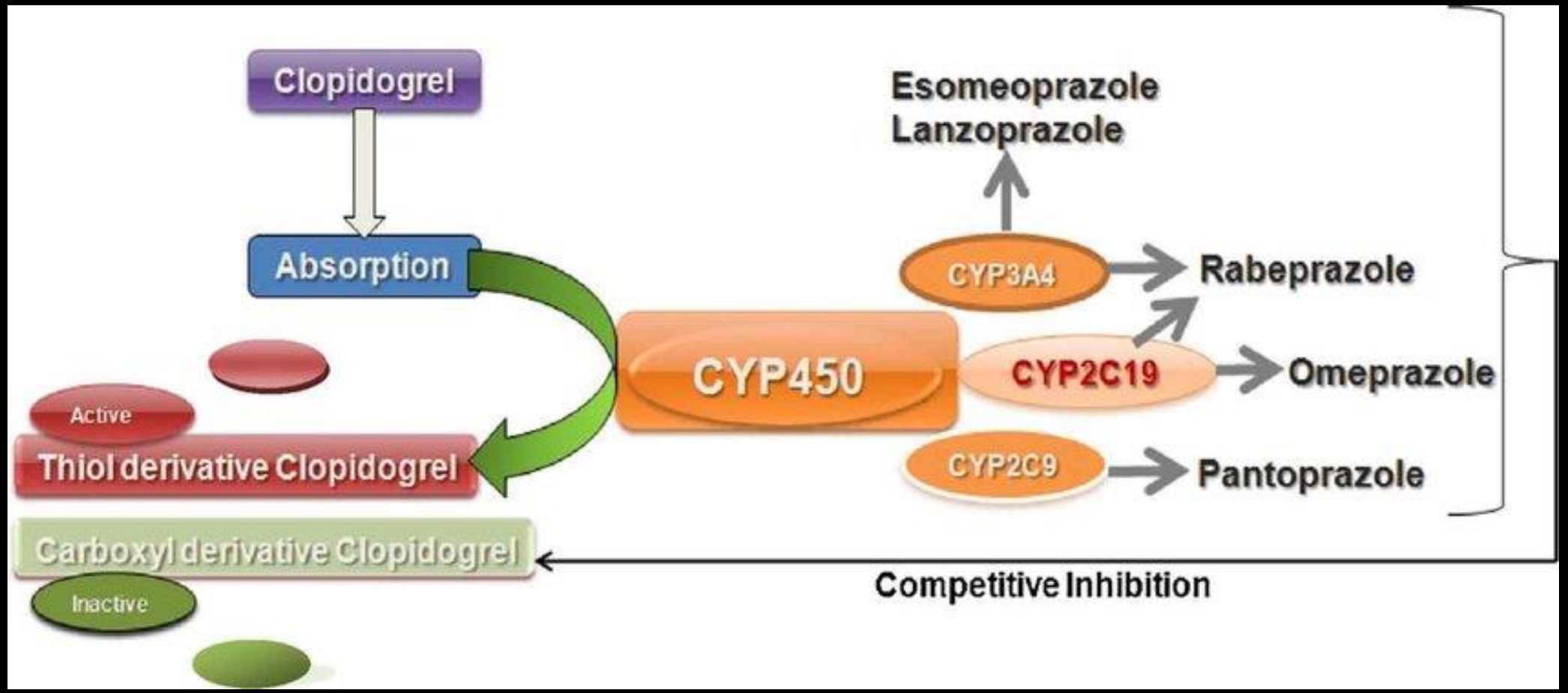
9.8.2020

Good Afternoon

1. PPI and Clopidogrel Interaction



Journal of Cardiovascular Translational Research 5(4):547-52

Clopidogrel

- Some data suggest decreased activation of clopidogrel when used in conjunction with omeprazole due to shared hepatic cytochrome P450-mediated metabolism.
- Proton pump inhibitors (PPIs) are often used with clopidogrel to prevent gastrointestinal bleeding, however, some evidence suggests that PPIs may interfere with the activation of clopidogrel and diminish its antiplatelet effect.

- Clinical practice guidelines offer conflicting guidance on the significance of this interaction.
- In 2009 the FDA announced a non-boxed warning to “avoid concomitant use of clopidogrel with drugs that are strong or moderate CYP2C19 inhibitors (e.g. the PPIs omeprazole and esomeprazole).”
- More recently, in 2012, clinical guidelines from the American College of Cardiology Foundation and American Heart Association (ACCF/AHA) stated that they do “not prohibit the use of PPI agents in appropriate clinical settings

Int J Clin Exp Med 2018;11(11):11481-11493
www.ijcem.com /ISSN:1940-5901/IJCEM0076219

Review Article

Lack increased evidence of cardiovascular events in patients receiving clopidogrel with proton-pump inhibitors: a meta-analysis and system review

Jing-Xiu Li[1], En-Ze Jin[1], Yang Li[1], Zhao-Yan Song[1], Shi-Hao Liu[1], Shu-Jun Yan[1], Bai-He Han[1], Long-Zhe Guo[1], Shuo Yin[2], Wei Song[1], Ye-Ping Chen[1], De-Jun Xia[1], Xin Li[1], Xue-Qi Li[1]

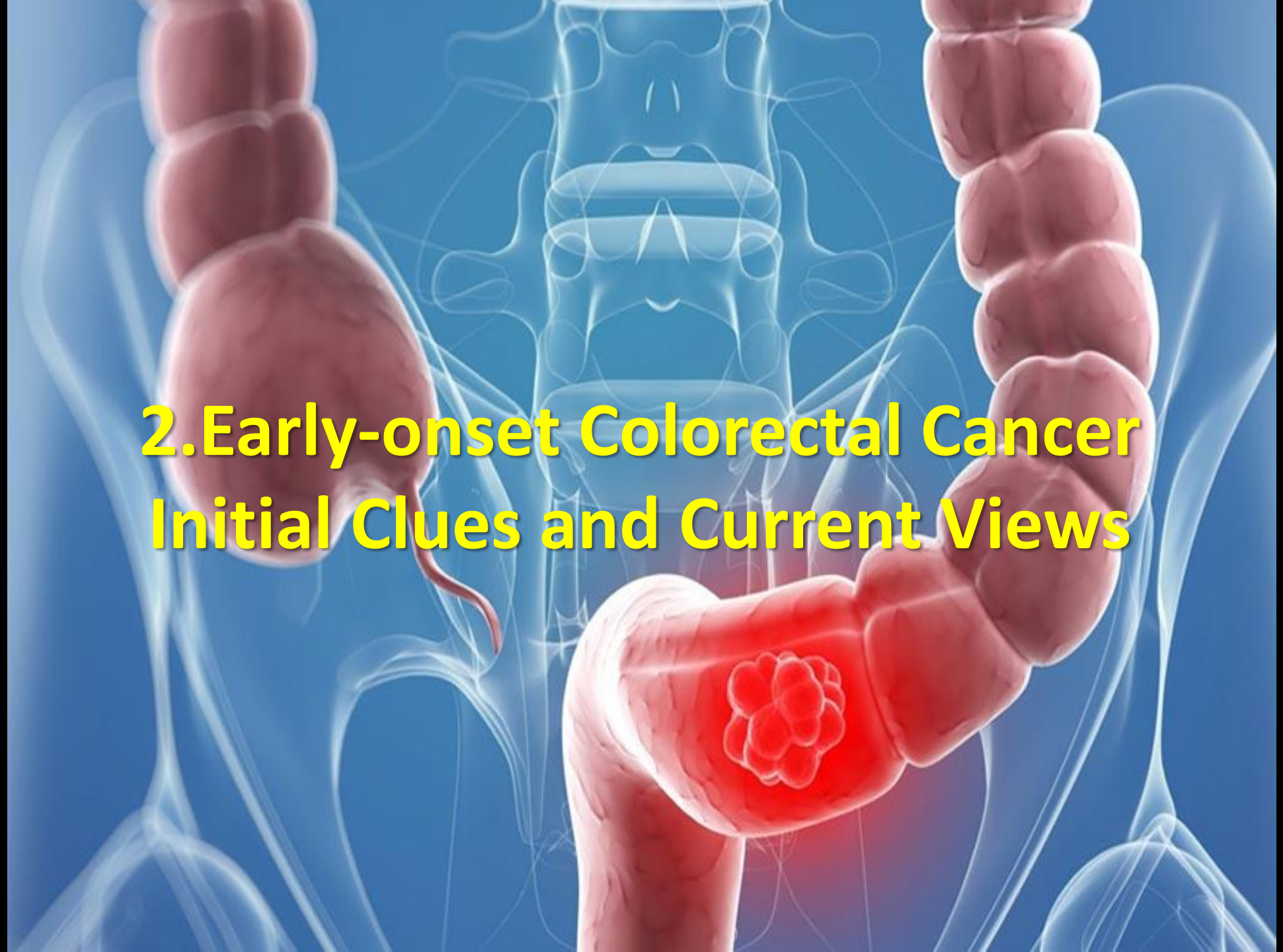
Int J Clin Exp Med 2018;11(11):111481–11493

SYSTEMATIC REVIEW ARTICLE

Front. Physiol., 19 November 2018 | https://doi.org/10.3389/fphys.2018.01550

PPIs Are Not Responsible for Elevating Cardiovascular Risk in Patients on Clopidogrel —A Systematic Review and Meta-Analysis

Front Physiol 2018 Nov 19;9:1550.


2.Early-onset Colorectal Cancer
Initial Clues and Current Views

2.Early Onset Colo Rectal Cancer

- Over the past several decades, the incidence of early-onset colorectal cancer (in patients <50 years old) has increased at an alarming rate.

- The incidence of EOCRC has been on the rise over the past four decades and is expected to increase by >140% by 2030 .

Key risk factors

- are reviewed, including
- the global westernization of diets (usually involving a high intake of red and processed meats, high-fructose corn syrup and unhealthy cooking methods),
- stress, antibiotics, synthetic food dyes, monosodium glutamate, titanium dioxide, and physical inactivity and/or sedentary behavior.
- The gut microbiota is probably at the crossroads of these risk factors and EOCRC.

- applications for TiO_2 include paints, plastics, paper, pharmaceuticals, sunscreen and food.

- As a photocatalyst, titanium dioxide can be added to paints, cements, windows and tiles.

	2D Find Similar Structures
Chemical Safety:	 Health Hazard Laboratory Chemical Safety Summary (LCSS) Datasheet
Molecular Formula:	O_2Ti or TiO_2
Synonyms:	TITANIUM DIOXIDE Rutile Titania Titanium(IV) oxide 13463-67-7 More...
Molecular Weight:	79.87 g/mol
Dates:	Modify: 2020-08-01 Create: 2005-03-26

European chemicals body links titanium dioxide to cancer

BY TABITHA WATSON | 13 JUNE 2017

3. Dyspepsia

CME

ACG and CAG Clinical Guideline: Management of Dyspepsia

Am J Gastroenterol 2017; 112:988–1013

Table 11.1 Causes of dyspepsia.

Most common	FD
	Peptic ulcer disease (usually secondary to *H. pylori* and/or NSAIDs)
	Gastroesophageal reflux disease
	Medication side effect
Less common	Carbohydrate malabsorption (e.g., lactose intolerance, sorbitol in "sugar-free" foods)
	Malignancy: stomach, esophagus, pancreas, hepatobiliary
	IBS
	Gastroparesis (diabetes, vagotomy)
	Small-bowel bacterial overgrowth (consider diabetes, prior surgery)
	Biliary pain (cholelithiasis, cholecholithiasis)
	Chronic pancreatitis (especially if there is a history of alcohol abuse)
	Chronic mesenteric ischemia
	Infection: viral, parasitic (*Giardia*, *Strongyloides*, *Anisakiasis*), bacterial (syphilis)
	Crohn's disease
	Infiltrative disease (e.g., sarcoidosis)
	Metabolic disturbances (e.g., thyroid disease, hyperparathyroidism)
	Pregnancy

Functional dyspepsia

First-line therapy for FD consists of

1. H Pylori eradication for infected patients,

2. Acid suppressive drugs and prokinetic agents.

Aliment Pharmacol Ther 2019;49:1134–1172

- Suggest that patients ≥60 years of age presenting with dyspepsia are investigated with upper gastrointestinal endoscopy to exclude organic pathology.

- This is a conditional recommendation and patients at higher risk of malignancy (such as spending their childhood in a high risk gastric cancer country or having a positive family history) could be offered an endoscopy at a younger age.

Age for OGD at Asia

- The incidence of gastric cancer increases among patients aged ≥50, with men having a twofold higher incidence.

- Worldwide, gastric cancer is more common in individuals with an East Asian, South and East European or Central and South American ethnic background.

Chiu PWY, *et al*. *Gut* 2019;**68**:186–197

Endoscopic Screening in Asian Countries Is Associated With Reduced Gastric Cancer Mortality: A Meta-analysis and Systematic Review

- Our final analysis included 6 cohort studies and 4 nested case-control studies comprising 342,013 individuals, all from Asia. The combined result (RR, 0.60; 95% CI, 0.49–0.73) indicated that endoscopic screening was associated with a 40% RR reduction in gastric cancer mortality.

