

Helicobacter pylori
updated: APPSGHAN

Nuthapong Ukarapol | **2018**



GU & PUP

(middle-aged women/men)

DU & DUP

(young men from World war I&II)

GERD

Hp as Class I
carcinogen by WHO

1910¹

“no acid no ulcer”

1984² 1994

no Hp no ulcer

2000

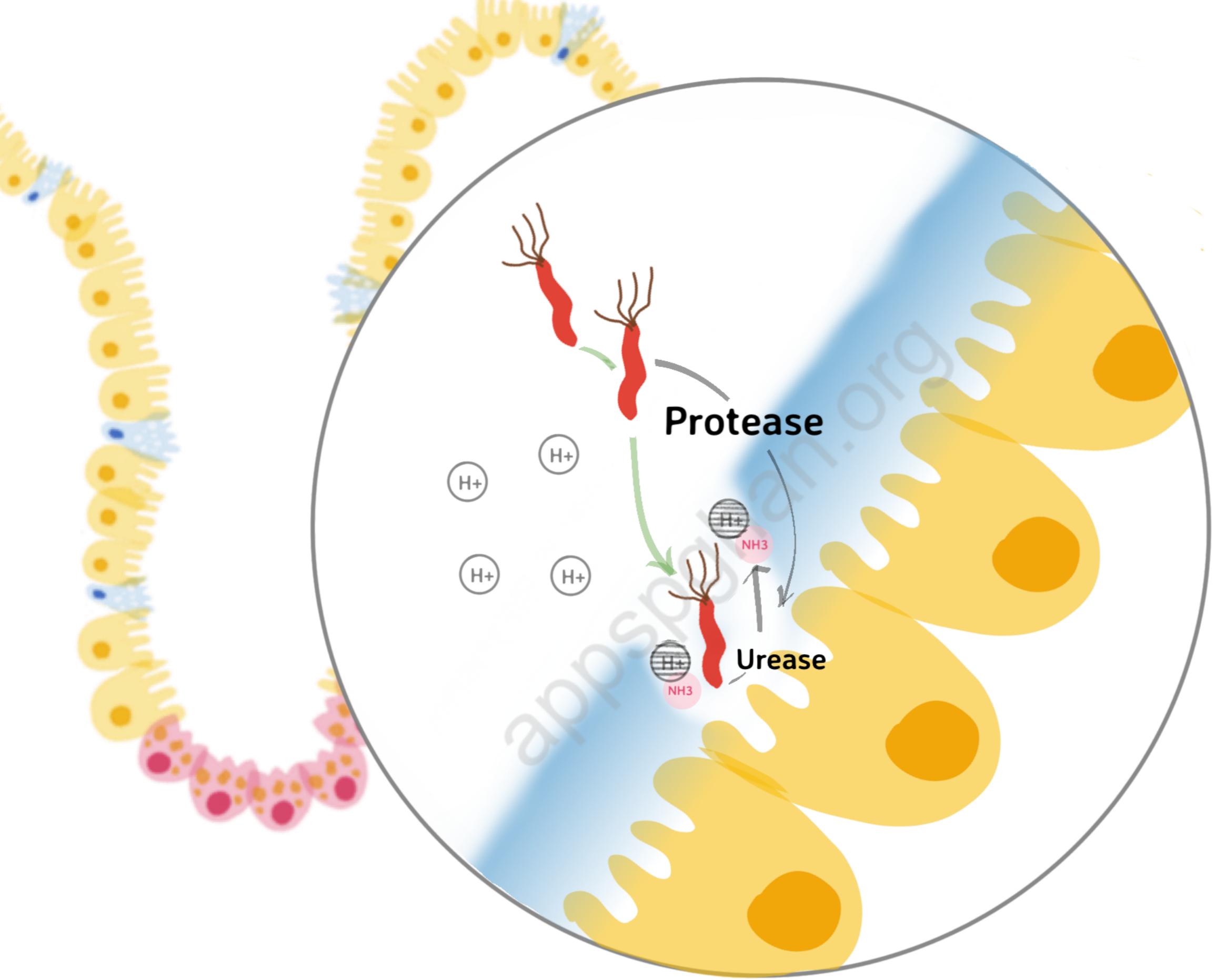
↑ standard of hygiene

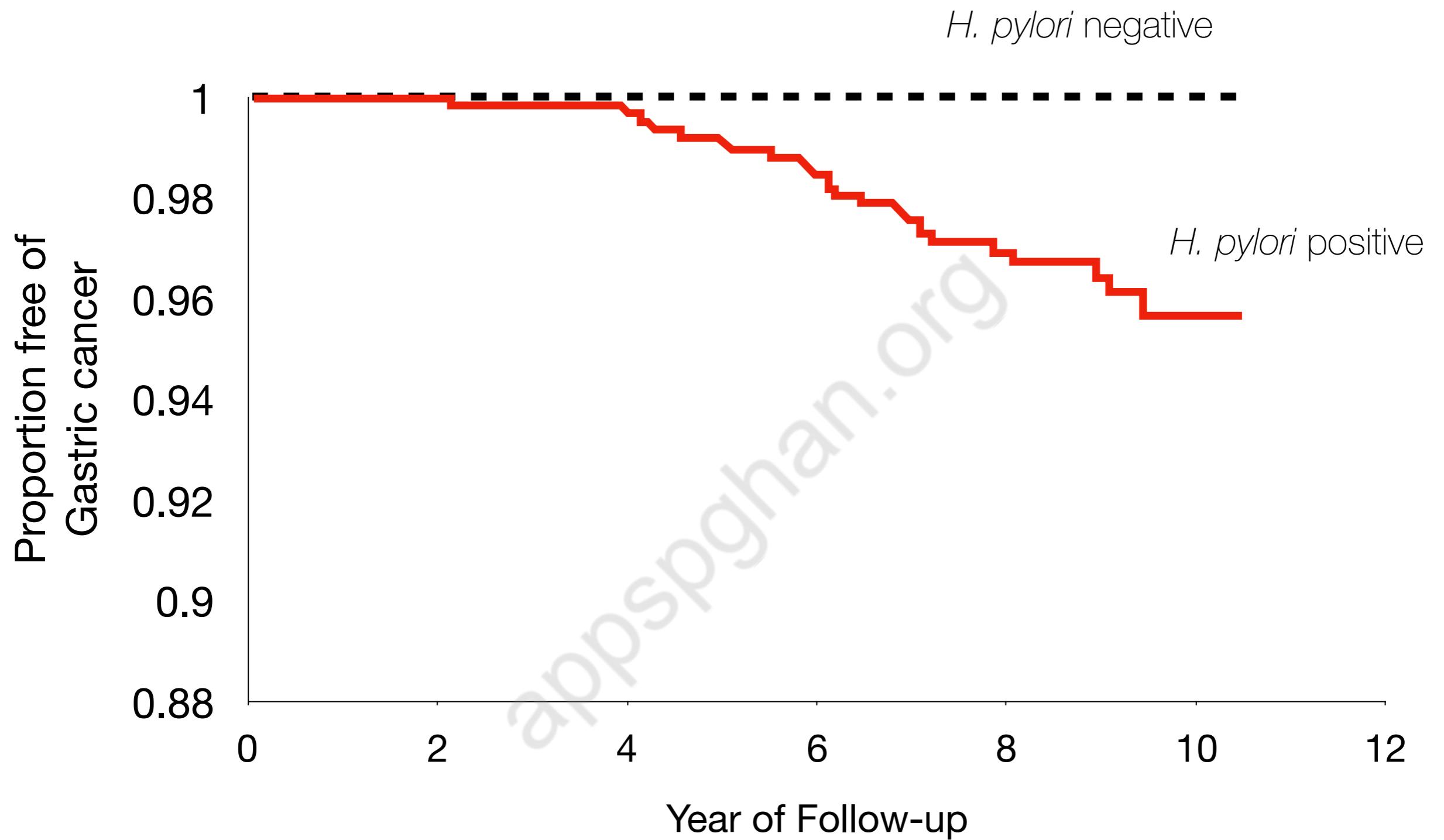
Prevalence of Hp. infection

¹Beitr Klin Chir **1910**;67:96-128.

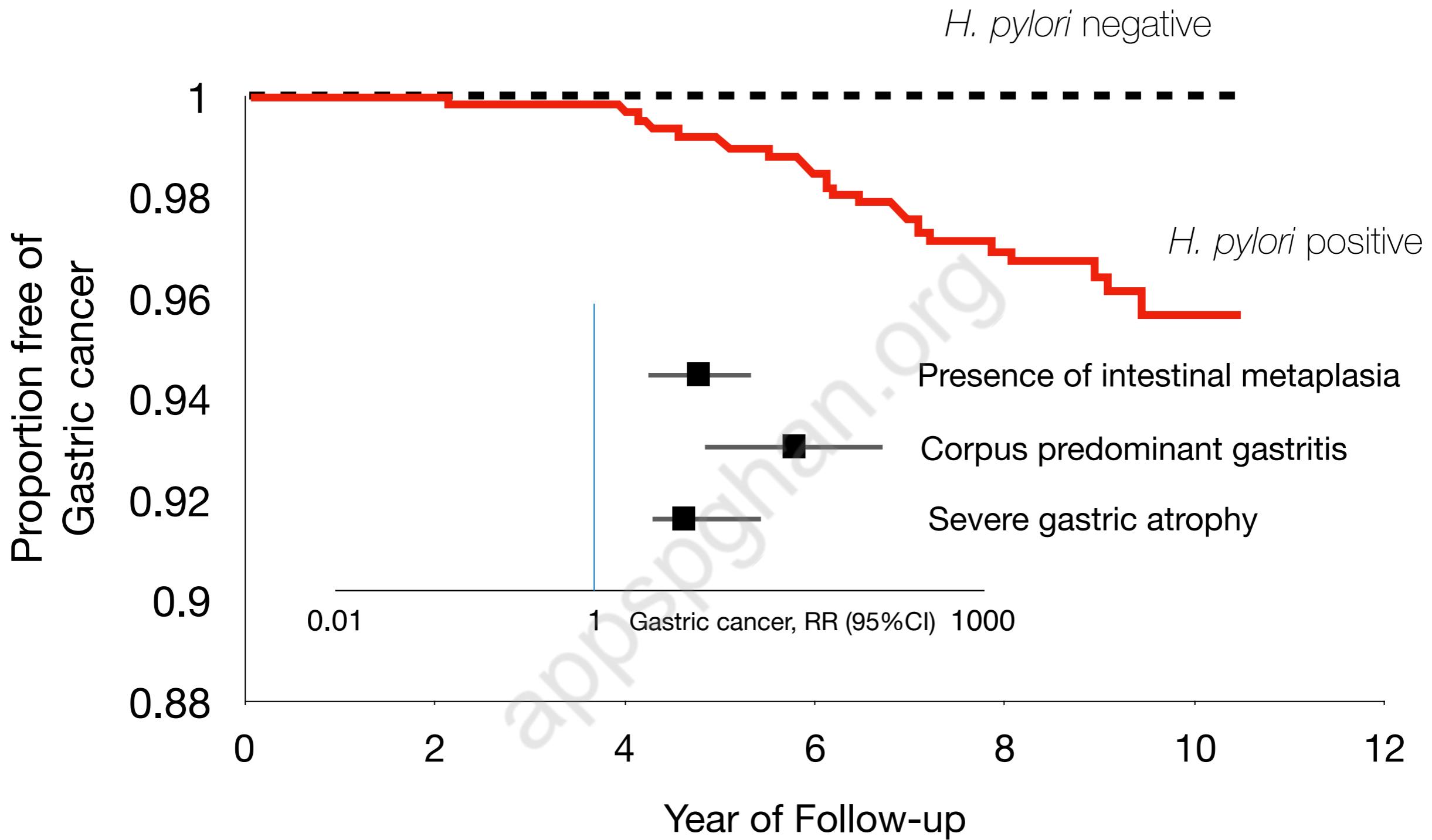
²Marshall BJ and Warren JR. Lancet **1984**;323:1311-5.

Di Mario F and Goni E. Best Pract Res Clin Gastroenterol **2014**;28:953-65.