Gastroenterology 2018;155:347–354

GUIDELINE

Race and ethnicity considerations in GI endoscopy

Prepared by: ASGE STANDARDS OF PRACTICE COMMITTEE

- Between 2007 and 2011, the incidence of gastric cancer in the United States per 100,000 men was 9.2 for Caucasians, compared with 15.3 for African Americans, 14.9 for Asians, 12.9 for Native Americans, and 14.8 for His- panics.

- The majority of gastric cancers are diagnosed late and are associated with a poor prognosis. Thus, screening and surveillance strategies for high-risk populations have been advocated.

Volume 82, No. 4 : 2015 GASTROINTESTINAL ENDOSCOPY 593

Gastric cancer screening

- Korea – Age-40 (two yearly)
- Japan – Age-50 (every 2-3 year)
- US – to high risk group

  (1) Age > 50 …..1st or 2nd generation migrants from East Asia, Russia, South America)

  (2) Individuals with family history of gastric cancer are recommended to begin endoscopic screening 10 year before diagnosis in affected relative
- British – consider in Age > 50 with multiple risk factor (male, smoker, Pernicious anaemia, gastric cancer in 1st Degree relatives)


EGD

JNM
J Neurogastroenterol Motil, Vol. 25 No. 1 January, 2019
pISSN: 2093-0879 eISSN: 2093-0887
https://doi.org/10.5056/jnm18081
Journal of Neurogastroenterology and Motility

Thailand Dyspepsia Guidelines: 2018

Table 2. Summary and Strength of Recommendations

Topic 1: Evaluation of patients with dyspepsia
Statement 1: Esophagogastroduodenoscopy is indicated in dyspeptic patients who have one of the following: (1) Age of onset of 50 years or older (2) Alarm features (3) Symptoms are non-responsive to a trial of appropriate medical therapy.

- Endoscopic screening for gastric cancer with ongoing surveillance of gastric preneoplasia is cost-effective for Asian Americans ages 50 years or older in the United States.

14 July 2020 *Clinical Gastroenterology and Hepatology*

- Compared with performing no endoscopic gastric cancer screening, performing a 1-time upper endoscopy with biopsies, with continued endoscopic surveillance if gastric intestinal metaplasia was identified, was cost effective, whereas performing ongoing biennial endoscopies, even for patients with normal findings from endoscopy and histopathology, was not.

14 July 2020 *Clinical Gastroenterology and Hepatology*

- Recommend patients <60 years of age have a non-invasive test *Helicobacter pylori* and treatment if positive.
- Those that are negative or do not respond to this approach should be given a trial of proton pump inhibitor (PPI) therapy.
- If these are ineffective tricyclic antidepressants (TCA) or prokinetic therapies can be tried.
- Tricyclic antidepressent not SSRI is effective outcome for Functional Dyspepsia.

- *H. pylori* eradication should be offered in these patients if they are infected.

- Recommend PPI, TCA and prokinetic therapy (in that order) in those that fail therapy or are *H. pylori* negative.

- Do not recommend routine upper gastrointestinal (GI) motility testing but it may be useful in selected patients.

- PPI therapy should be stopped if it is no longer providing benefit and patients should not have long-term PPI therapy without attempts to withdraw it every 6–12 months, consistent with US FDA guidance.

- Low-and standard-dose PPIs had similar effectiveness. In patients with functional dyspepsia who respond to PPI therapy, attempts should be made to discontinue PPIs every 6 to 12 months to minimize long-term risk of therapy.

Table 2. Recommended PPI Dosing for FDA-Approved Indications in Adults

Indication	Esomeprazole	Lansoprazole	Omeprazole	Pantoprazole	Rabeprazole
Symptomatic GERD	20 mg once daily	15 mg once daily	20 mg once daily	NA[a]	20 mg once daily
Heartburn (OTC)	20 mg once daily	15 mg once daily	20 mg once daily	NA	NA
Healing of erosive esophagitis	20-40 mg once daily	Initial: 30 mg once daily; maintenance: 15 mg once daily	20 mg once daily	40 mg once daily	20 mg once daily
Helicobacter pylori eradication	As part of triple therapy: 40 mg once daily[b]	As part of dual therapy: 30 mg tid[c]; as part of triple therapy: 30 mg bid[b]	As part of dual therapy: 40 mg once daily; as part of triple therapy: 20 mg bid[b]	NA	As part of triple therapy: 20 mg bid[b]
Hypersecretory conditions[d]	40 mg bid	60 mg once daily	60 mg once daily	40 mg bid	60 mg once daily
Risk reduction for NSAID-associated gastric ulcer	20-40 mg once daily	15 mg once daily	NA	NA	NA
Healing of NSAID-associated gastric ulcer	NA	30 mg once daily	NA	NA	NA
Gastric ulcer	NA	30 mg once daily	40 mg once daily	NA	NA
Duodenal ulcer	NA	15 mg once daily	20-40 mg once daily	NA	20 mg once daily

Table 3. Recommended Length of Therapy for FDA-Approved Indications in Adults

Indication	Esomeprazole	Lansoprazole	Omeprazole	Pantoprazole	Rabeprazole
Symptomatic GERD	4 wk; may consider additional 4-wk course	8 wk	4 wk	NA[a]	4 wk; may consider additional 4-wk course
Heartburn (OTC)	14 days; may repeat in 4 mo	14 days; may repeat in 4 mo	14 days; may repeat in 4 mo	NA	NA
Healing of erosive esophagitis	4-8 wk; may consider additional 4-8–wk course based on response. Maintenance: not studied >6 mo	8 wk; may consider additional 8-wk course. Maintenance: not studied >12 mo	4-8 wk; may consider additional 4-8–wk course based on response. Recurrence: may consider additional 4-8 wk	8 wk; may consider additional 8-wk course based on response	4-8 wk; may consider additional course up to 8 wk based on response
Helicobacter pylori eradication	10 days	Dual therapy: 14 days; triple therapy: 10-14 days	Dual therapy: 14 days; triple therapy: 10-14 days[b]	NA	7 days
Hypersecretory conditions	Long-term	Long-term	Long-term	Long-term	Long-term
Risk reduction for NSAID-associated gastric ulcer	6 mo	12 wk	NA	NA	NA
Healing of NSAID-associated gastric ulcer	NA	8 wk	NA	NA	NA
Gastric ulcer	NA	8 wk	4-8 wk	NA	NA
Duodenal ulcer	NA	4 wk. Maintenance: open-ended	4 wk; may consider additional 4-wk course	NA	4 wk; additional therapy may be required

[a] "NA" indicates that the medication is not FDA-approved for the condition listed.
[b] An additional 14 or 18 days of omeprazole therapy should be used if an ulcer is present at initiation of dual or triple therapy, respectively.
GERD: gastroesophageal reflux disease; NA: not applicable; NSAID: nonsteroidal anti-inflammatory drug.
Source: References 2-7.

US Pharm. 2017;42(6)(Generic Drugs suppl):38-42.

Adverse Events Reported in Patients Treated With Proton Pump Inhibitors

Adverse events unrelated to acid inhibition	Adverse events related to acid inhibition
Allergic reaction to drug chemicals	Pneumonia
Collagenous colitis	Gastrointestinal infection
Acute interstitial nephritis	Gastric carcinoid tumor
Chronic kidney disease	Gastric fundic mucosal hypertrophy
Drug interaction	Changes in gut microbiome
Dementia	Small intestinal bacterial overgrowth
Cerebral ischemic diseases	Iron deficiency
Ischemic cardiac diseases	Bone fracture
	Vitamin B12 deficiency
	Hypomagnesemia
	Gastric fundic gland polyps
	Gastric cancer
	Colon cancer
	Spontaneous bacterial peritonitis
	Hepatic encephalopathy
	Drug interaction

Application of the Hill criteria to the suggested side effects of long-term use of PPIs.

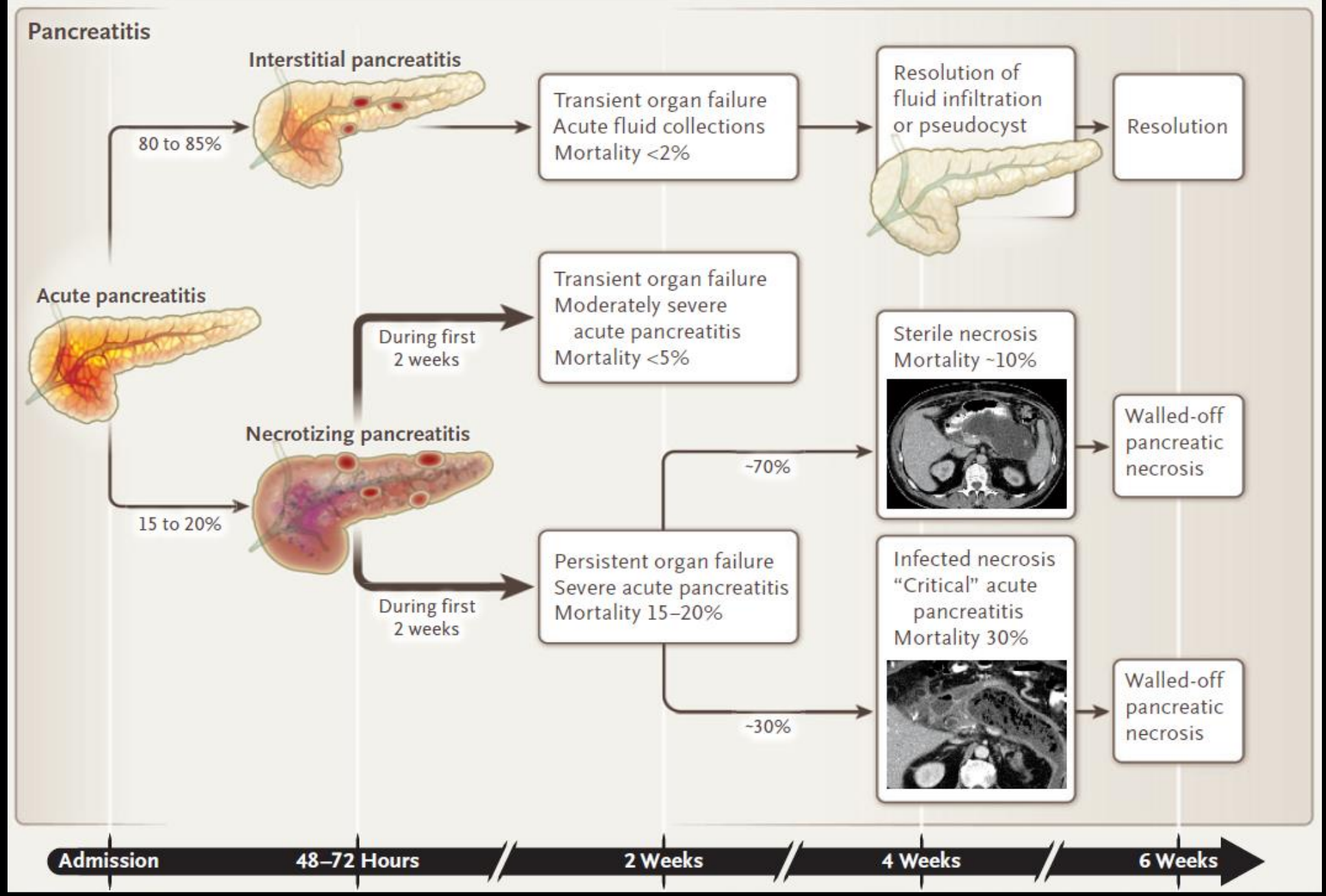
Hill criteria	Bone fractures	GI infections[1]	Pneumonia	Kidney events	Dementia	Hypomagnesemia	RAHS	Iron/B12 absorption	Gastric cancer	Liver disease
Strength of association	Weak	Moderate	Weak	Weak	Weak/None	Weak	Moderate	Weak	Weak	Weak
Consistency	No	Yes	No	Yes	No	No	No	No	No	No
Specificity	No	No	No	No	No	No	Yes	No	No	No
Temporality	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Biological gradient	No	Yes	No	Unclear	Unclear	Unclear	Unclear	No	No	No
Biological plausible	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	Yes
Coherence	No	Not assessed	Not assessed	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear
Experiment	No	No	No	No	No	No	Yes	No	No	No
Analogy	No	Yes	No	Yes	No	No	Yes	No	No	No

RAHS, rebound acid hypersecretion.

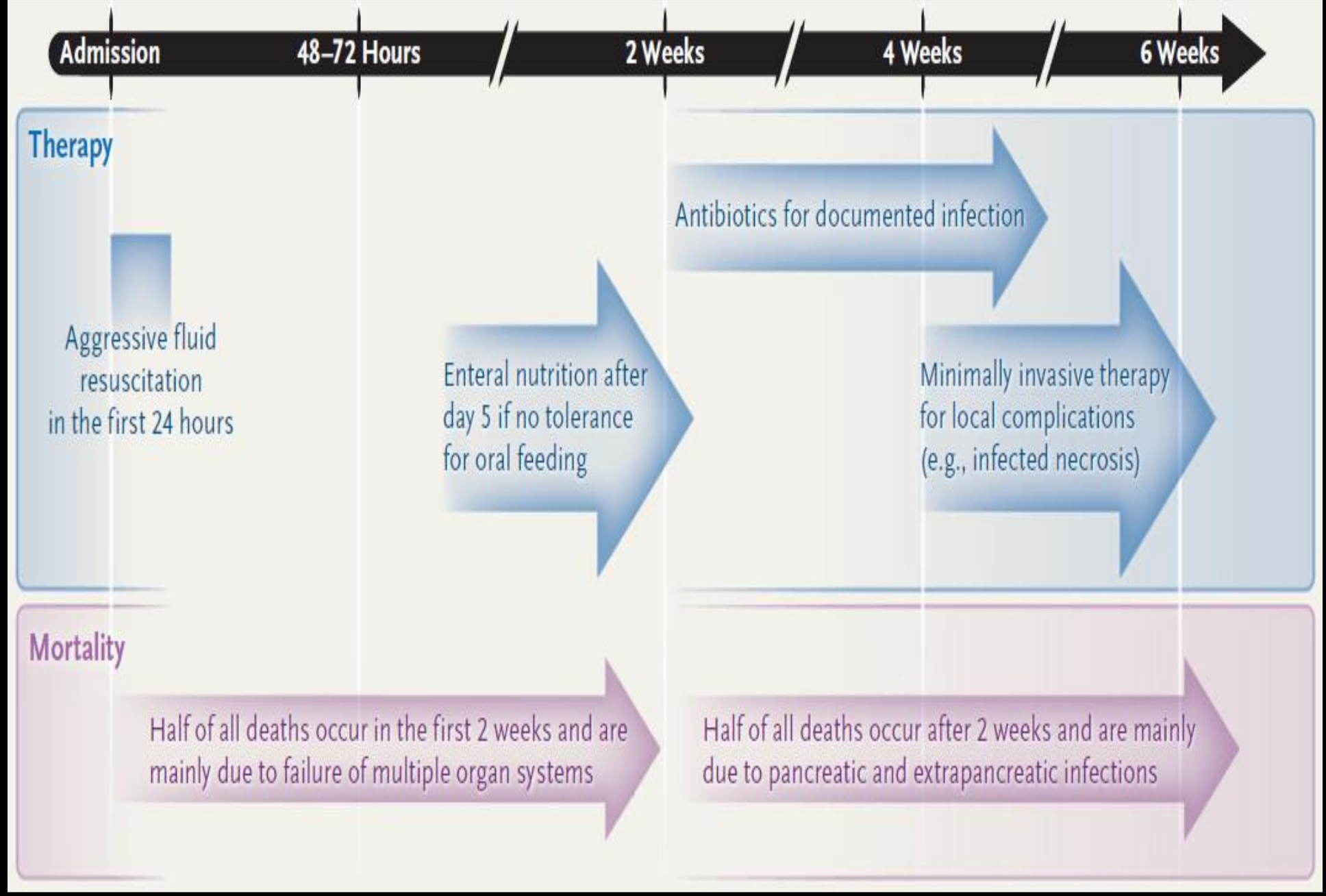
[1]Spontaneous bacterial peritonitis not included.

4. Acute Pancreatitis

- New approaches to fluid resuscitation, antibiotic use, nutritional support, and treatment of necrosis have changed management but have not yet been widely adopted. More effective prevention of post-ERCP pancreatitis is possible, and gallstone pancreatitis can be prevented with timely cholecystectomy.



N Engl J Med 2016; 375: 1972–1981



N Engl J Med 2016; 375: 1972–1981

Gastroenterology 2018;154:1096–1101

AGA SECTION

American Gastroenterological Association Institute Guideline on Initial Management of Acute Pancreatitis

Seth D. Crockett,[1] Sachin Wani,[2] Timothy B. Gardner,[3] Yngve Falck-Ytter,[4,5] and Alan N. Barkun[6]; on behalf of American Gastroenterological Association Institute Clinical Guidelines Committee

[1]Division of Gastroenterology and Hepatology, University of North Carolina School of Medicine, Chapel Hill, North Carolina; [2]Division of Gastroenterology and Hepatology, University of Colorado, Anschutz Medical Campus, Aurora, Colorado; [3]Section of Gastroenterology and Hepatology, Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire; [4]Division of Gastroenterology, Case Western Reserve University, Cleveland, Ohio; [5]Louis Stokes VA Medical Center, Cleveland, Ohio; and [6]Division of Gastroenterology, McGill University, Montréal, Québec, Canada

1A. In patients with AP, the AGA suggests using goal-directed therapy for fluid management. Comment: The AGA makes no recommendation whether normal saline or Ringer's lactate is used. 1B. In patients with AP, the AGA suggests against the use of HES fluids.

2. In patients with predicted severe AP and necrotizing AP, the AGA suggests against the use of prophylactic antibiotics.

3. In patients with acute biliary pancreatitis and no cholangitis, the AGA suggests against the routine use of urgent ERCP.

Gastroenterology 2018;154:1096–1101

4. In patients with AP, the AGA recommends early (within 24 h) oral feeding as tolerated, rather than keeping the patient nil per oral.

5. In patients with AP and inability to feed orally, the AGA recommends enteral rather than parenteral nutrition.

6. In patients with predicted severe or necrotizing pancreatitis requiring enteral tube feeding, the AGA suggest either NG or NJ route.

Gastroenterology 2018;154:1096–1101

7. In patients with acute biliary pancreatitis, the AGA recommends cholecystectomy during the initial admission rather than after discharge.

8. In patients with acute alcoholic pancreatitis, the AGA recommends brief alcohol intervention during admission.

Gastroenterology 2018;154:1096–1101

Severity Assessments

- Pulse <40 or >150 beats/minute
- Systolic arterial pressure <80 mmHg or mean arterial pressure <60 mmHg or diastolic arterial pressure >120 mmHg
- Respiratory rate >35 breaths/minute
- Serum sodium <110 mmol/L or >170 mmol/L
- Serum potassium <2.0 mmol/L or >7.0 mmol/L
- PaO_2 <50 mmHg
- pH <7.1 or >7.7
- Serum glucose >800 mg/dL
- Serum calcium >15 mg/dL
- Anuria
- Coma
- Serum amylase is no role in disease severity assessment.

No Proven Benefits for Acute Pancreatitis

- Corticosteroid
- Octerotide
- Proton pump inhibitor
- H2 Receptor antagonist
- Nitric oxide
- Protease inhibitor
- Pentoxifyline???

5. Irritable Bowel Syndrome(IBS)


IBS

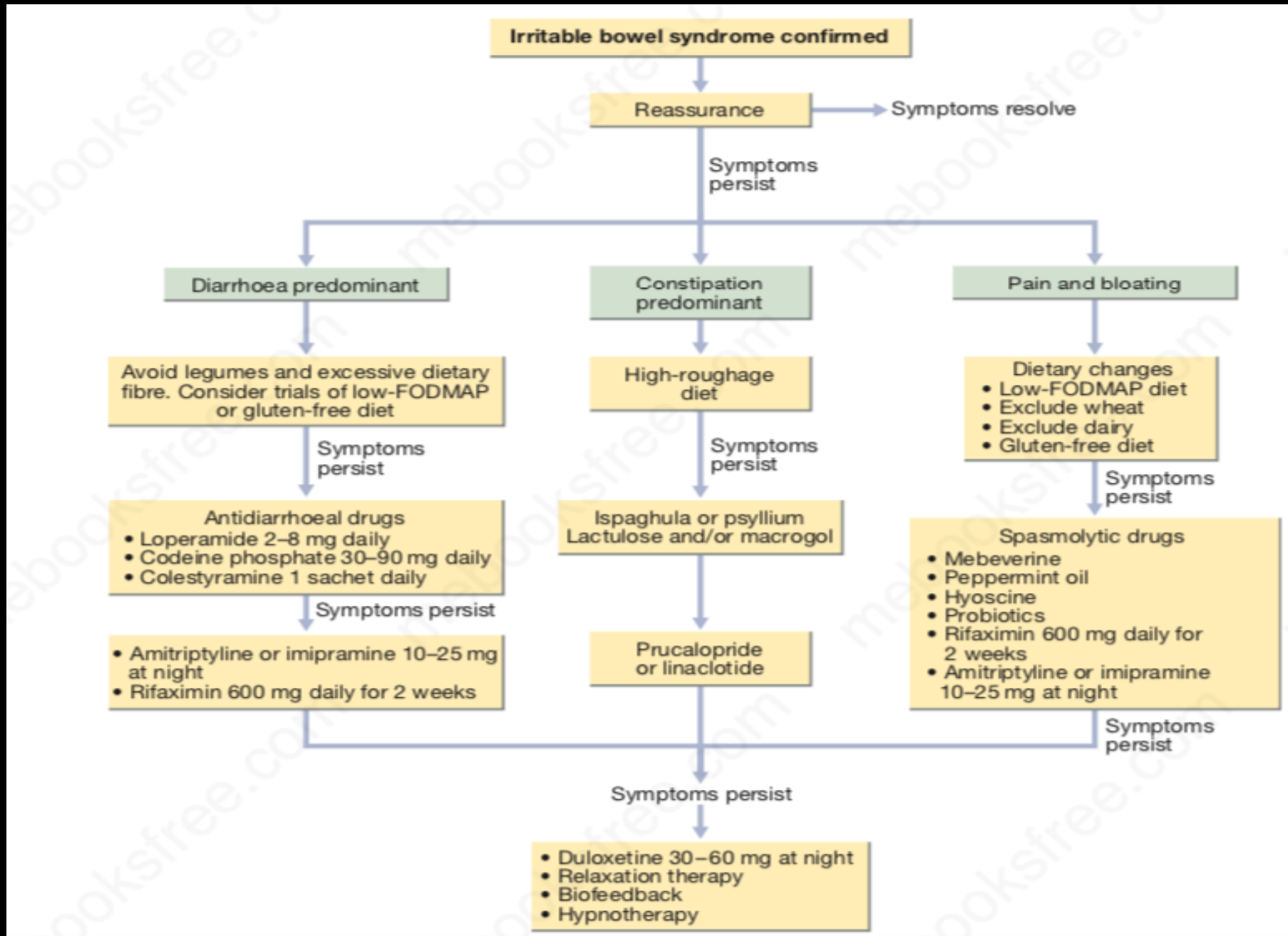


Fig. 21.54 Management of irritable bowel syndrome. (FODMAP = fermentable oligo-, di- and monosaccharides, and polyols)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FODMAP

FODMAP - fermentable oligo-, di-, mono-saccharides and polyols a group of poorly absorbed and osmotically active carbohydrates, naturally contained in a wide array of common foods.

Abnormal gas production, caused by an increased intestinal fermentation the luminal water retention secondary to their osmotic activity

Enhance abdominal distension

Induce abdominal pain and bloating in patients with altered visceral sensitivity

World J Gastroenterol 2020 February 7; 26(5): 456-465

Table 6 Examples of diet with high and low fermentable oligosaccharides, disaccharides, monosaccharides and polyols (FODMAPs)

Type of food	High FODMAP	Low FODMAP
Vegetables	Onion, garlic, leek, asparagus, artichoke, cauliflower, mushrooms, green peas	Carrots, eggplants, bell peppers, lettuce, cucumber, tomato, potato, zucchini
Fruits	Watermelon, apples, cherries, mango	Grapes, kiwi, oranges, strawberries, pineapple
Dairy	Cow's milk, evaporated milk, soy milk, cottage cheese, ice cream	Almond milk, coconut milk, hard cheese, butter, lactose free
Protein	Legumes, processed meat, marinated meats	Eggs, tofu, non-marinated meats, fish, chicken
Cereals	Wheat, rye, barley, spelt	Oats, quinoa, corn, sourdough bread
Sugars	High fructose, honey	Maple syrup, table sugar
Nuts and seeds	Cashews, pistachios	Peanuts, pumpkin seeds, walnuts