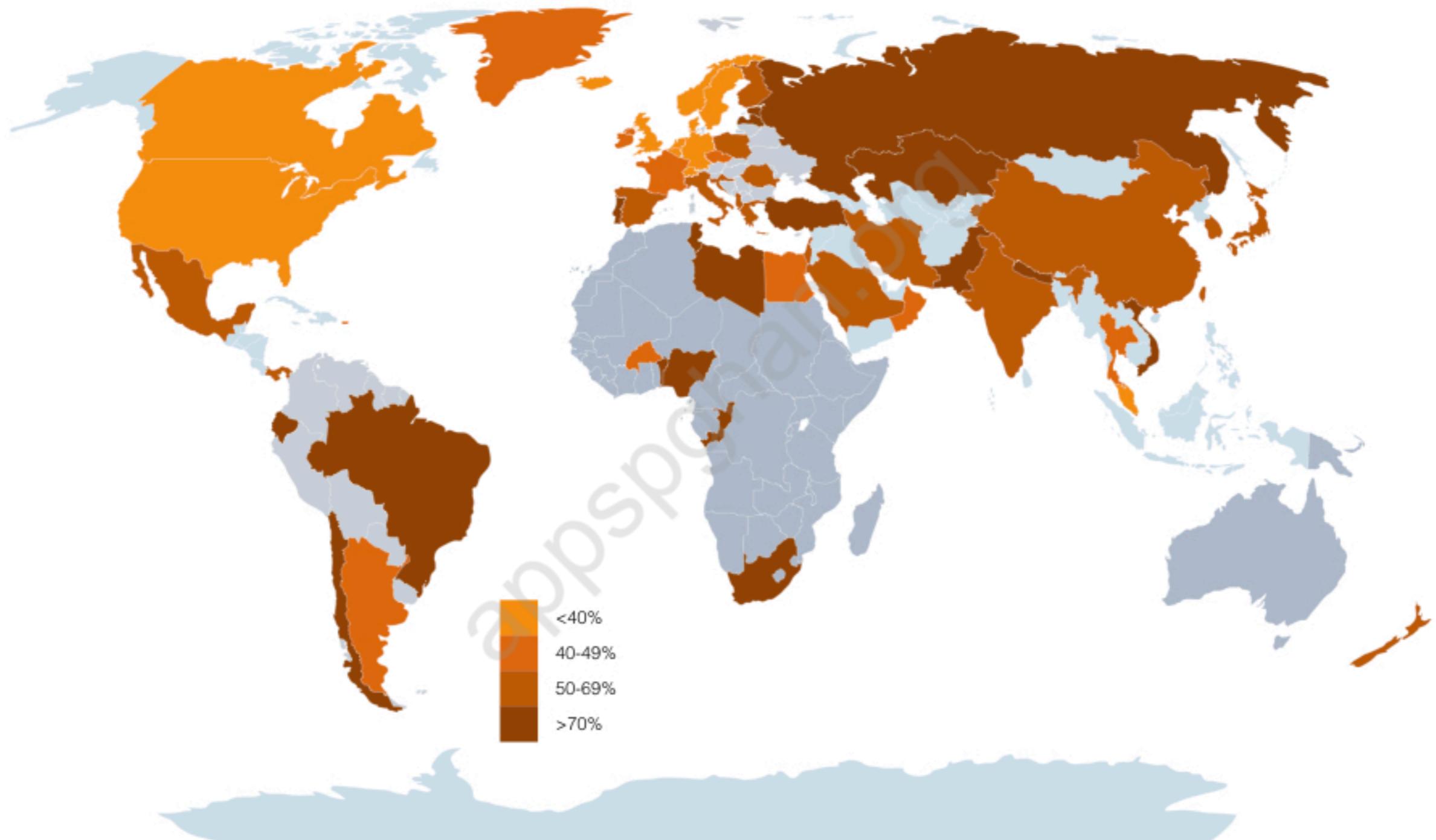


Uemura N, et al. NEJM **2001**;345:784-9.

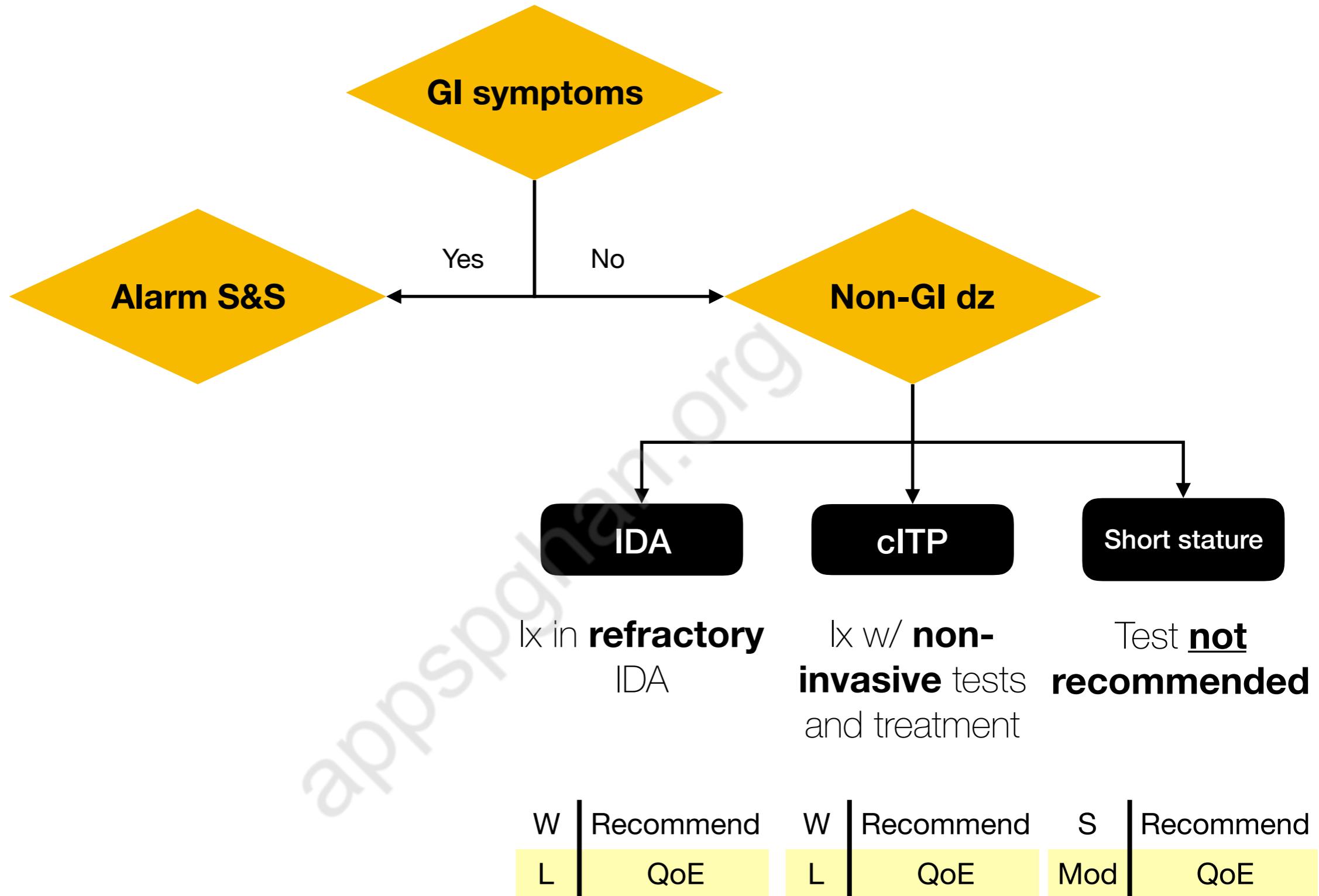


Uemura N, et al. NEJM **2001**;345:784-9.

Prevalence *Helicobacter pylori*

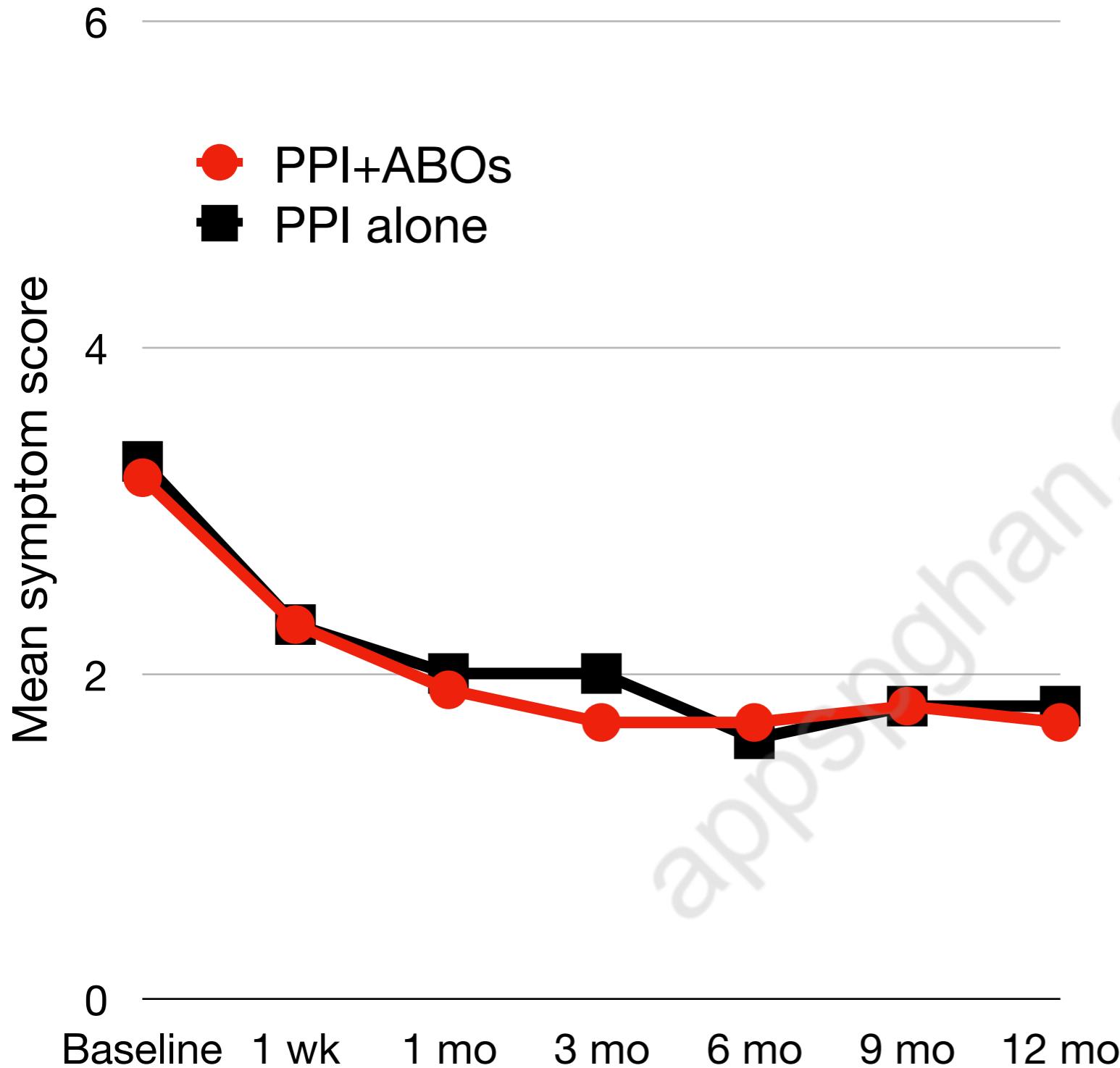


Hooi JK^Y, et al. Gastroenterology 2017;153:420-9.

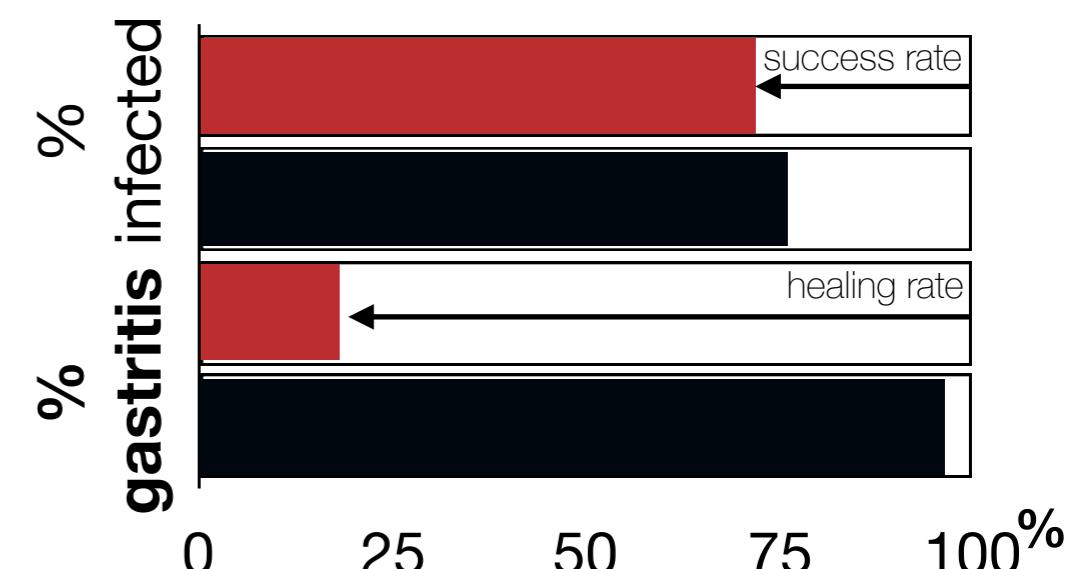


Alarm symptoms and signs

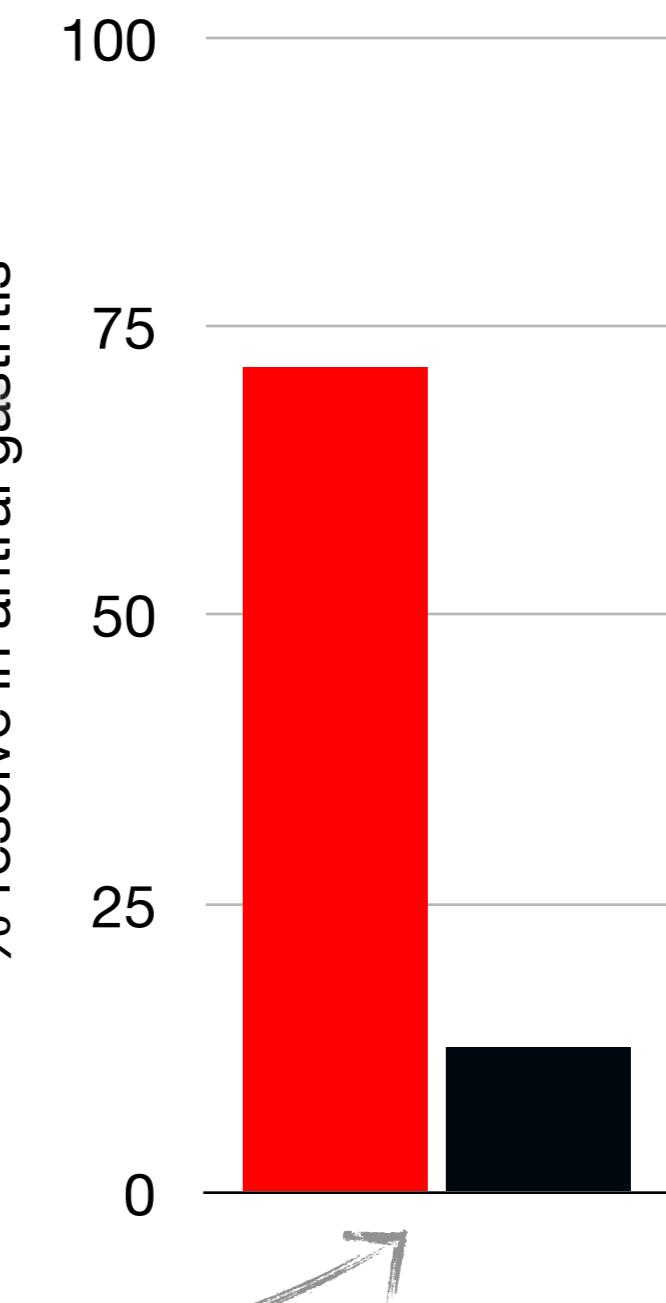
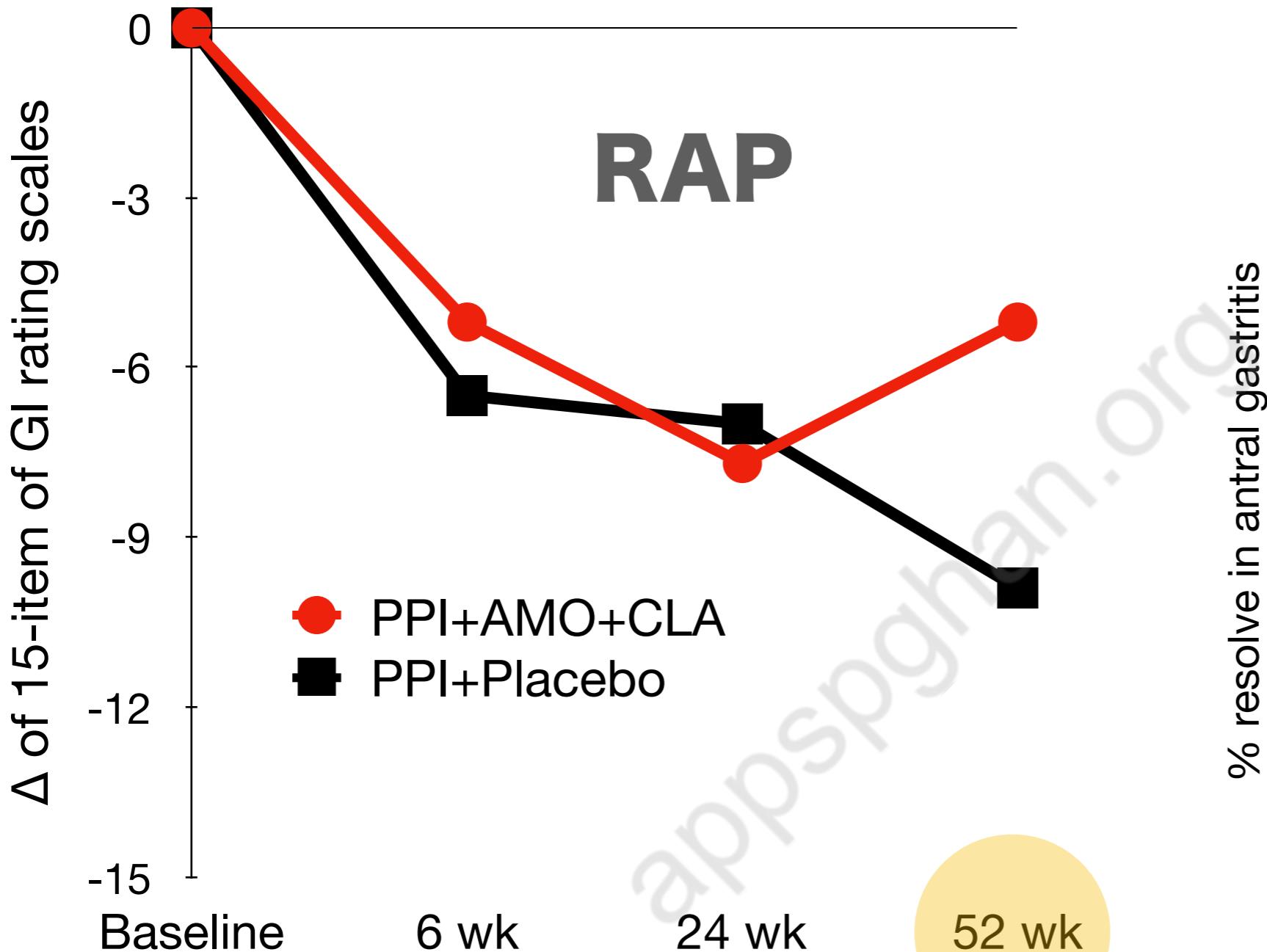
- Persistent RUQ & RLQ pain
- Dysphagia
- Odynophagia
- Persistent vomiting
- GI blood loss
- Involuntary weight loss
- Deceleration of linear growth
- Delayed puberty
- Unexplained fever
- A family history of IBD, celiac disease, or PUD



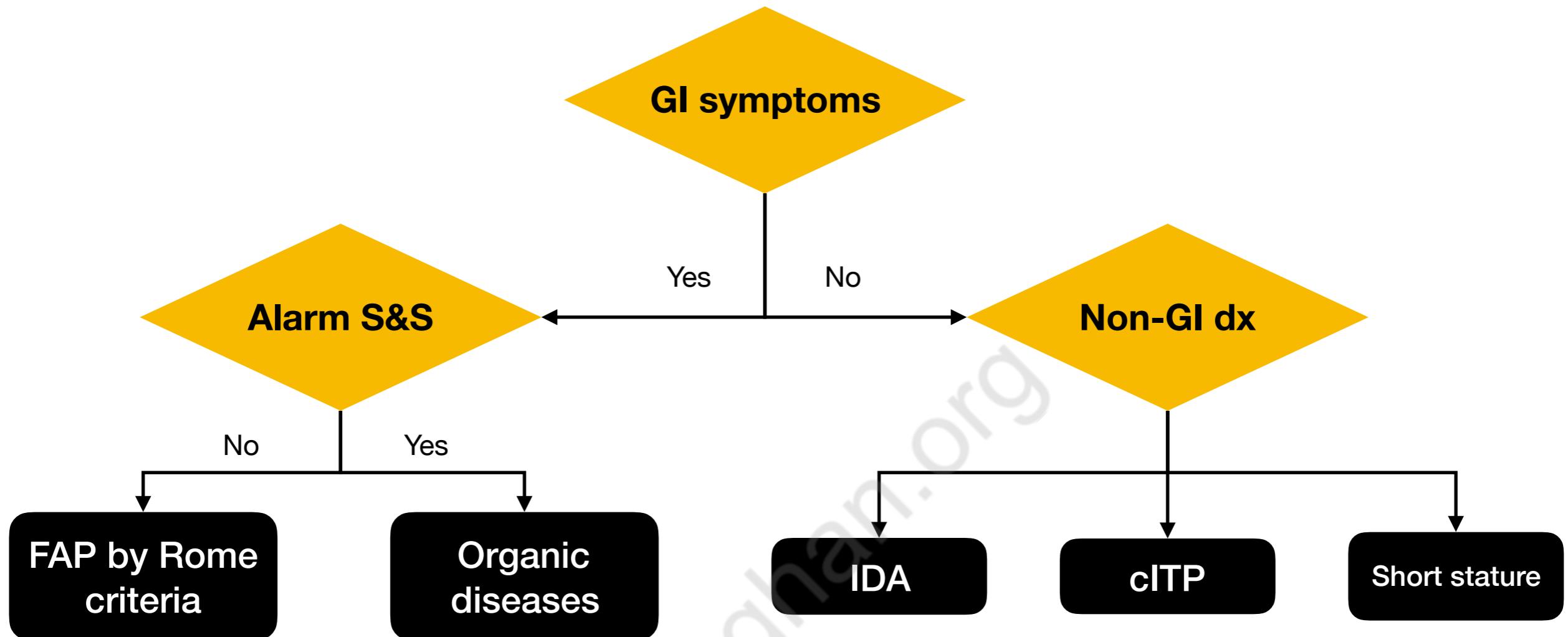
Non-ulcer dyspepsia



Blum AL, et al. NEJM 1998;339:1875-81.

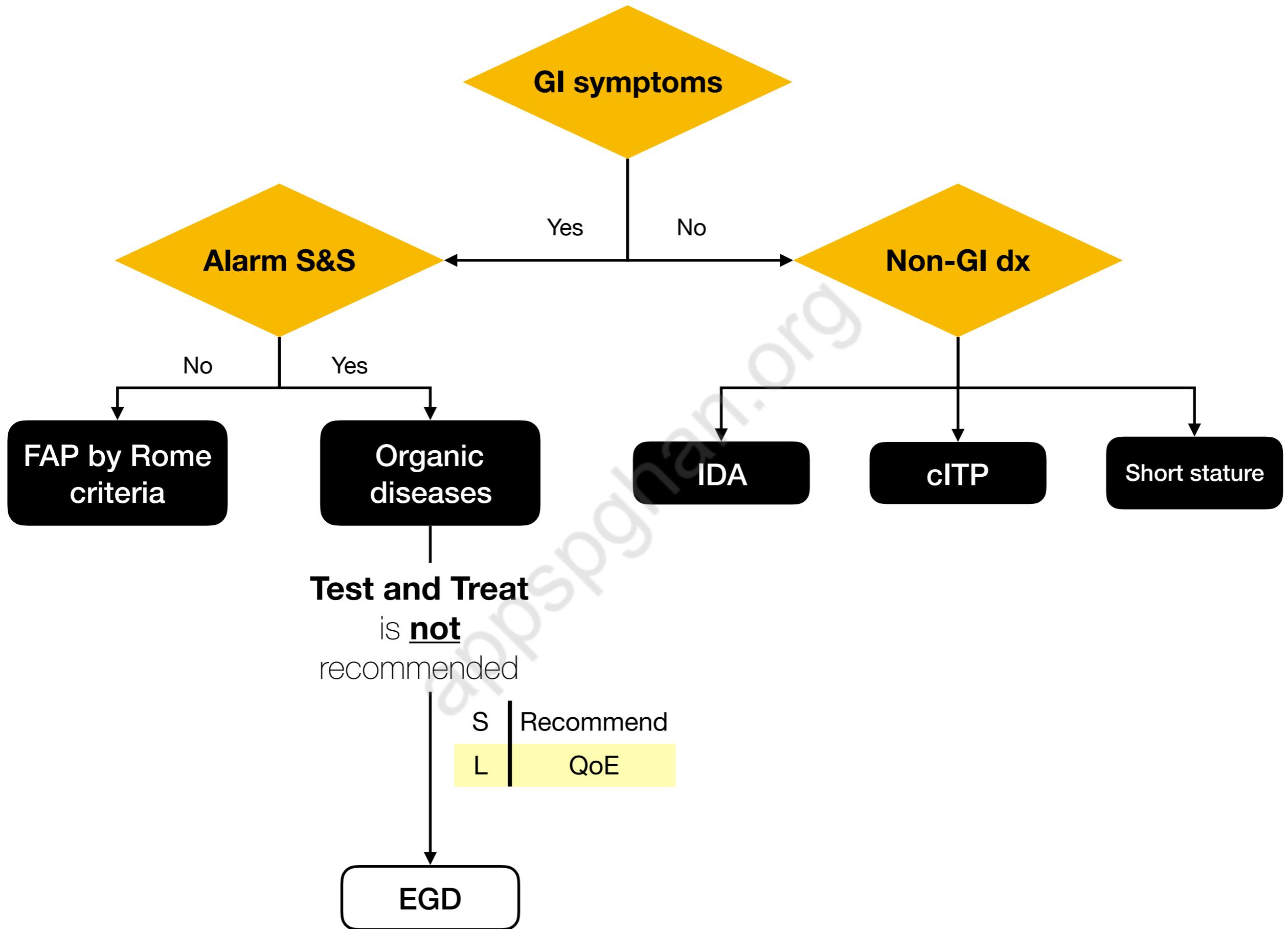


Ashorn M, et al. J Clin Gastroenterol **2004**;38:646-50.