Table 1. Approved and Emerging IBS-D Therapies

FDA Approved

- Alosetron
- Rifaximin
- Eluxadoline

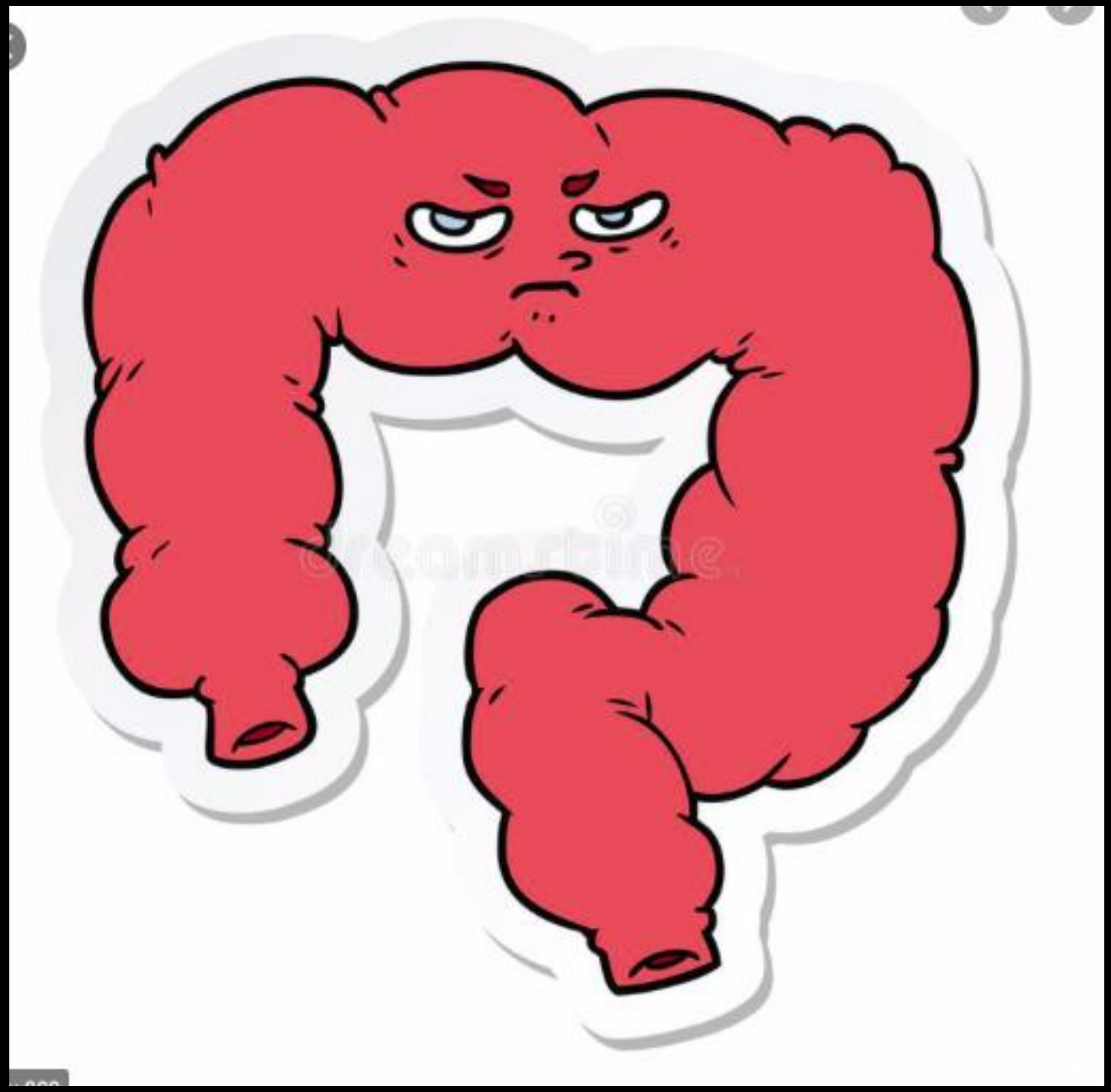
Emerging Therapies

- Ramosetron
- Bile acid sequestrants
- Melatonin
- Endocannabinoids (Dronabinol, Olorinab)
- Boswellia serrata extract
- Nutritional Supplements (SBI, Probiotics, Synbiotics, HMO)
- Smooth Muscle relaxants (Otilonium bromide)

EXPERT OPINION ON PHARMACOTHERAPY 2020, VOL. 21, NO. 1, 63–71

Melatonin is categorized as a dietary supplement by the FDA, and is available over the counter in the US. For IBS-D patients, melatonin may confer analgesic properties and exert a regulatory effect on the GI tract. Melatonin appears to have an analgesic effect through binding to the Mel2 receptor and it has also been shown to increase the release of beta-endorphin , an endogenous pain reliever. Placebo-controlled studies have shown that melatonin increased colonic transit time in both IBS and control patients , while another study showed that 50% of IBS- C patients showed improvement in constipation.

EXPERT OPINION ON PHARMACOTHERAPY 2020, VOL. 21, NO. 1, 63–71



Foods suitable on a low-fodmap diet

fruit

fruit
banana, blueberry, boysenberry, canteloupe, cranberry, durian, grape, grapefruit, honeydew melon, kiwifruit, lemon, lime, mandarin, orange, passionfruit, pawpaw, raspberry, rhubarb, rockmelon, star anise, strawberry, tangelo

Note: if fruit is dried, eat in small quantities

vegetables

vegetables
alfalfa, artichoke, bamboo shoots, bean shoots, bok choy, carrot, celery, choko, choy sum, endive, ginger, green beans, lettuce, olives, parsnip, potato, pumpkin, red capsicum (bell pepper), silver beet, spinach, summer squash (yellow), swede, sweet potato, taro, tomato, turnip, yam, zucchini

herbs
basil, chili, coriander, ginger, lemongrass, marjoram, mint, oregano, parsley, rosemary, thyme

grain foods

cereals
gluten-free bread or cereal products

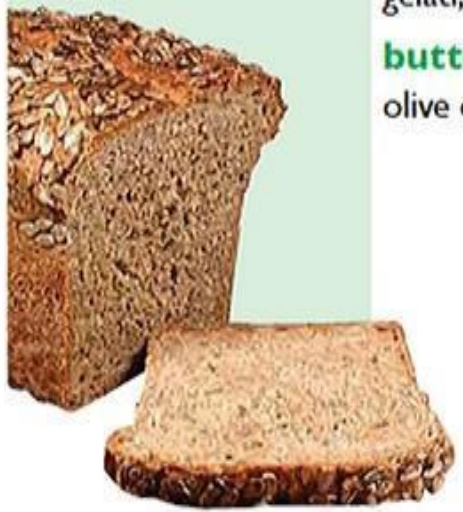
bread
100% spelt bread

rice

oats

polenta

other
arrowroot, millet, psyllium, quinoa, sorgum, tapioca



milk products

milk
lactose-free milk, oat milk*, rice milk, soy milk*

*check for additives

cheeses
hard cheeses, and brie and camembert

yoghurt
lactose-free varieties

ice-cream substitutes
gelati, sorbet

butter substitutes
olive oil

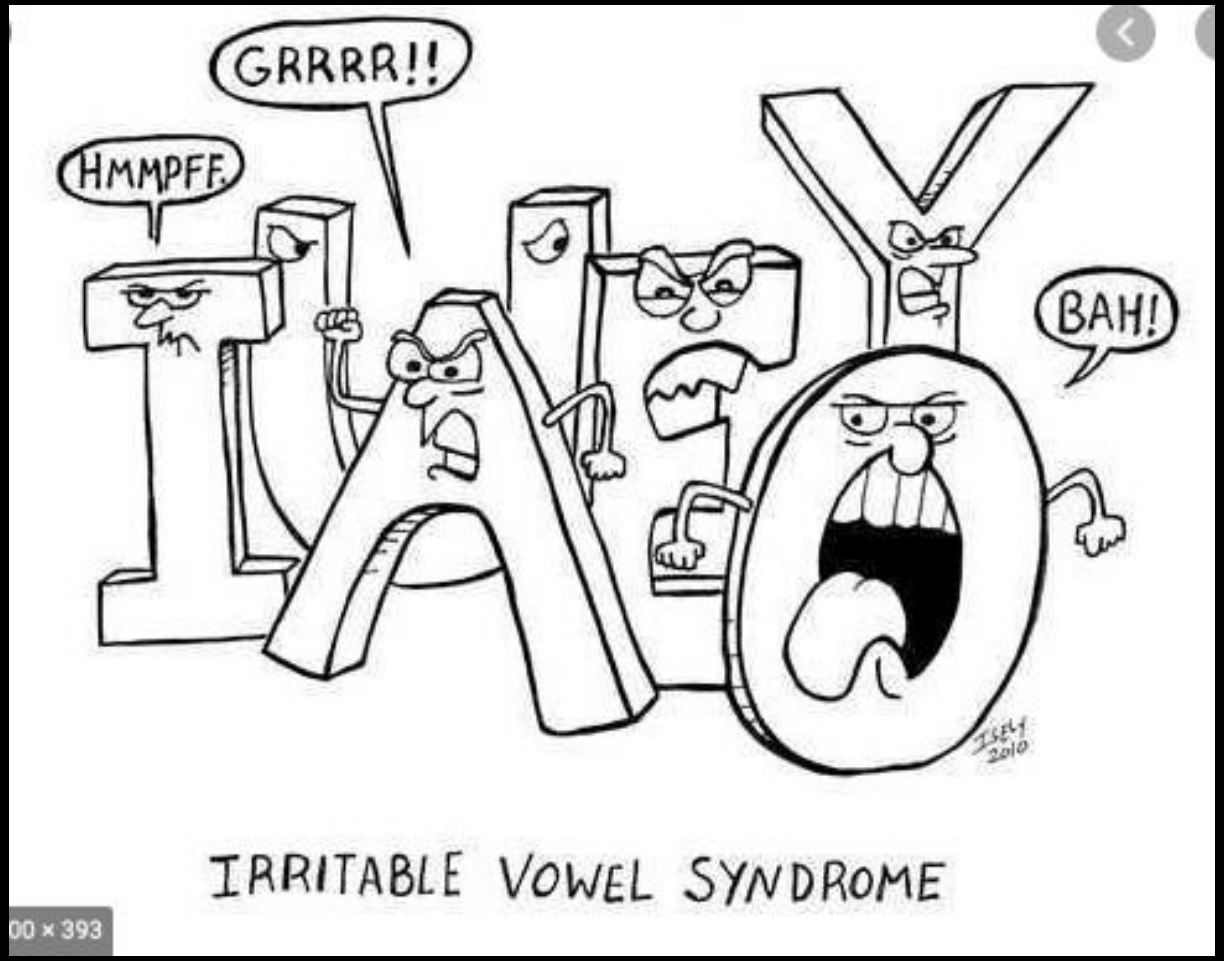
other

sweeteners
sugar* (sucrose), glucose, artificial sweeteners not ending in '-ol'

honey substitutes
golden syrup*, maple syrup*, molasses, treacle

*small quantities

IBS VS IVS



6.Blood Transfusion

JPAC Joint United Kingdom (UK) Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee

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Transfusion Handbook

4: Safe transfusion – right blood, right patient, right time and right place

http://www.transfusionguidelines.org/transfusion-handbook/4-safe-transfusion-right-blood-right-patient-right-time-and-right-place

4: Safe transfusion – right blood, right patient, right time and right place

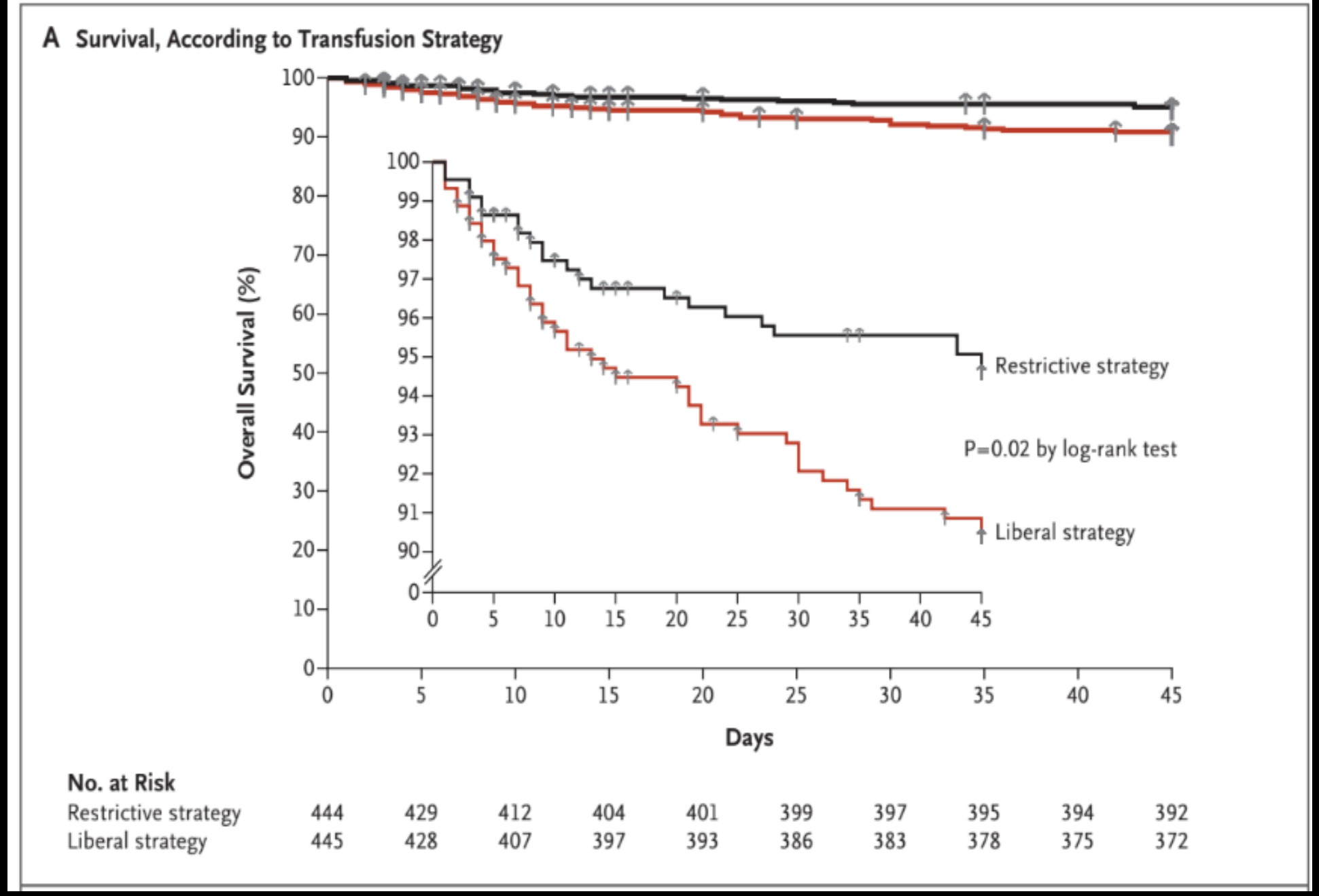
The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JANUARY 3, 2013 VOL. 368 NO. 1

Transfusion Strategies for Acute Upper Gastrointestinal Bleeding

Càndid Villanueva, M.D., Alan Colomo, M.D., Alba Bosch, M.D., Mar Concepción, M.D., Virginia Hernandez-Gea, M.D., Carles Aracil, M.D., Isabel Graupera, M.D., María Poca, M.D., Cristina Alvarez-Urturi, M.D., Jordi Gordillo, M.D., Carlos Guarner-Argente, M.D., Miquel Santaló, M.D., Eduardo Muñiz, M.D., and Carlos Guarner, M.D.