Test **not**
recommended

S	Recommend
H	QoE



jw 111
Name:

Sex: Age:

D.O.B.:

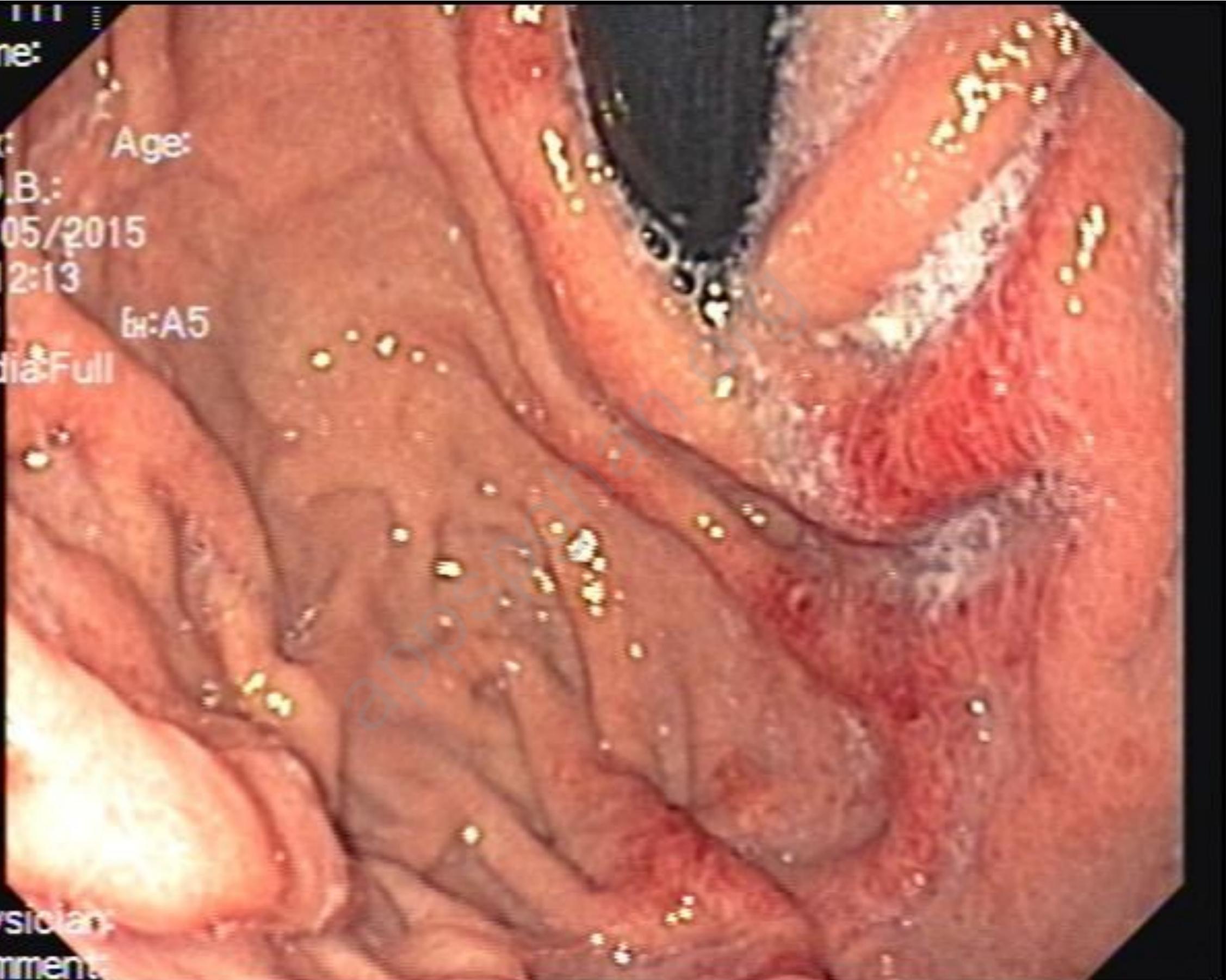
28/05/2015

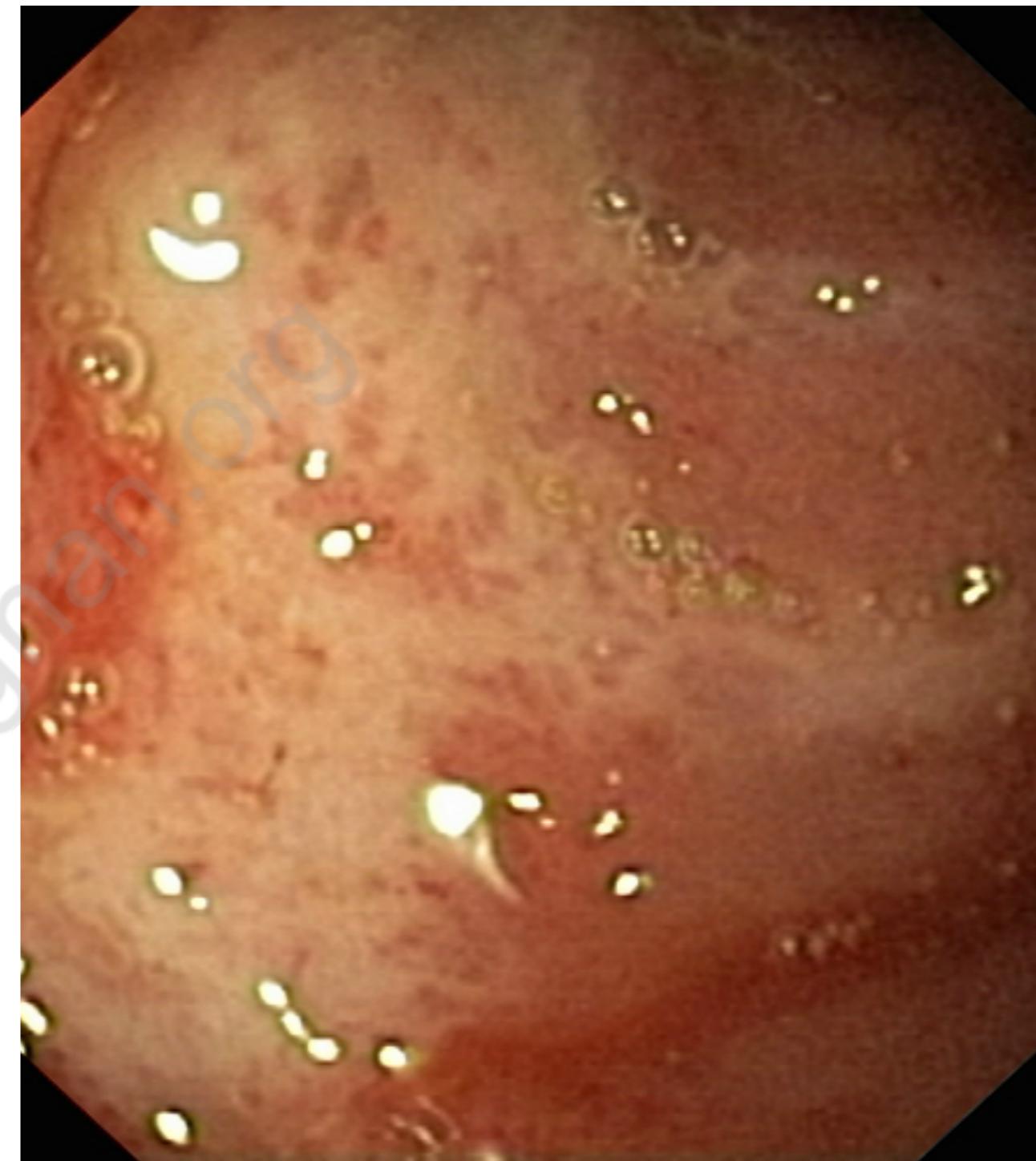
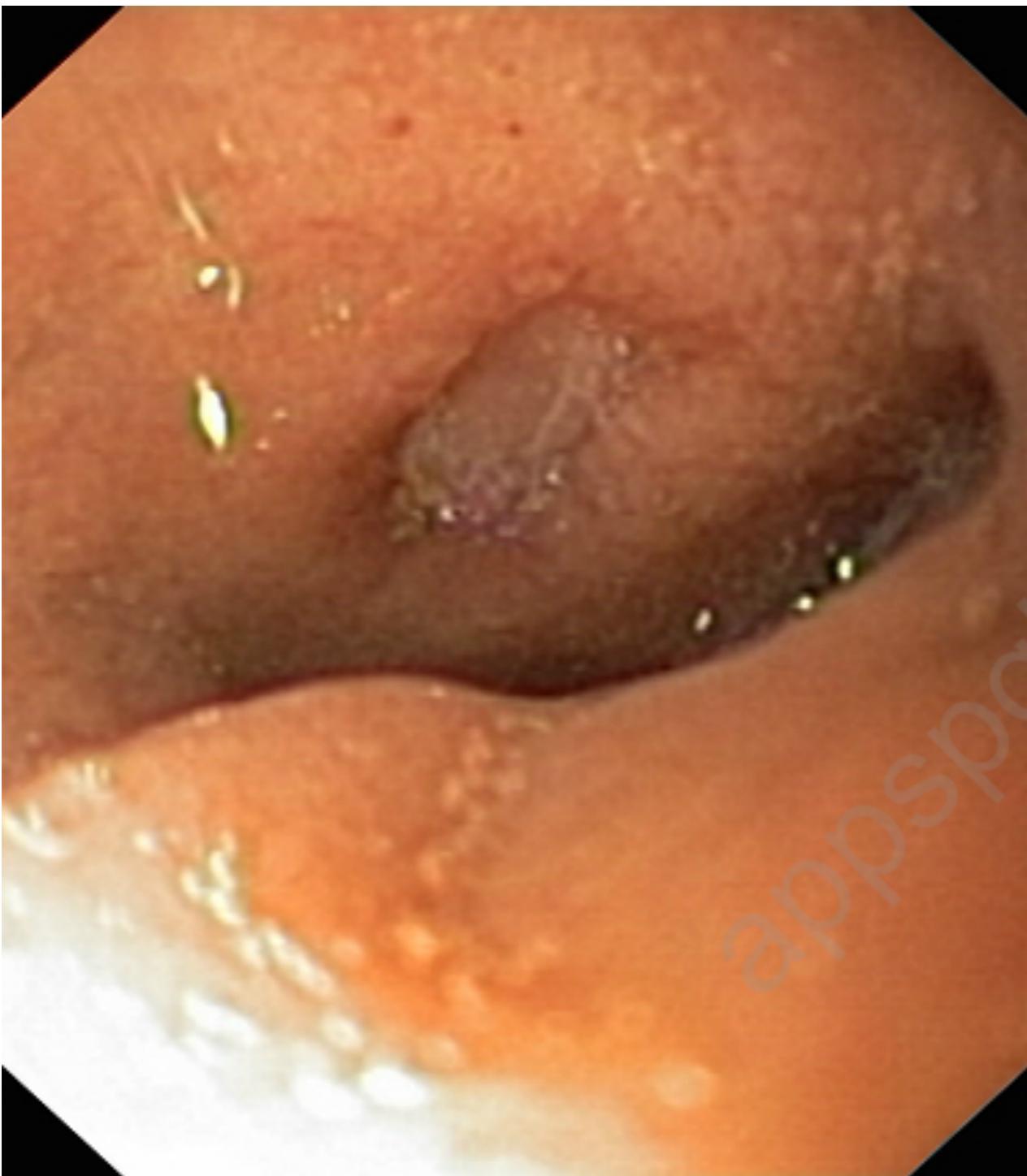
11:12:13

Gr:N Ex:A5

Media:Full

Physician:
Comments:







123 tested for Hp infection

15 positive both RUT and Histopathology

Indication	N
Abdominal pain >2 mo	64
Abdominal pain <2 mo	15
UGIH	27
Chronic vomiting	18
Unexplained anemia	4

Endoscopic findings

	Hp + N=15	Hp - N=108	p value
Gastritis	15 (100)	59 (54.6)	<0.001
Duodenitis	1 (6.7)	15 (13.9)	0.690
GU/erosion	4 (26.7)	14 (12.9)	0.233
DU/erosion	1 (6.7)	9 (8.3)	1.000
Antral nodularity	11 (73.3)	23 (21.3)	<0.001
PHG	0 (0)	6 (5.6)	1.000

Sense

84%

Spec

100%

PPV

100%

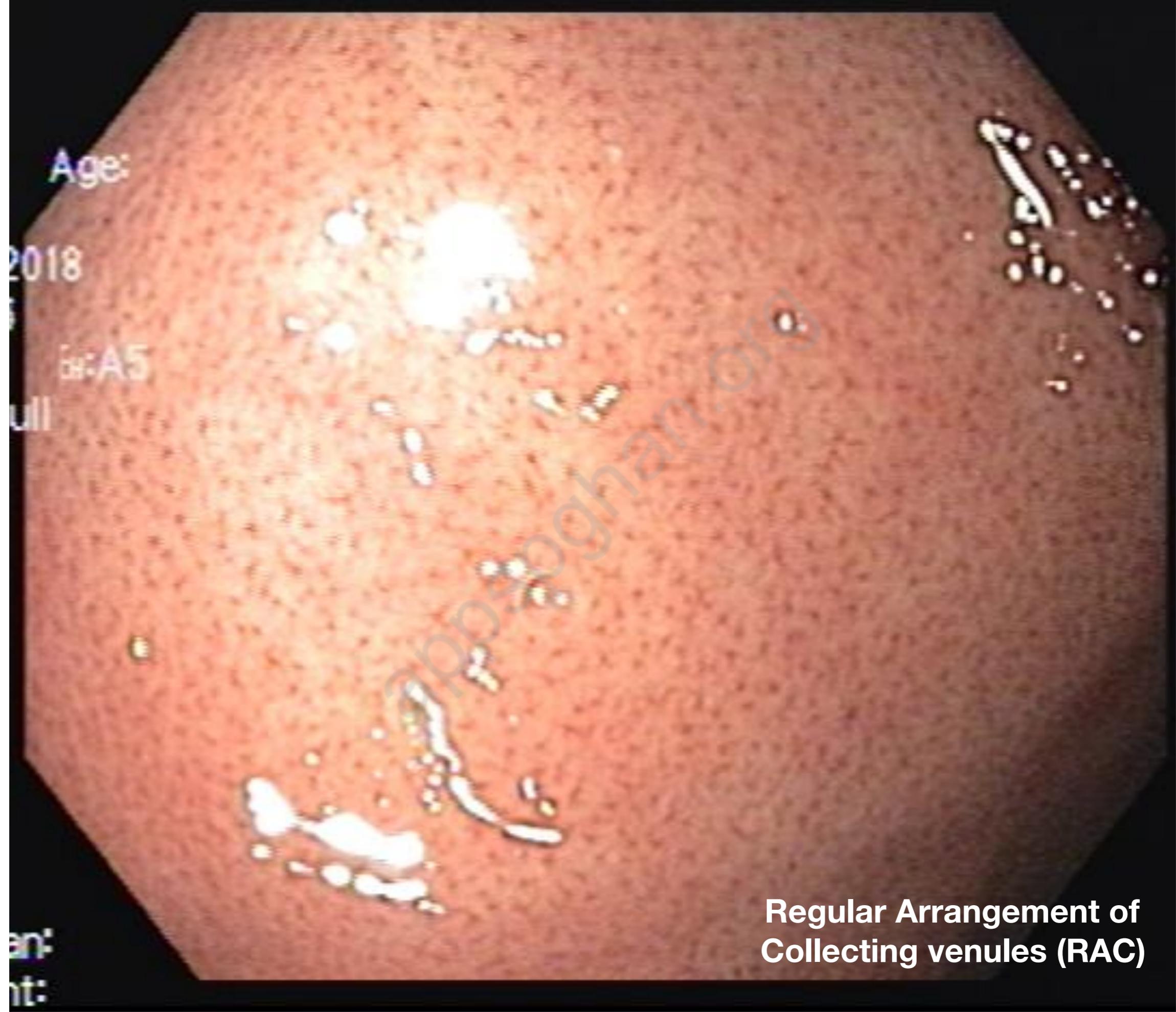
NPV

94%

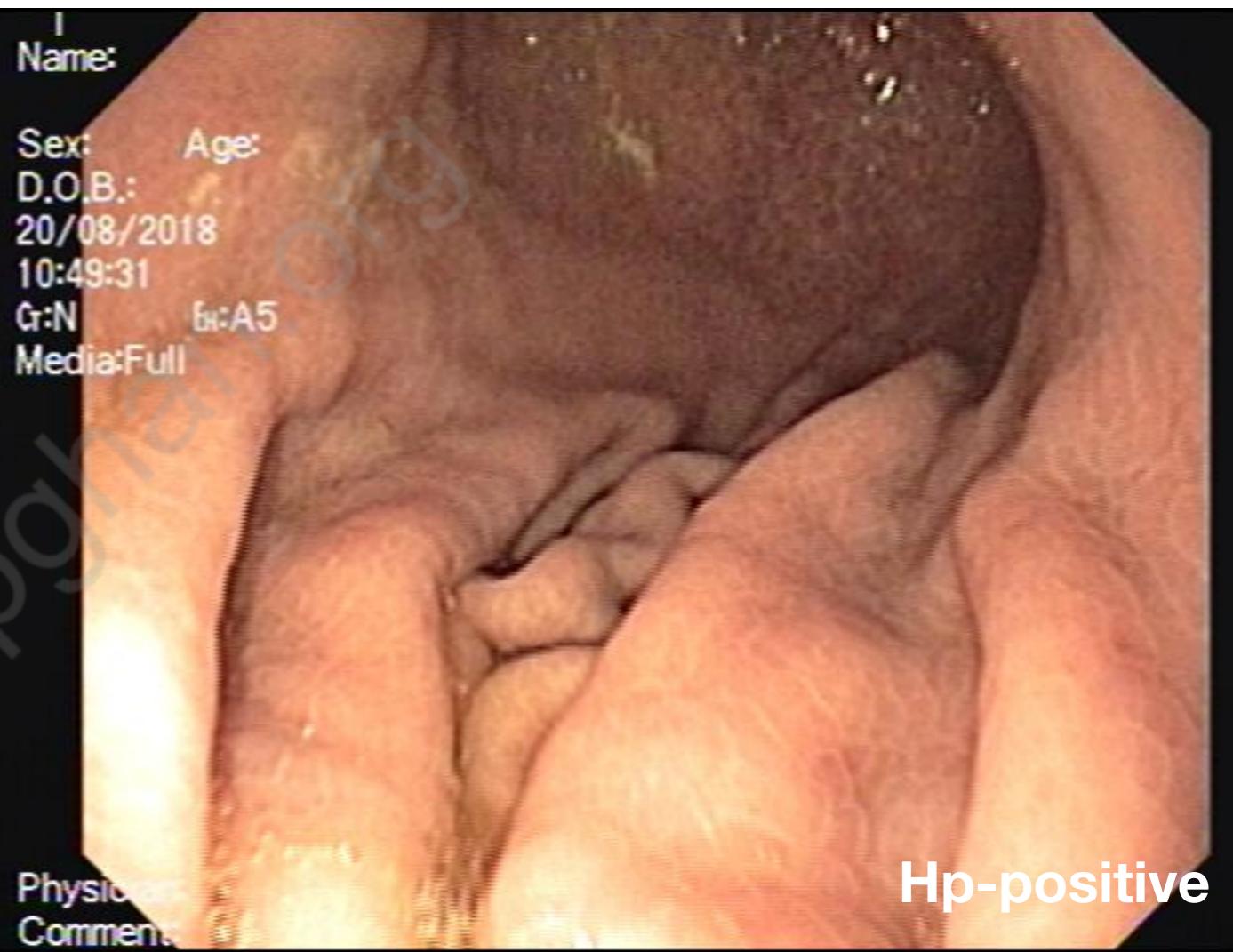
Endoscopic finding	Hp-positive (n=25)	Hp-negative (n=62)
Duodenal ulcer	7 (28%)	0
Antral nodularity	21 (84%)	0
Gastritis	18 (72%)	3 (4.8%)
Gastric ulcer	0	0
RAC (-) upper corpus	0	57 (91.9%)
RAC (-) lower corpus	0	39/45 done (86.7%)

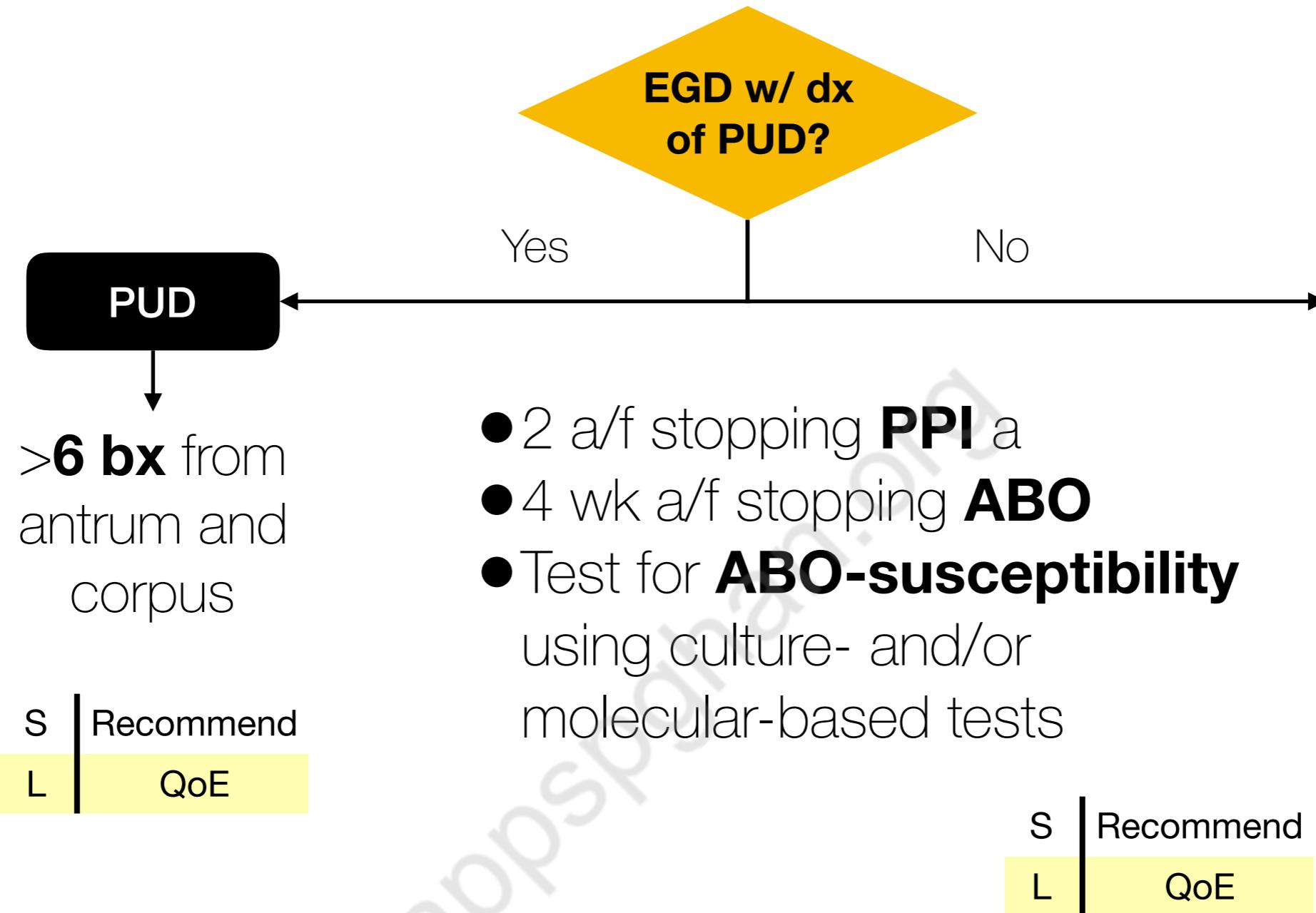
RAC : Regular Arrangement of Collecting venules