N Engl J Med 2013; 368: 11–21



N Engl J Med 2013; 368: 11–21

B Death by 6 Weeks, According to Subgroup

Subgroup	Restrictive Strategy	Liberal Strategy	Hazard Ratio (95% CI)	P Value
	no. of patients/total no. (%)			
Overall	23/444 (5)	41/445 (9)	0.55 (0.33–0.92)	0.02
Patients with cirrhosis	15/139 (11)	25/138 (18)	0.57 (0.30–1.08)	0.08
Child–Pugh class A or B	5/113 (4)	13/109 (12)	0.30 (0.11–0.85)	0.02
Child–Pugh class C	10/26 (38)	12/29 (41)	1.04 (0.45–2.37)	0.91
Bleeding from varices	10/93 (11)	17/97 (18)	0.58 (0.27–1.27)	0.18
Bleeding from peptic ulcer	7/228 (3)	11/209 (5)	0.70 (0.26–1.25)	0.26

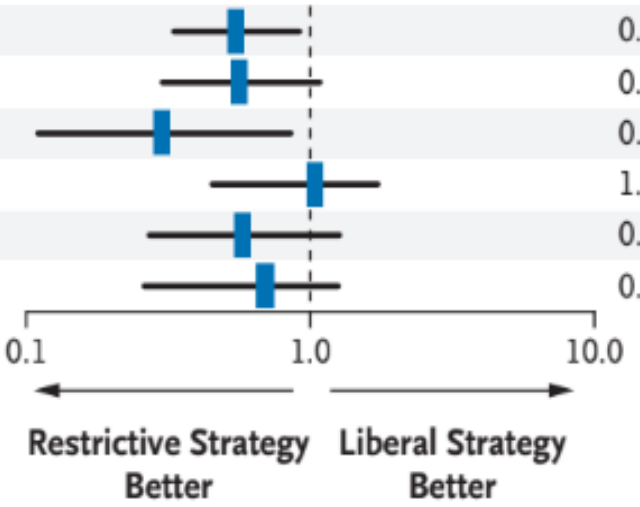


Figure 2. Rate of Survival, According to Subgroup.

Panel A shows the Kaplan–Meier estimates of the 6-week survival rate in the two groups. The probability of survival was significantly higher in the restrictive-strategy group than in the liberal-strategy group. The gray arrows indicate the day on which data from a patient were censored. The inset shows the same data on an enlarged y axis. Panel B shows the hazard ratios, with 95% confidence intervals, for death by 6 weeks, according to prespecified subgroups. In the subgroup of patients with Child–Pugh class A or B disease, the Model for End-Stage Liver Disease (MELD) score (on a scale from 6 to 40, with higher values indicating more severe liver disease) was 10.3±5 in the restrictive-strategy group and 10.9±5 in the liberal-strategy group (P=0.41). In the subgroup of patients with Child–Pugh class C disease, the MELD score was 20.6±6 in the restrictive-strategy group and 18.1±5 in the liberal-strategy group (P=0.11).

N Engl J Med 2013; 368: 11–21

- In this RCT that included 921 patients presenting with all causes of acute UGIH, a restrictive RBC transfusion strategy (target hemoglobin, 7 to 9 g/dL) was compared with a more liberal transfusion strategy (target hemoglobin, 9 to 11 g/dL).

- The restrictive RBC transfusion group had significantly improved 6-week survival.

N Engl J Med 2013; 368: 11–21

Diagnosis and management of acute lower gastrointestinal bleeding: guidelines from the British Society of Gastroenterology

Kathryn Oakland,[1] Georgina Chadwick,[2] James E East,[3] Richard Guy,[4] Adam Humphries,[5] Vipul Jairath,[6,7] Simon McPherson,[8] Magdalena Metzner,[9] A John Morris,[10] Mike F Murphy,[11] Tony Tham,[12] Raman Uberoi,[13] Andrew McCulloch Veitch,[14] James Wheeler,[15] Cuthbert Regan,[16] Jonathan Hoare[17]

Recommend that in patients who are clinically stable but may need red blood cell (RBC) transfusion, restrictive RBC thresholds (Hb trigger 70 g/L and a Hb concentration target of 70–90 g/L after transfusion) should be used, unless the patient has a history of cardiovascular disease, in which case a trigger of 80 g/L and a target of 100 g/L should be used (*strong recommendation, low quality evidence).*

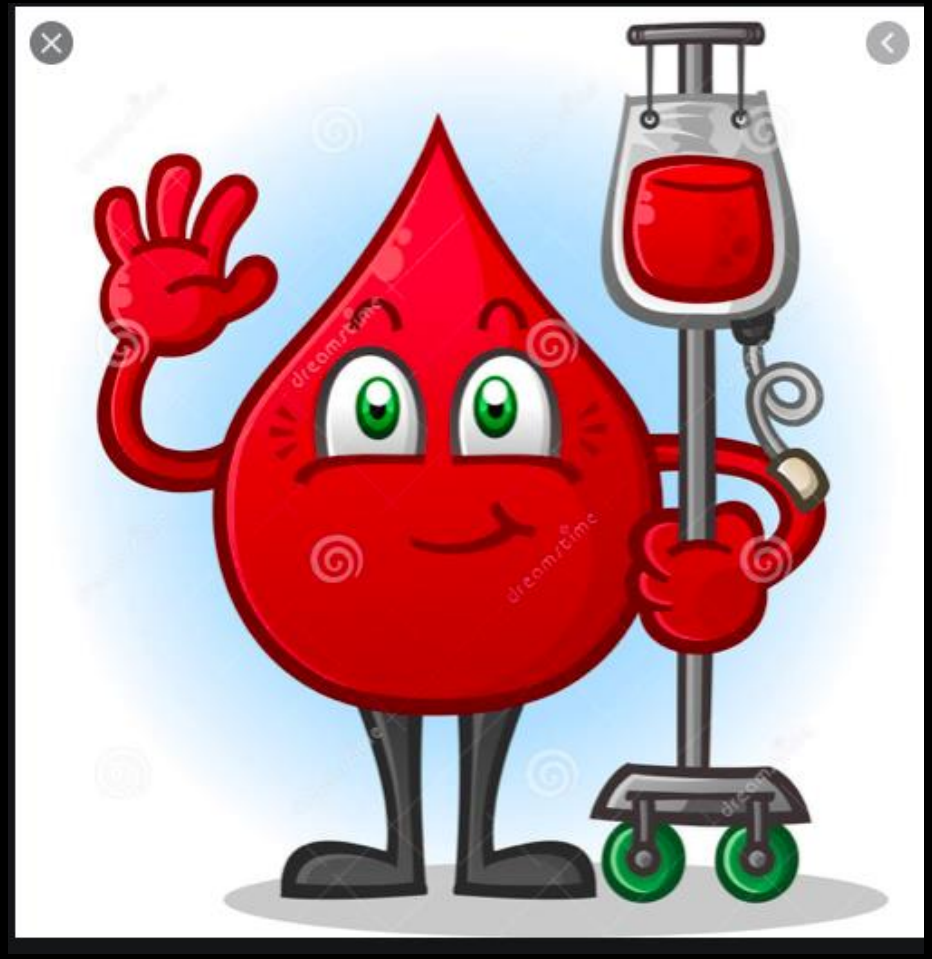
Oakland K, et al. Gut 2019;**68:776–789**

European Society foe Gastrointestinal Endoscopy

- ESGE recommends a restrictive red blood cell transfusion strategy that aims for a target hemoglobin between 7g/dL and 9 g/dL.

- A higher target hemoglobin should be considered in patients with significant co-morbidity (e. g., ischemic cardiovascular disease) (strong recommendation, moderate quality evidence).

ESGE 2015 NVUGIH guideline



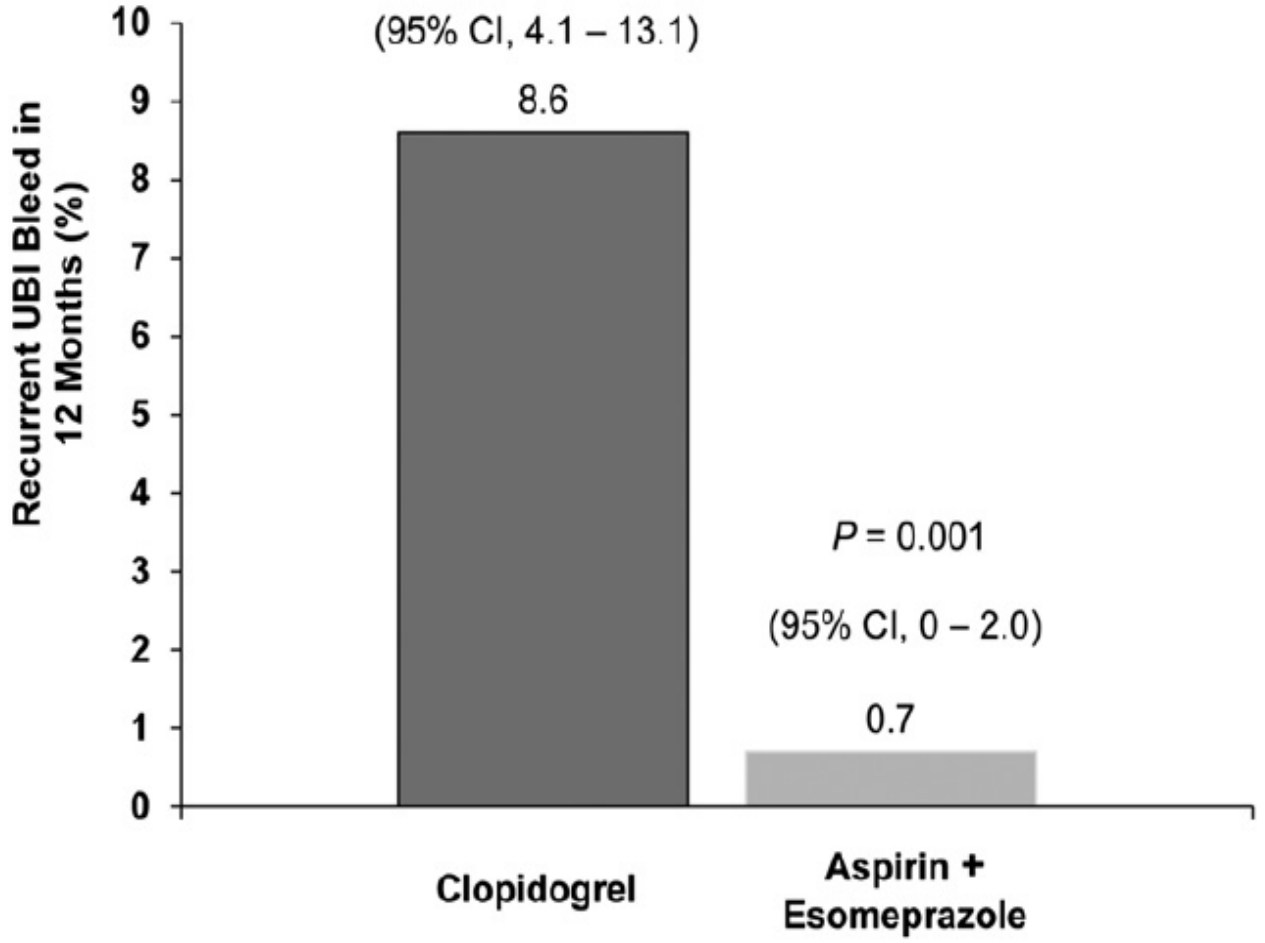


Fig. 5. Following aspirin related bleeding, switching to Clopidogrel is less effective than PPI cotherapy with aspirin.

Best Practice & Research Clinical Gastroenterology 2012; 26: 153 – 162

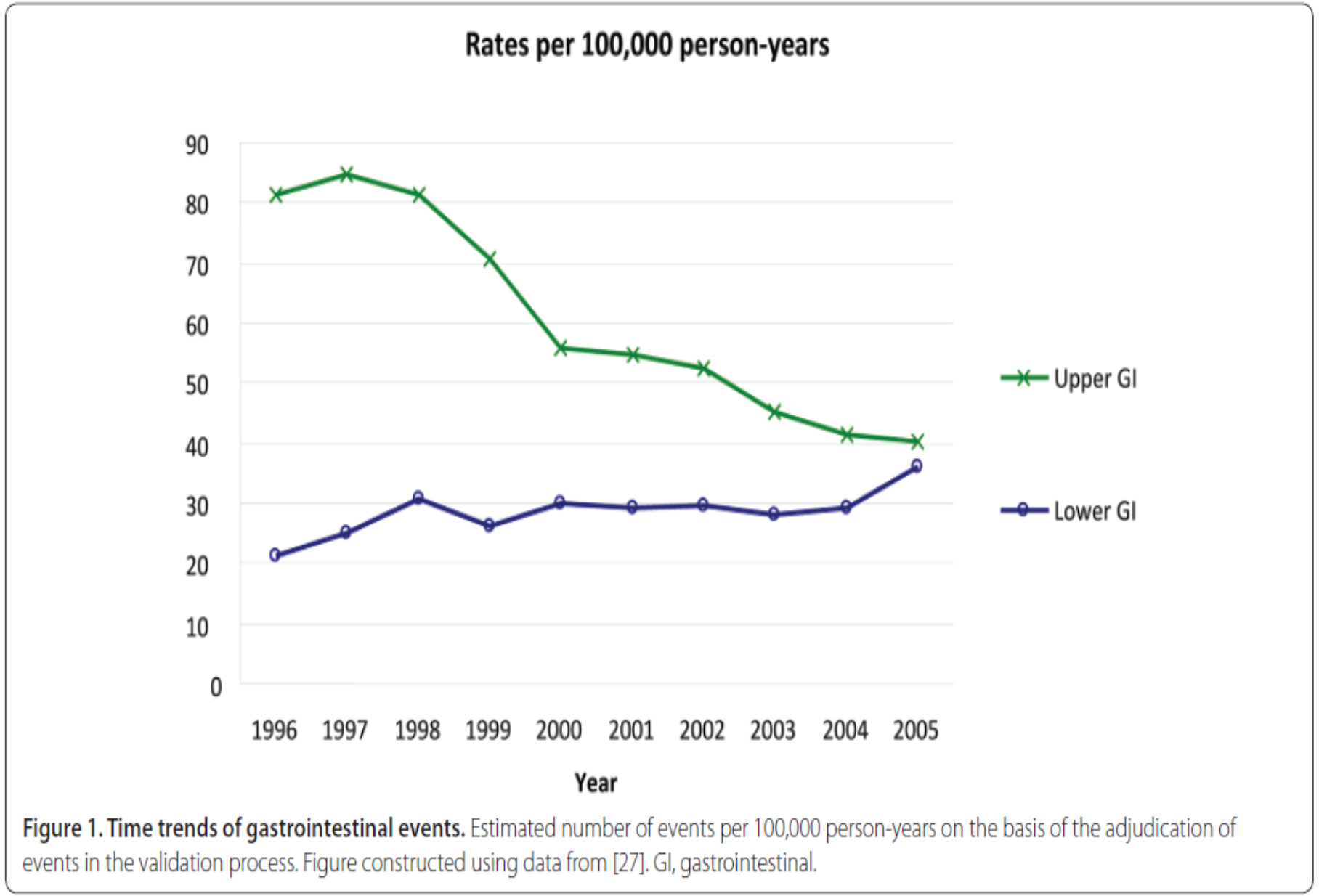
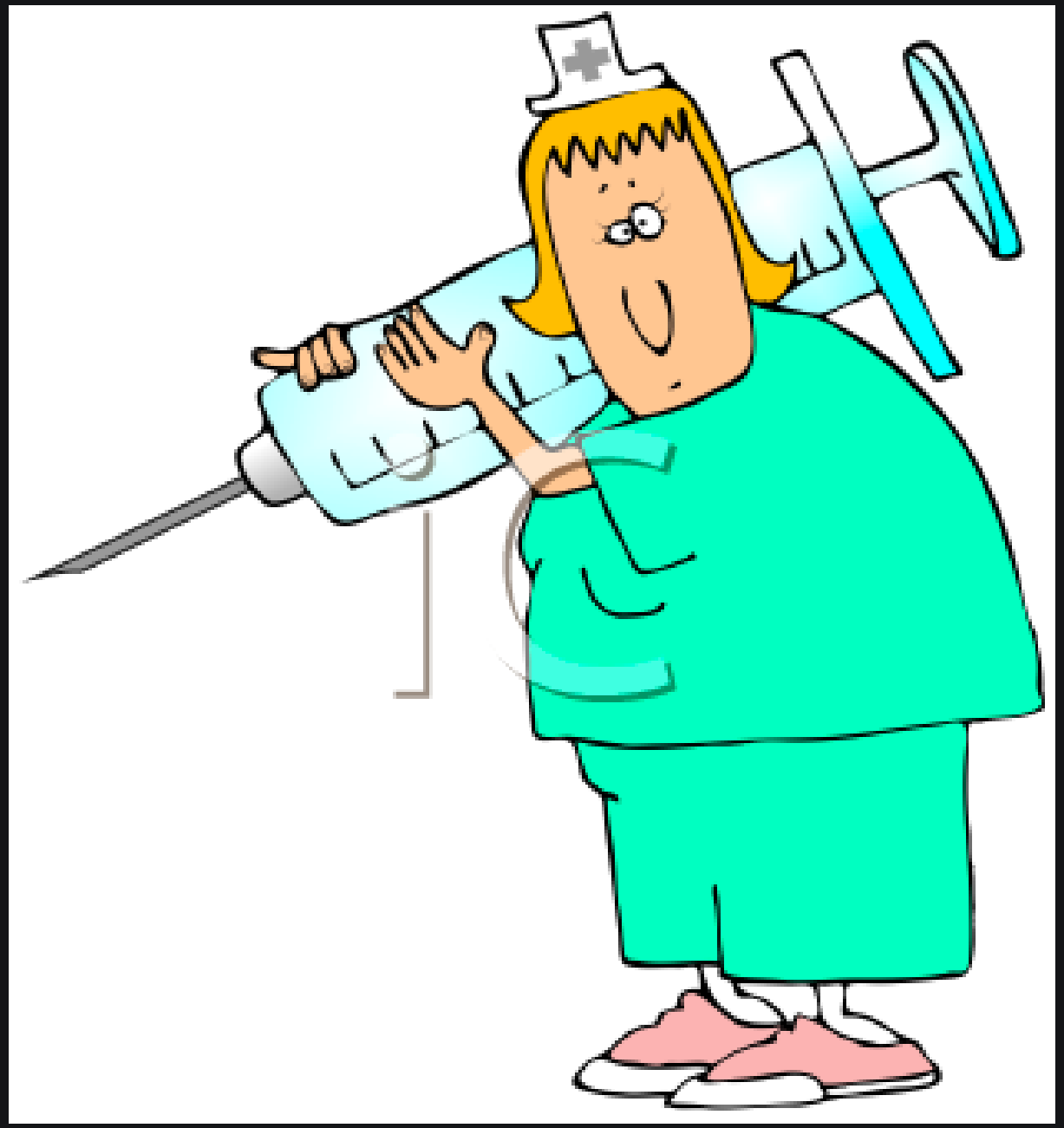


Figure 1. Time trends of gastrointestinal events. Estimated number of events per 100,000 person-years on the basis of the adjudication of events in the validation process. Figure constructed using data from [27]. GI, gastrointestinal.

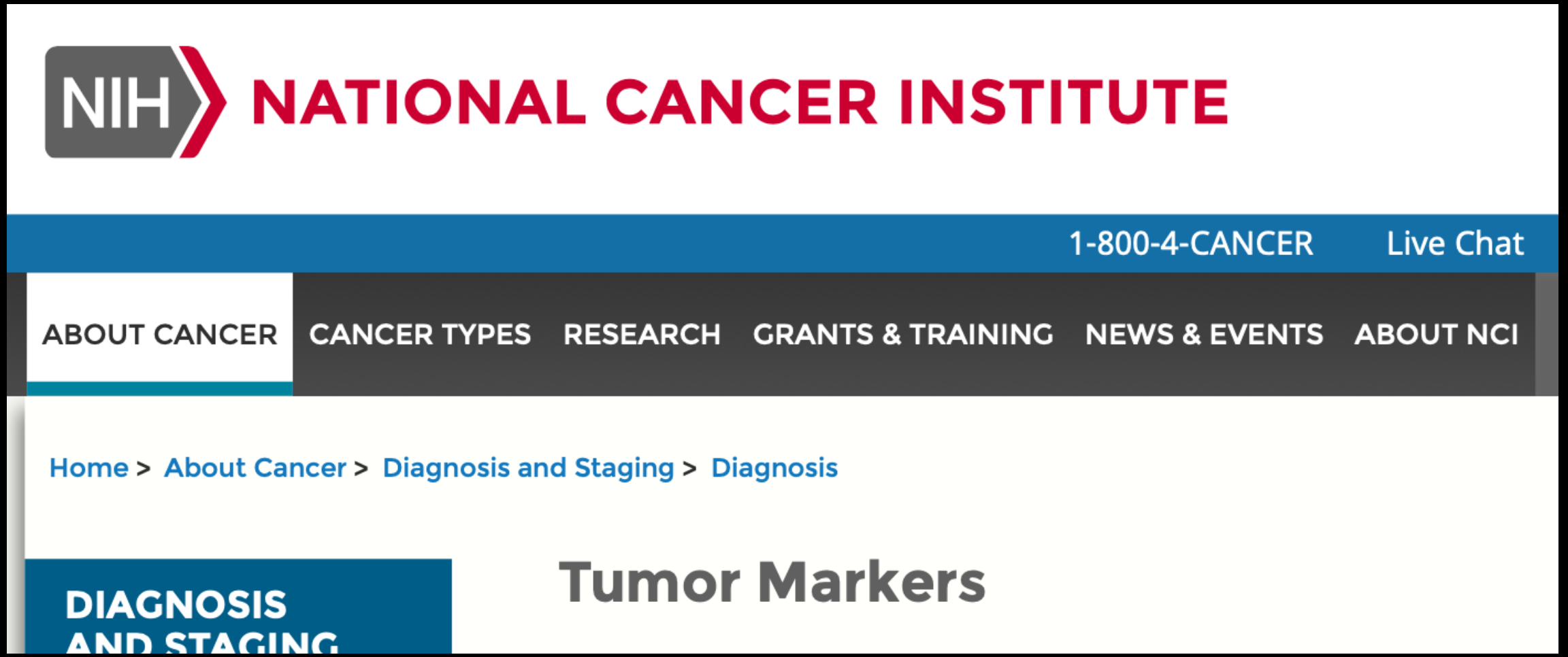
Curr Gastroenterol Rep 2014;16:377


USIVE: Virus imported from U.S.
Hospitals using killer blood
By SUSAN DOUGLAS
Medical Correspondent
Warning
EXCLUSIVE:
British

Blood transfusion, the Russian way



7. Tumor Markers in Gastroenterology



- Circulating tumor markers are used to:
  - estimate prognosis
  - detect cancer that remains after treatment (residual disease) or that has returned after treatment
  - assess the response to treatment
  - monitor whether a cancer has become resistant to treatment

Carcinoembryonic Antigen

- is a glycoprotein associated with colorectal cancer with a rather low sensitivity and specificity.
- Even though CEA is not used as a diagnostic test, levels over 5.0 ng/mL can predict a unfavorable prognosis, regardless the tumor stage.
- CEA is prohibited in the mass screening and diagnostic pathway of colorectal carcinoma (CRC), it has value in the follow-up of patients with diagnosed CRS according to the American Society of Clinical Oncology guidelines: from surgical treatment planning to post-treatment follow-up and prognosis.

- Can be used to monitor the response to treatment in metastatic disease. Whilst the decrease of series levels of CEA shows the favorable response to the treatment, the rising level of CEA is incompatible with tumor regression.