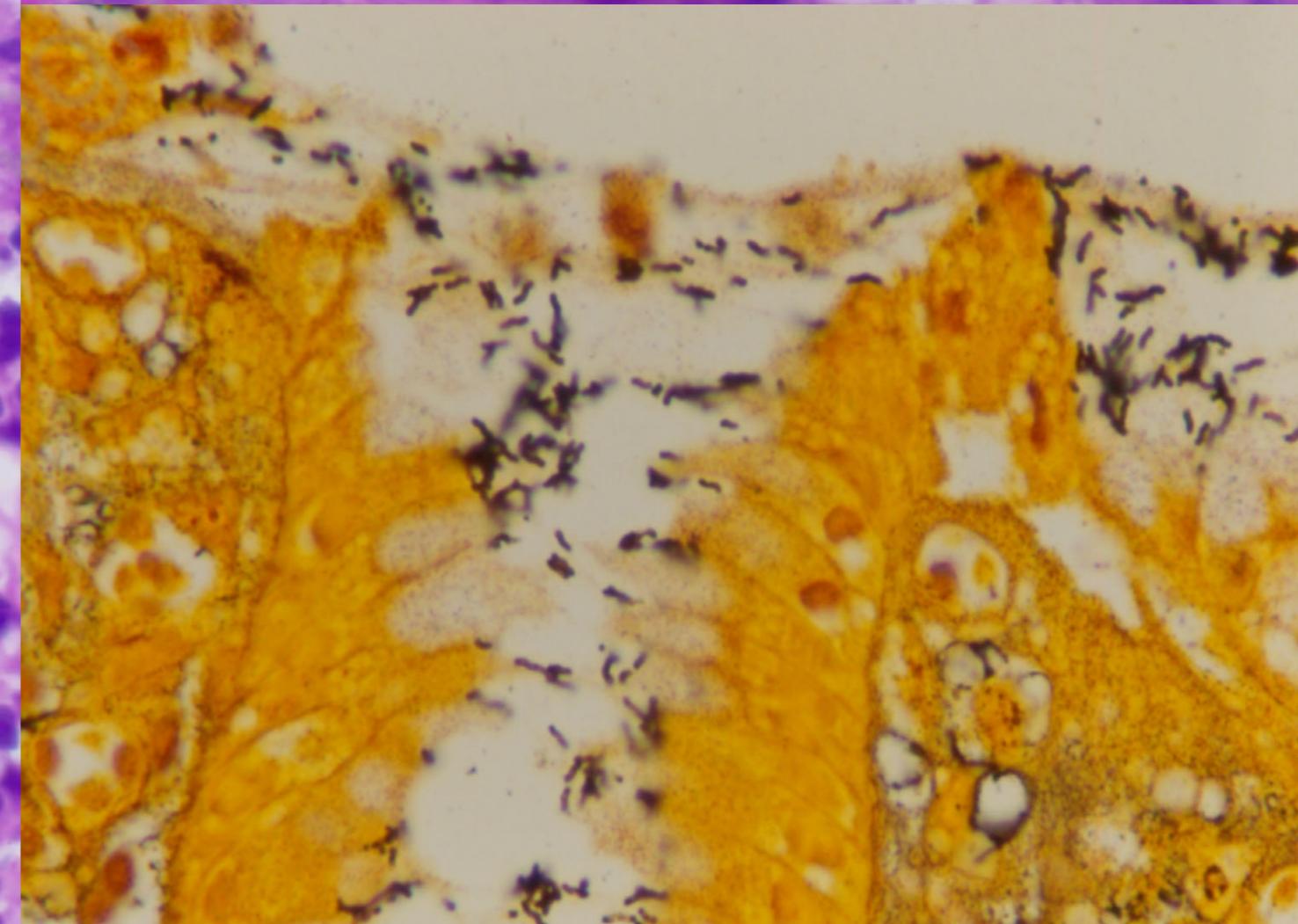
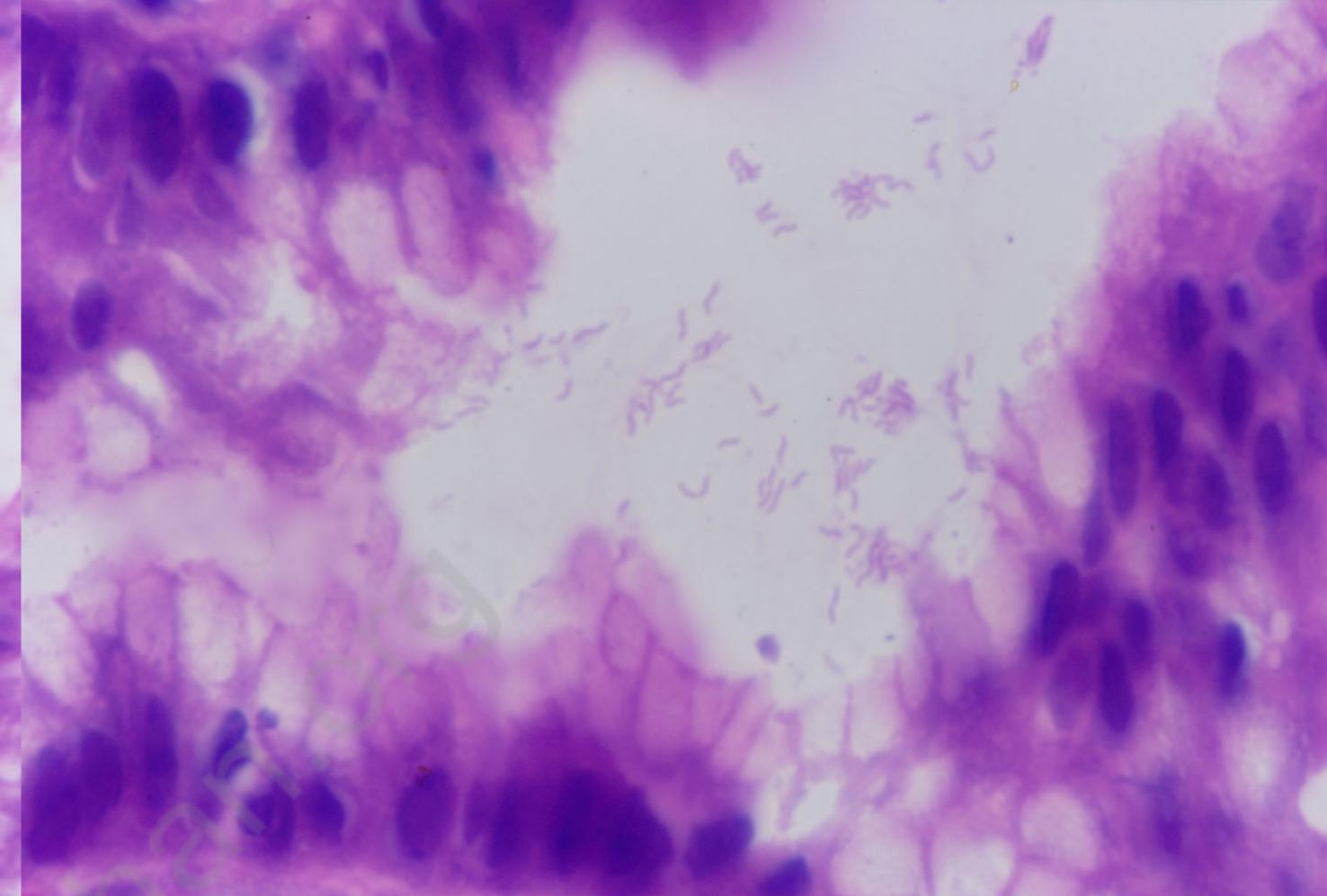
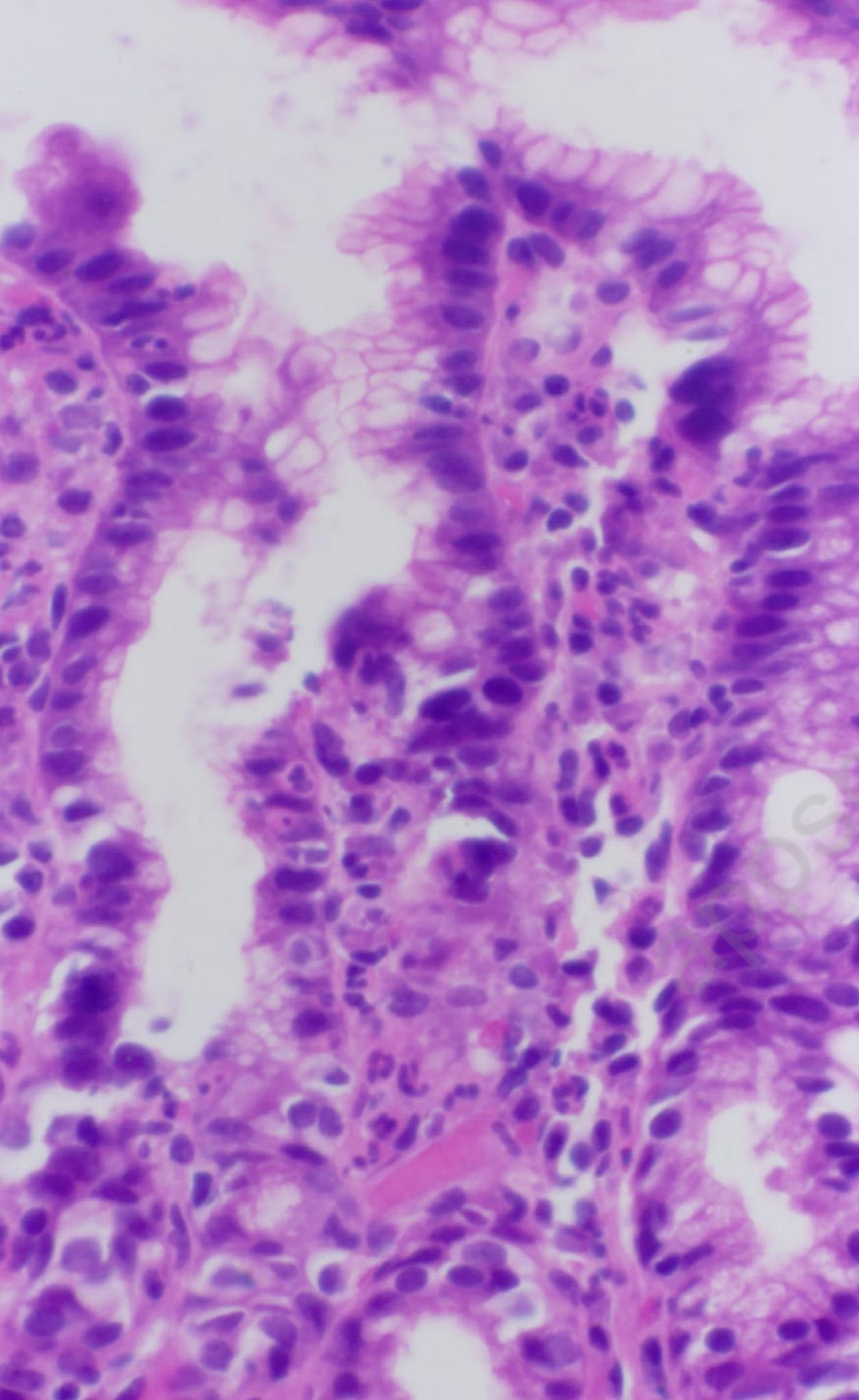
Hidaka N, et al. Digestive Endoscopy **2010**;22:90-4.

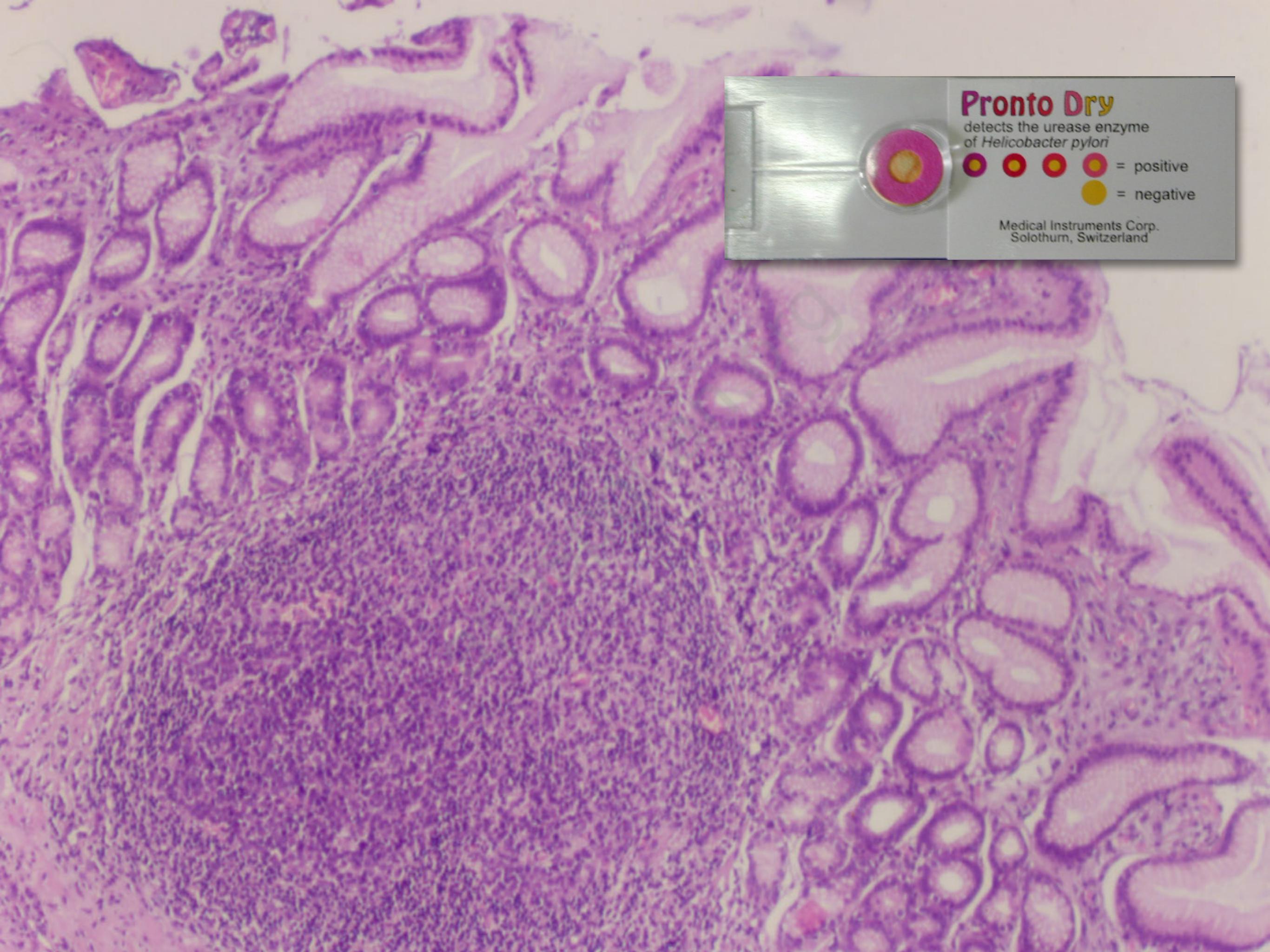


**Regular Arrangement of
Collecting venules (RAC)**







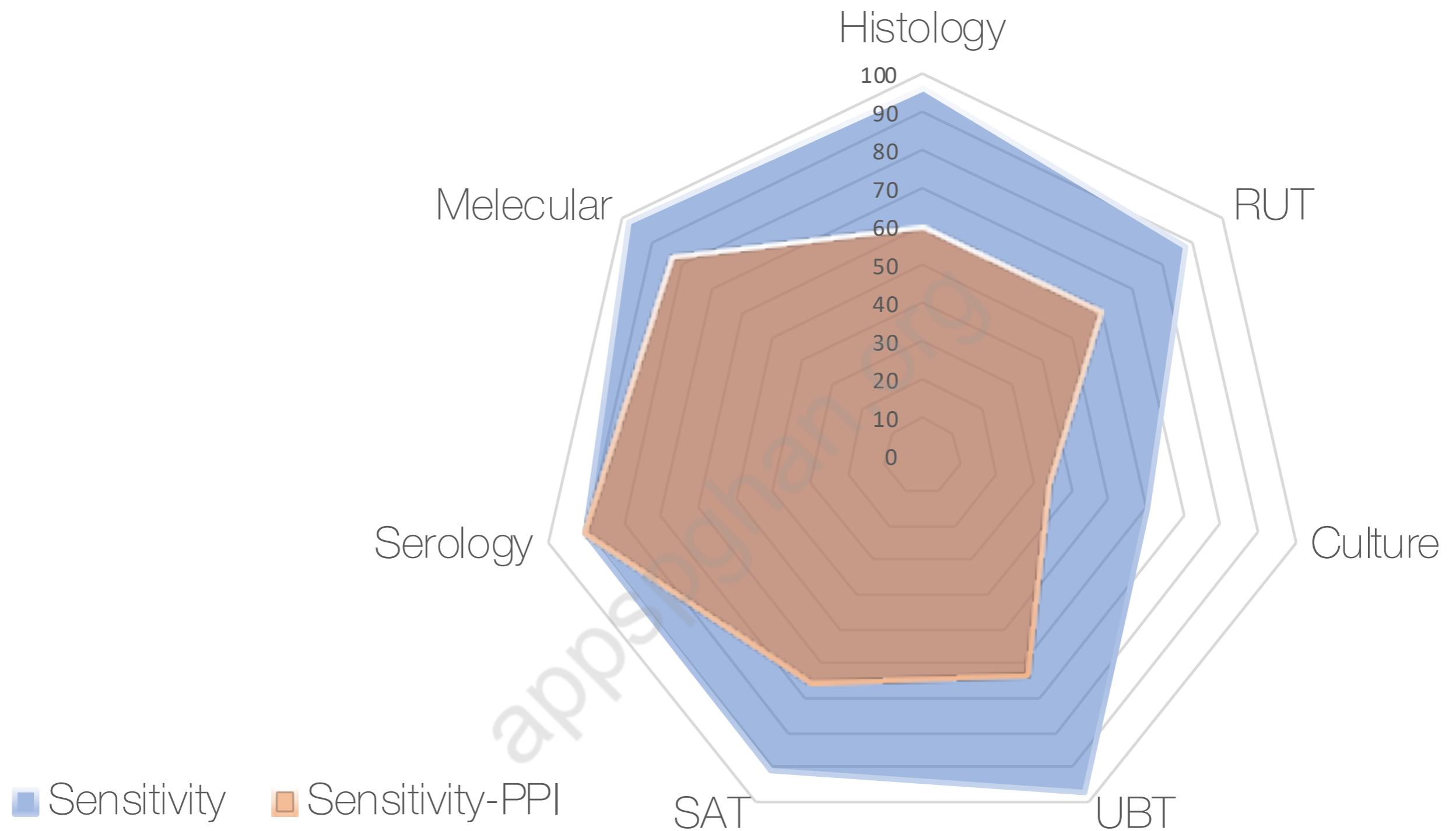
A histological slide of stomach tissue. The image shows various types of epithelial cells, including columnar epithelium and goblet cells. There are also areas of connective tissue and blood vessels. A prominent feature is the presence of small, dark, oval-shaped bacteria, likely Helicobacter pylori, scattered throughout the tissue.