- Combinations of CEA and CA 19-9 are used to diagnose cholangiocarcinoma in patients with primary sclerosing cholangitis.
- Is not used in the diagnosis of colorectal cancer, but in the prognosis and follow-up after curative surgery

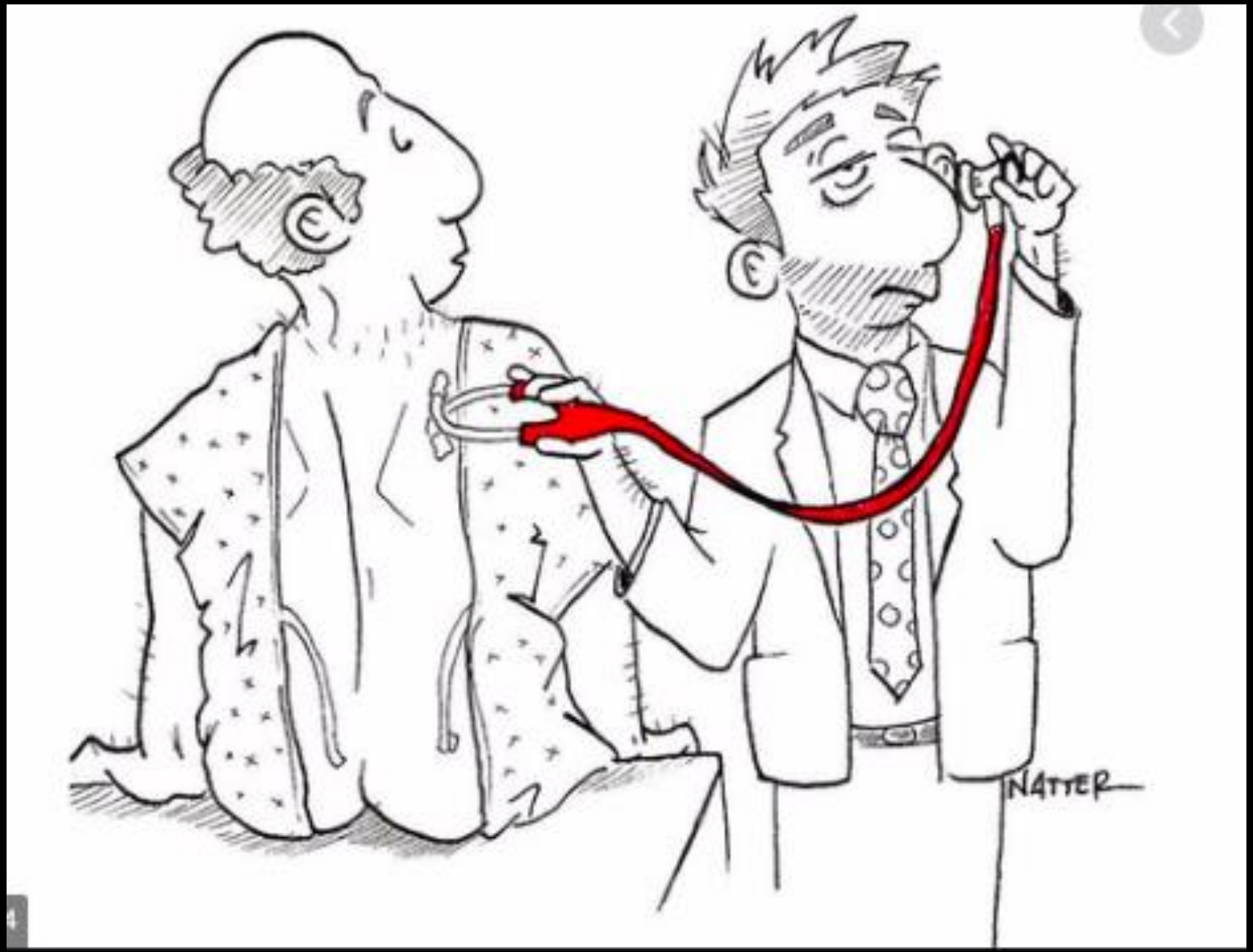

NATTER

Table 2: Benign and malignant causes of high levels of seric CEA[8,13]

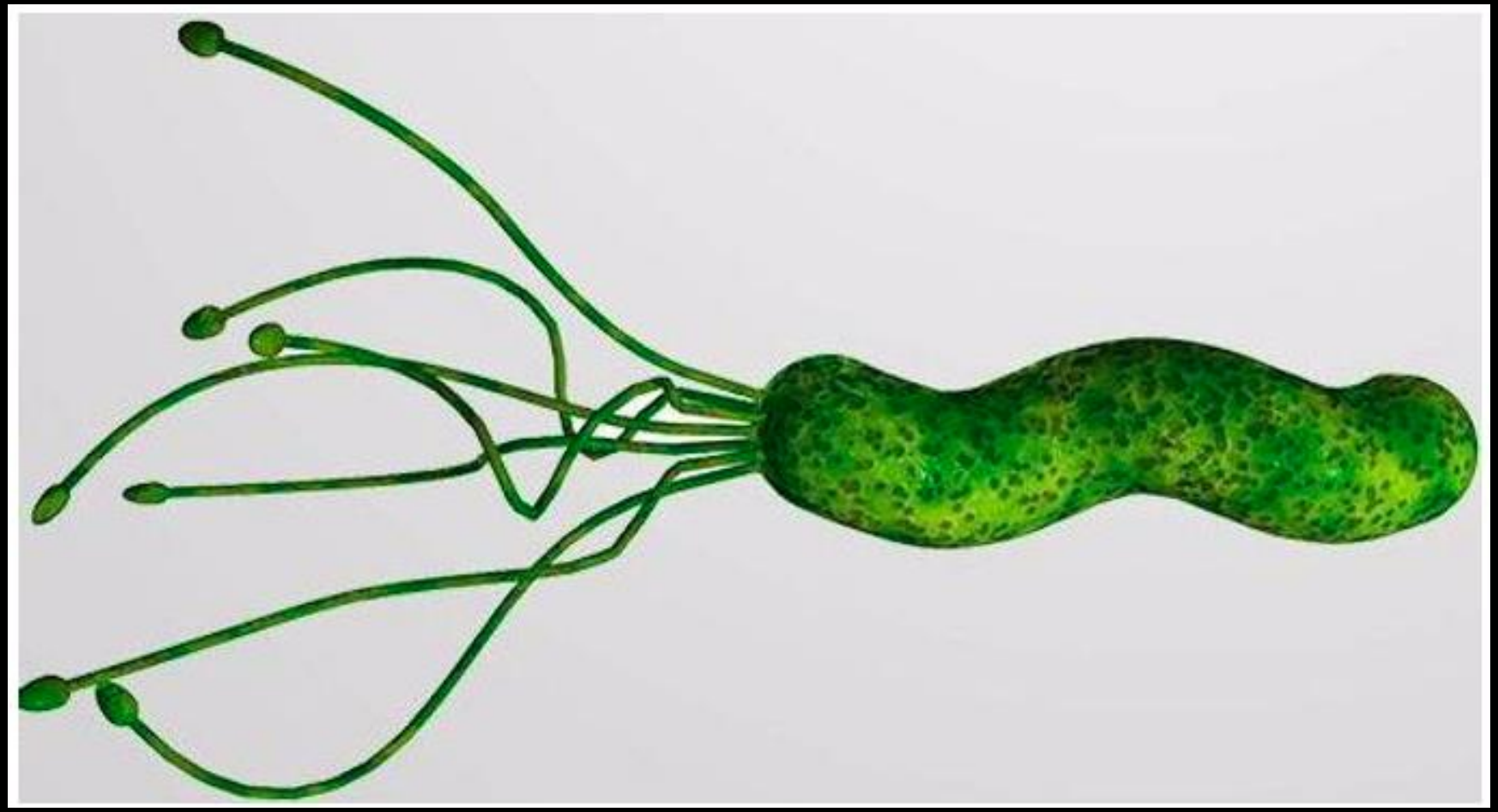
BENIGN	MALIGNANT
Gastritis	Colorectal cancer
Peptic ulcer disease	Breast cancer
Diverticulitis	Lung cancer
Pancreatitis	Gastric cancer
Liver disease	Pancreatic cancer
Chronic obstructive pulmonary disease	Cholangiocarcinoma
Diabetes	
Cigarette smokers	

8. H Pylori Guideline

CME

ACG Clinical Guideline: Treatment of *Helicobacter pylori* Infection

William D. Chey, MD, FACG[1], Grigorios I. Leontiadis, MD, PhD[2], Colin W. Howden, MD, FACG[3] and Steven F. Moss, MD, FACG[4]



Management of *Helicobacter pylori* infection—the Maastricht V/Florence Consensus Report

P Malfertheiner,[1] F Megraud,[2] C A O'Morain,[3] J P Gisbert,[4,5] E J Kuipers,[6] A T Axon,[7] F Bazzoli,[8] A Gasbarrini,[9] J Atherton,[10] D Y Graham,[11] R Hunt,[12,13] P Moayyedi,[14] T Rokkas,[15] M Rugge,[16] M Selgrad,[17] S Suerbaum,[18] K Sugano,[19] E M El-Omar,[20] on behalf of the European Helicobacter and Microbiota Study Group and Consensus panel

Malfertheiner P, *et al*. *Gut* 2017;**66**:6–30. doi:10.1136/gutjnl-2016-312288

ABSTRACT

Important progress has been made in the management of *Helicobacter pylori* infection and in this fifth edition of the Maastricht Consensus Report, key aspects related to the clinical role of *H. pylori* were re-evaluated in 2015. In the Maastricht V/Florence Consensus Conference, 43 experts from 24 countries examined new data related to *H. pylori* in five subdivided workshops: (1) Indications/ Associations, (2) Diagnosis, (3) Treatment, (4) Prevention/Public Health, (5) *H. pylori* and the Gastric Microbiota. The results of the individual workshops were presented to a final consensus voting that included all participants. Recommendations are provided on the basis of the best available evidence and relevance to the management of *H. pylori* infection in the various clinical scenarios.

- The treatment duration of PPI-clarithromycin based triple therapy should **be extended to 14 days**, unless shorter therapies are proven effective locally.
- **Not recommend to use clarithromycin if the local resistance is more than 15%**

Comment | Published: 03 May 2017

Helicobacter pylori infection and antibiotic resistance: a WHO high priority?

Bich N. Dang & David Y. Graham ✉

Nature Reviews Gastroenterology & Hepatology **14**, 383–384(2017) | Cite this article

The WHO listed *Helicobacter pylori* among 16 antibiotic-resistant bacteria that pose the greatest threat to human health. Given the alarmingly high *H. pylori* antibiotic resistance rates, antibiotic stewardship programmes need to be developed and implemented. Future research should explore provider and systems-level barriers to *H. pylori* antibiotic susceptibility testing.

WHO priority pathogens list for R&D of new antibiotics

Priority 1: CRITICAL

- *Acinetobacter baumannii*, carbapenem-resistant
- *Pseudomonas aeruginosa*, carbapenem-resistant
- *Enterobacteriaceae*, carbapenem-resistant, ESBL-producing

Priority 2: HIGH

- *Enterococcus faecium*, vancomycin-resistant
- *Staphylococcus aureus*, methicillin-resistant, vancomycin-intermediate and resistant
- *Helicobacter pylori*, clarithromycin-resistant
- *Campylobacter* spp., fluoroquinolone-resistant
- *Salmonellae*, fluoroquinolone-resistant
- *Neisseria gonorrhoeae*, cephalosporin-resistant, fluoroquinolone-resistant

Priority 3: MEDIUM

- *Streptococcus pneumoniae*, penicillin-non-susceptible
- *Haemophilus influenzae*, ampicillin-resistant
- *Shigella* spp., fluoroquinolone-resistant

Global Prevalence of *H pylori*

Region	Prevalence of *H pylori* infection
Africa	79%
Latin America and the Caribbean	63%
Asia	55%
Europe	47%
Northern America	37%
Oceania	24%

H Pylori status of Myanmar

Investigator	Year	Place	Method	Prevalence
Myo Khin	2001	DMR	Serology	69 %
Mya Mya Aye	2005	YGH	Culture	30 %
Khin San Aye	2011	TGH	RUT	77.5 %
Thein Myint	2012	YGH	RUT+ Culture	48 %
Swe Mon Mya	2013	YGH	RUT	69 %
Than Than Aye, Nwe Ni, Thein Myint et al.,	2014	Bago Mandalay	UBT UBT	67.52 % 63.18 %
Thein Myint	2016	YGH	UBT	85.7 %
Wai Phyo Aung	2017	TGH	RUT + Histology	60.37 %

Primary Antibiotic Resistance Rates in *H. pylori* Infection According to Region

Region	AST method	Resistance rate (%)						Reference
		Cla	Met	Amo	Lev	Rif	Tet	
Americas	Both	10	23	10	15	ND	ND	[34▪▪]
Asia–Pacific	Both	17	44	3	18	ND	4	[33▪]
Austria	Genotypic	21	ND	ND	13	ND	ND	[35]
China	Both	28.9	63.8	3.1	28	ND	3.9	[36▪]
Eastern Mediterranean	Both	33	56	14	19	ND	10	[34▪▪]
Europe	Both	18	32	0	11	ND	0	[34▪▪]
Greece	Phenotypic	25.9	31.1	0	ND	ND	ND	[37]
Italy	Phenotypic	35.9	40.2	ND	29.3	ND	ND	[32]
Netherlands	Phenotypic	18.1	23.2	10.0	13.0	44.2	2.3	[31]
South-east Asia	Both	10	51	2	30	ND	0	[34▪▪]
Spain	Phenotypic	22.4	27	0	38.7	33.3	0	[38]
Western pacific	Both	34	47	1	22	ND	2	[34▪▪]

Amo, amoxicillin; AST, antimicrobial susceptibility testing; Both, Resistance rates determined by both phenotypic and genotypic included; Cla, clarithromycin; Lev, levofloxacin; Met, metronidazole; Rif, rifampicin/rifabutin; Tet, tetracycline.

Curr Opin Gastroenterol 2019,35:6–13

Table 3. Antibiotic resistance rates of *H. pylori* strains in the United States, 2009–2011

Antibiotic	Resistance rate (%)
Metronidazole	20
Clarithromycin	16
Levofloxacin	31
Tetracycline	<2
Amoxicillin	<2
Rifabutin	<2

Data based on single center study of 128 strains of *H. pylori* obtained from US veterans by Shiota *et al.* (122), and for rifabutin from review by Gisbert *et al.* (200).

Antibiotic Resistant *H. pylori* in Myanmar strains

Antibiotics Resistance (%)	Amoxicillin	Clarithromycin	Metronidazole	Tetracycline	Levofloxacin	Ciprofloxacin
Mya Mya Aye (2005)	8.3 %	12.5 %	54.2 %	NT	NT	NT
Thein Myint (2011)	0 %	0 %	37.3 %	0 %	5.9 %	5.9 %
Mya Mya Aye (2013)	6.7 %	**50 %**	100 %	NT	NT	NT

- Clarithromycin triple therapy consisting of a PPI, clarithromycin, and amoxicillin or metronidazole for 14 days remains a recommended treatment option in regions where *H. pylori* clarithromycin resistance is known to be <15% and in patients with no previous history of macrolide exposure for any reason.

- Guidelines advocate for a longer duration of treatment (14 days for almost all regimens in the Toronto Consensus; 10–14 for almost all regimens in the ACG guide- line).

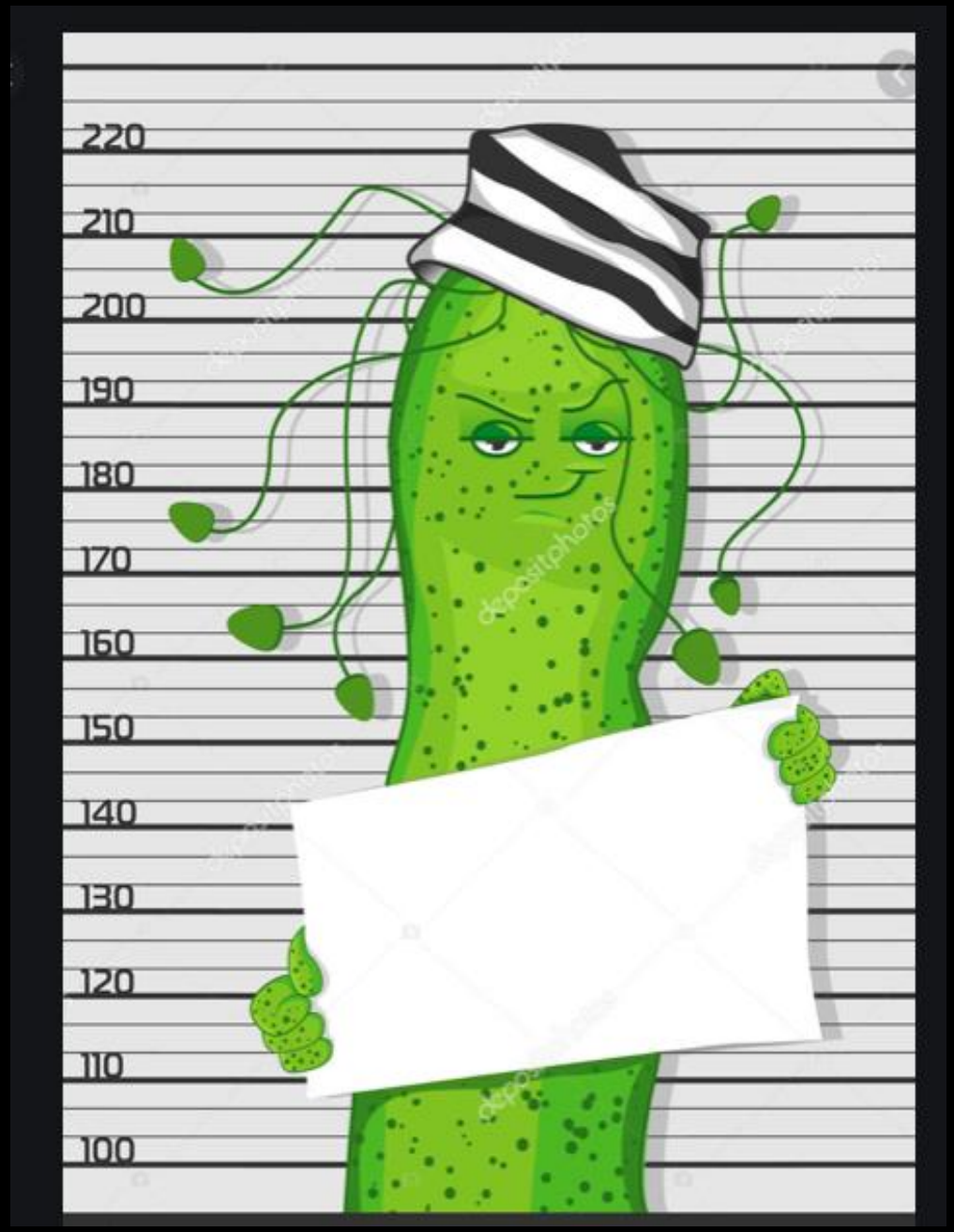

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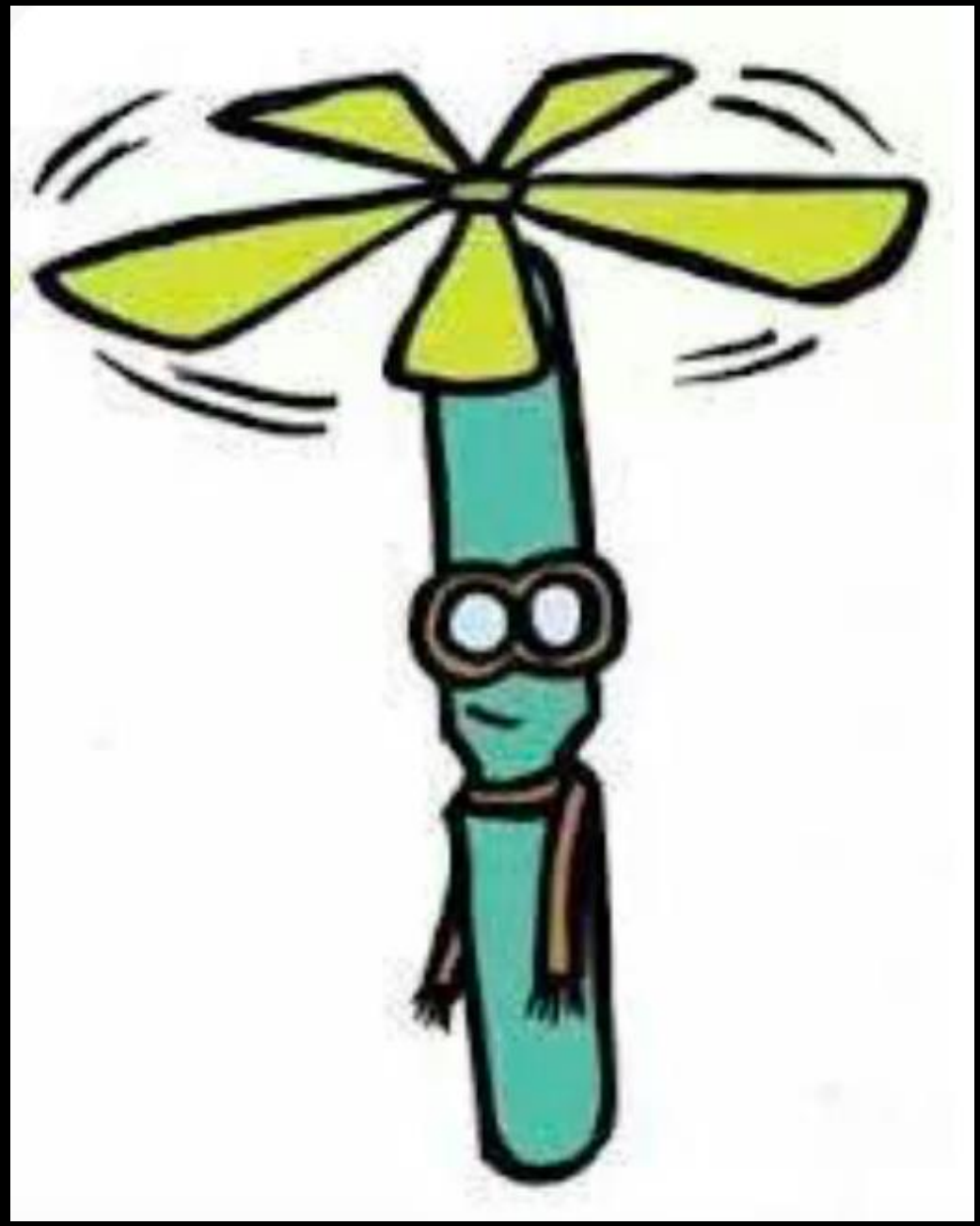
Table 2. Recommended first-line therapies for *H pylori* infection

Regimen	Drugs (doses)	Dosing frequency	Duration (days)
Clarithromycin triple	PPI (standard or double dose)	BID	14
	Clarithromycin (500 mg)		
	Amoxicillin (1 grm) or Metronidazole (500 mg TID)		
Bismuth quadruple	PPI (standard dose)	BID	10–14
	Bismuth subcitrate (120–300 mg) or subsalicylate (300 mg)	QID	
	Tetracycline (500 mg)	QID	
	Metronidazole (250–500 mg)	QID (250)	
		TID to QID (500)	
Concomitant	PPI (standard dose)	BID	10–14
	Clarithromycin (500 mg)		
	Amoxicillin (1 grm)		
	Nitroimidazole (500 mg)[c]		
Sequential	PPI (standard dose)+Amoxicillin (1 grm)	BID	5–7
	PPI, Clarithromycin (500 mg)+Nitroimidazole (500 mg)[c]	BID	5–7
Hybrid	PPI (standard dose)+Amox (1 grm)	BID	7
	PPI, Amox, Clarithromycin (500 mg), Nitroimidazole (500 mg)[c]	BID	7
Levofloxacin triple	PPI (standard dose)	BID	10–14
	Levofloxacin (500 mg)	QD	
	Amox (1 grm)	BID	
Levofloxacin sequential	PPI (standard or double dose)+Amox (1 grm)	BID	5–7
	PPI, Amox, Levofloxacin (500mg QD), Nitroimidazole (500 mg)[c]	BID	5–7
LOAD	Levofloxacin (250 mg)	QD	7–10
	PPI (double dose)	QD	
	Nitazoxanide (500 mg)	BID	
	Doxycycline (100 mg)	QD	

Table 4. Salvage therapies for *H pylori* infection

Regimen	Drugs (doses)	Dosing frequency	Duration (Days)
Bismuth quadruple	PPI (standard dose)	BID	14
	Bismuth subcitrate (120–300 mg) or subsalicylate (300 mg)	QID	
	Tetracycline (500 mg)	QID	
	Metronidazole (500 mg)	TID or QID	
Levofloxacin triple	PPI (standard dose)	BID	14
	Levofloxacin (500 mg)	QD	
	Amox (1 grm)	BID	
Concomitant	PPI (standard dose)	BID	10–14
	Clarithromycin (500 mg)	BID	
	Amoxicillin (1 grm)	BID	
	Nitroimidazole (500 mg)	BID or TID	
Rifabutin triple	PPI (standard dose)	BID	10
	Rifabutin (300 mg)	QD	
	Amox (1 grm)	BID	
High-dose dual	PPI (standard to double dose)	TID or QID	14
	Amox (1 grm TID or 750 mg QID)	TID or QID	



Capsule summary

- 1.PPI and Clopidogel can use together if indication is support to benefit of the patient.
- 2. Early onset Colorectal cancer is incresing trend-age less than 50 years
- 3. Aggressive fluid resusitation within first 24 hours is the most effective treatment for acute pancreatitis.
- 4.Age for OGD at the asia is more than 50 years.

- 5. Restrivtive blood transfusion is more safe and better outcome for gastrointestinal bleeding.
- 6. Target haemoglobin is 7 to 8 mg%
- 7. PPI,prokinetic drug and H pylori eradication are the first line of managements for functional dyspepsia.

- 8. 14 days H Pylori treatment is current practice.
- 9. 7 Days Triple regiem
- (PPI+Clarithromycin+Amoxicillin) is no longer use if Clarithromycin resistance is more than 15%.
- 10. Low FORMAPfood, probiotics,antispasmotics,antidiarrhoea,Rifaximine and TCA are suitable for IBS cases.
- 11. Serum tumour marker CEA is not indicated for diagnosis of colorectal cancer.

THANK YOU


"We combined all your medications into ONE convenient dose."
NICKEL