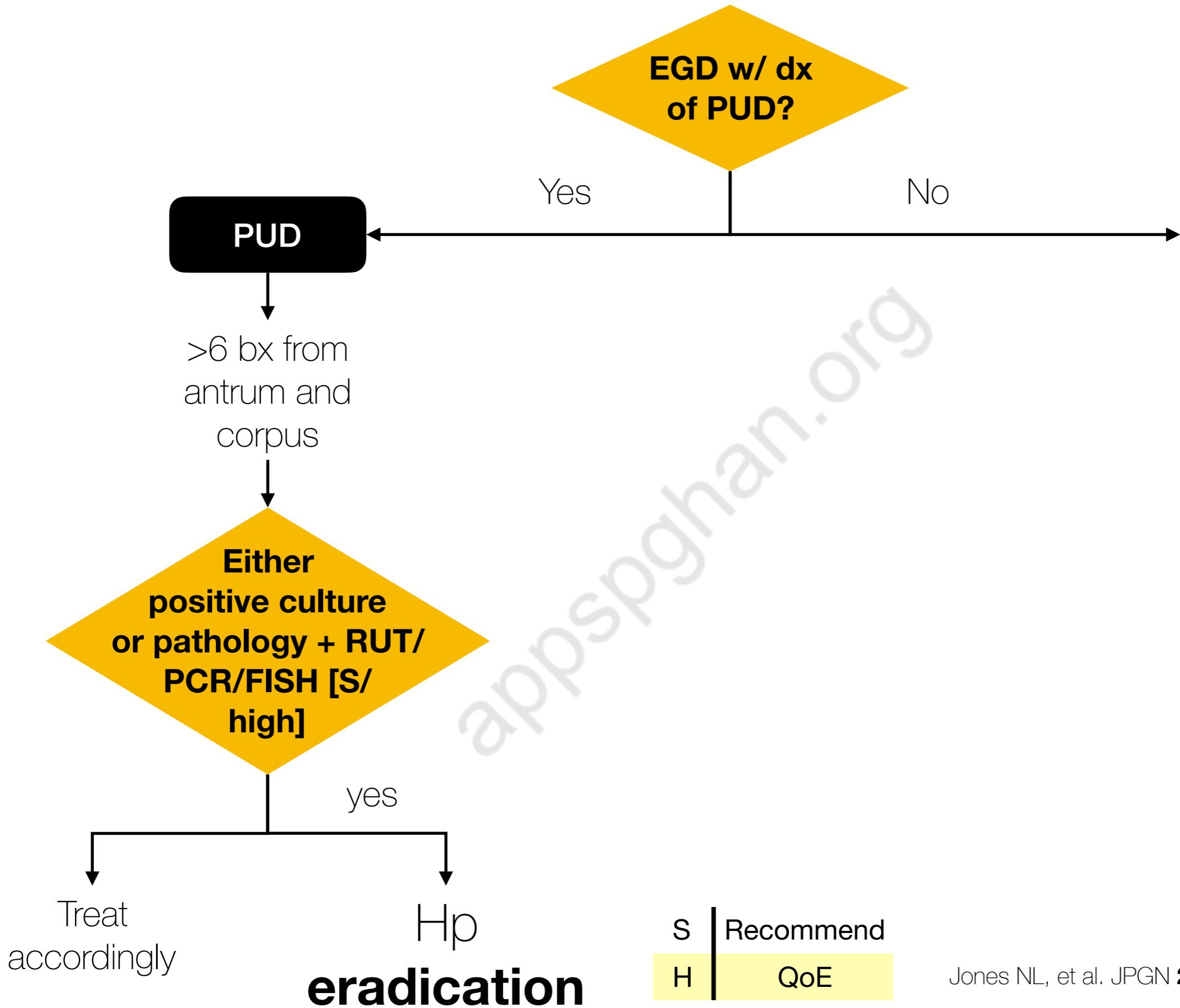
Pronto Dry

detects the urease enzyme
of *Helicobacter pylori*

- ● ● = positive
- = negative

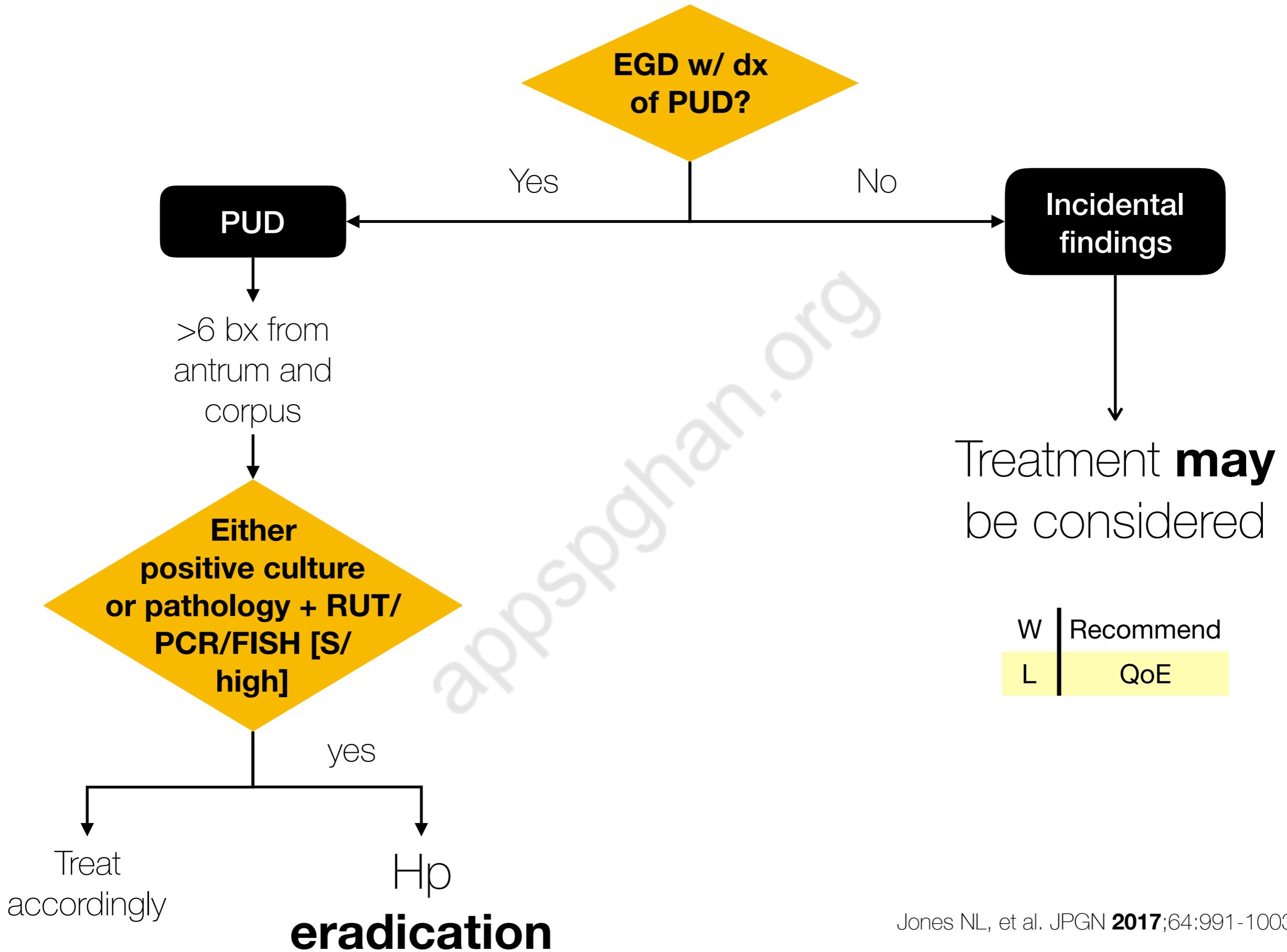
Medical Instruments Corp.
Solothurn, Switzerland



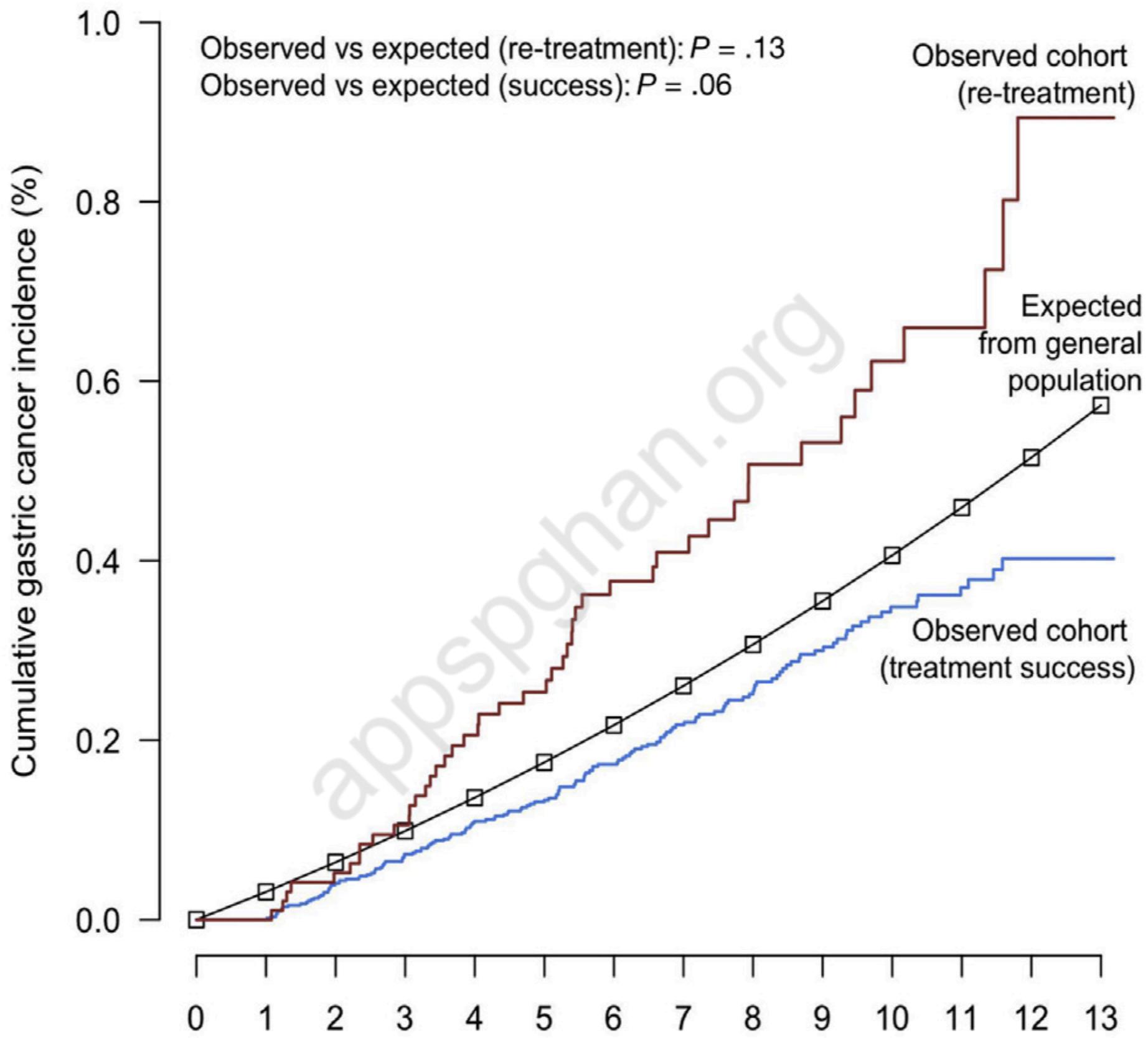


S	Recommend
H	QoE

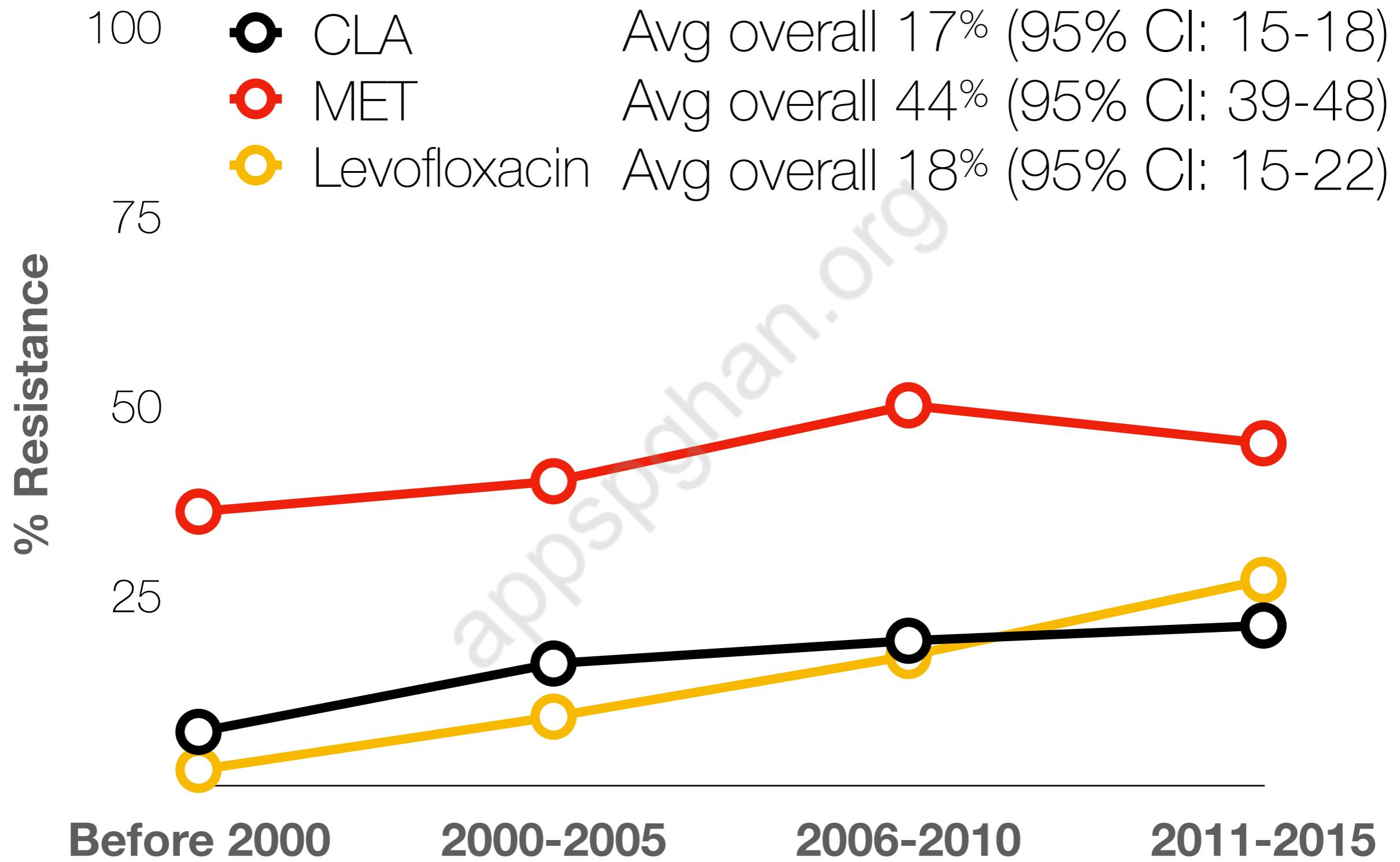
Jones NL, et al. JPGN 2017;64:991-1003.



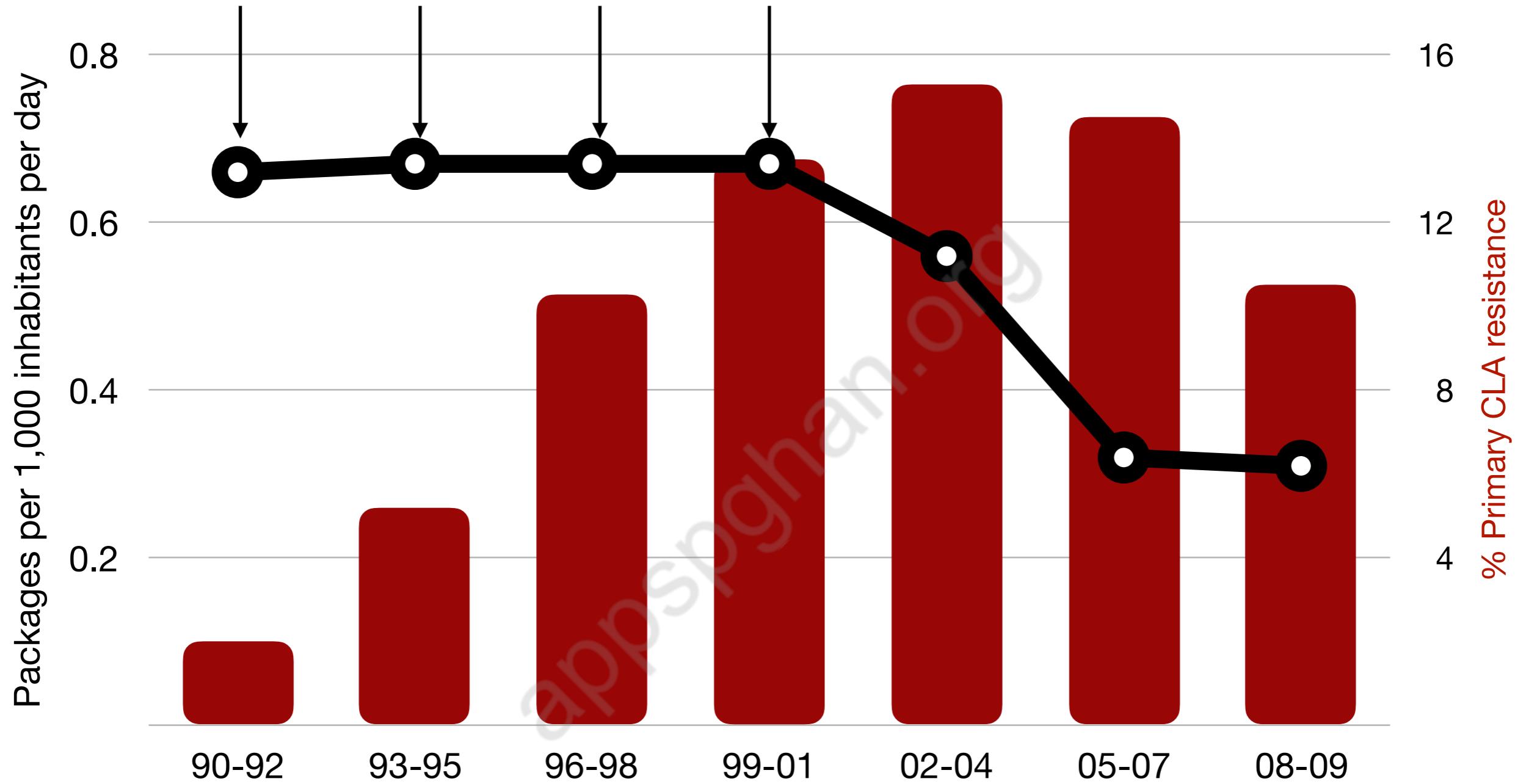
Jones NL, et al. JPGN 2017;64:991-1003.



How to treat

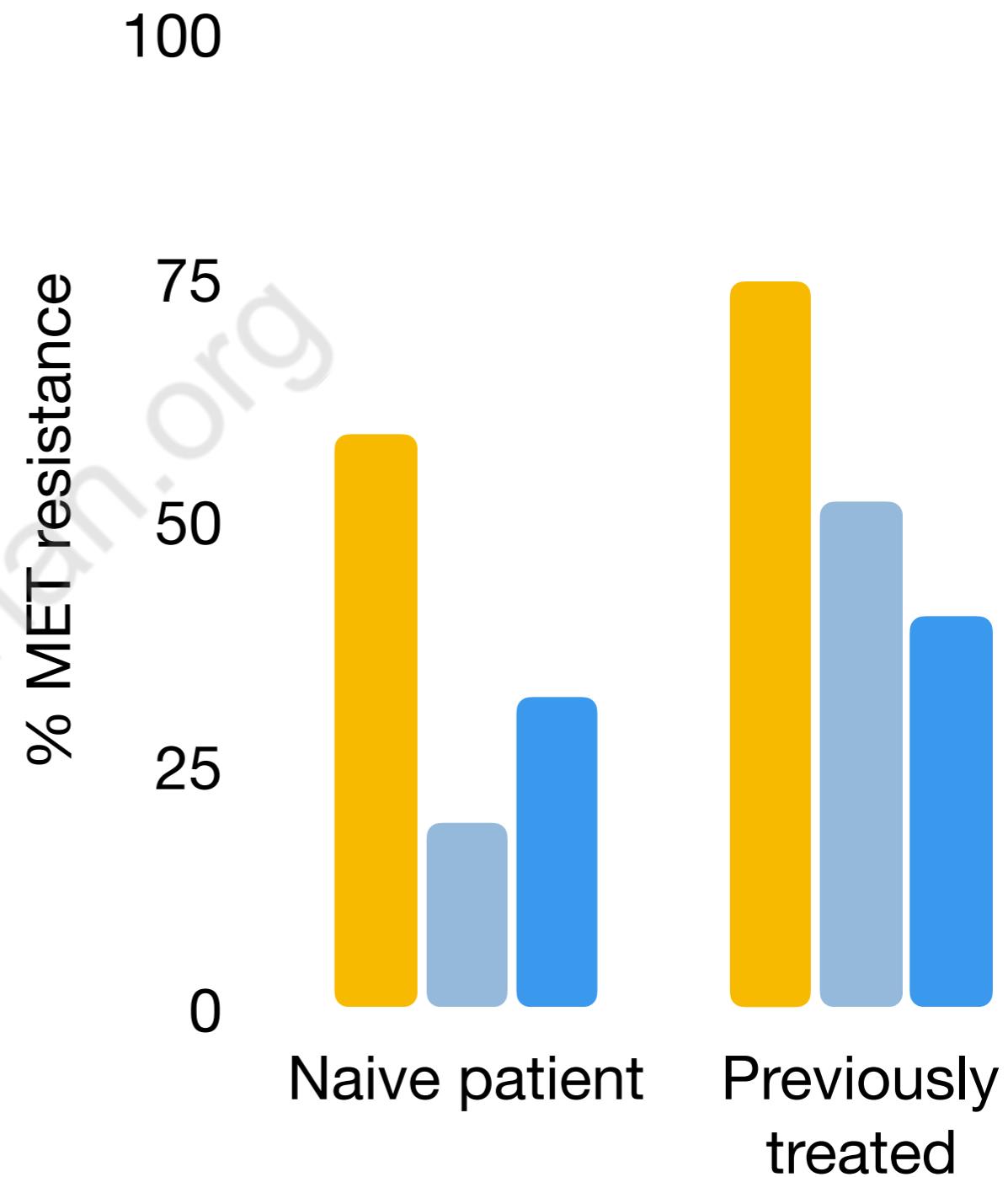
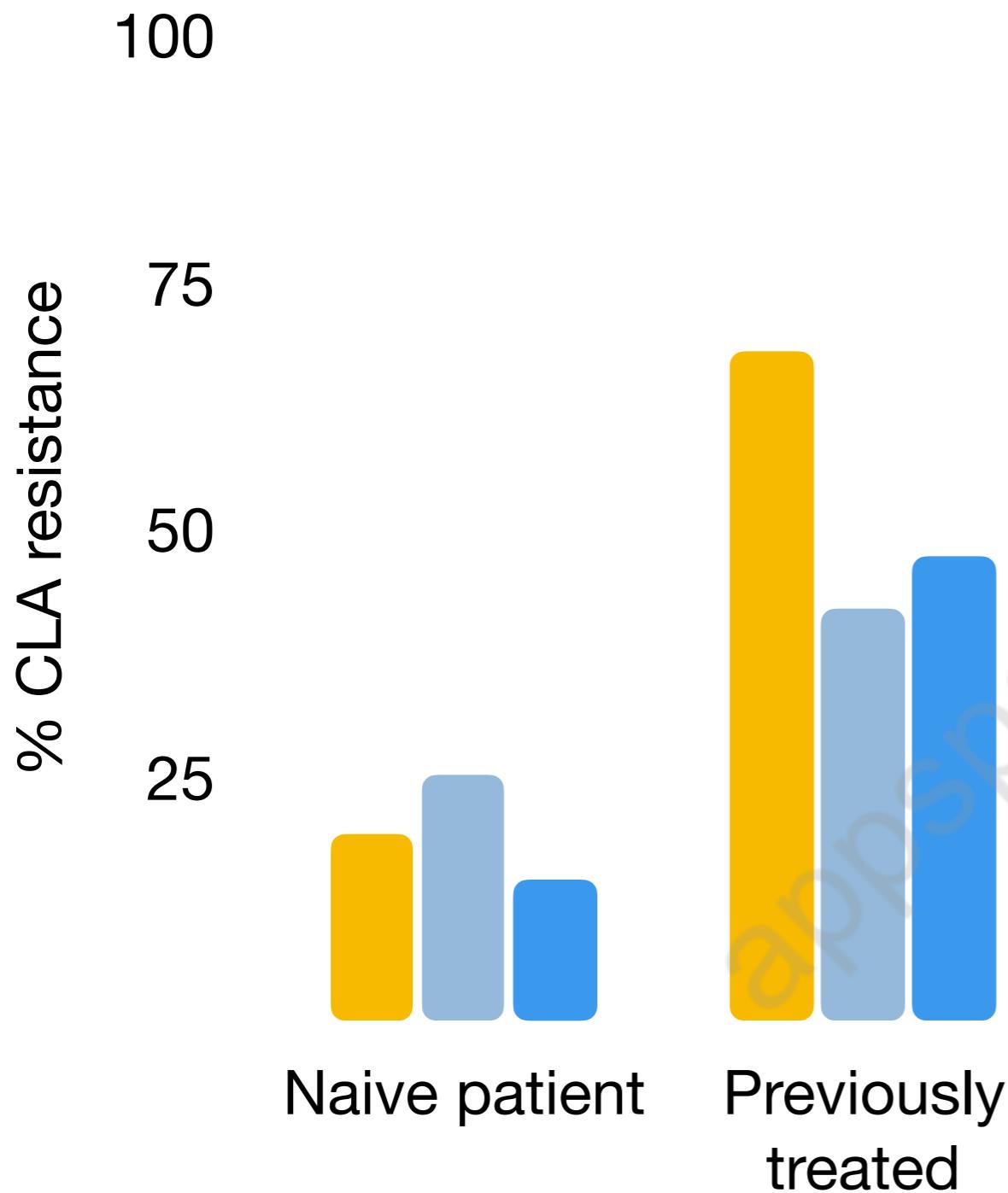


Pressure use



Miendje Deci VY, et al. J Clin Microbiol **2011**;49:2200-9.

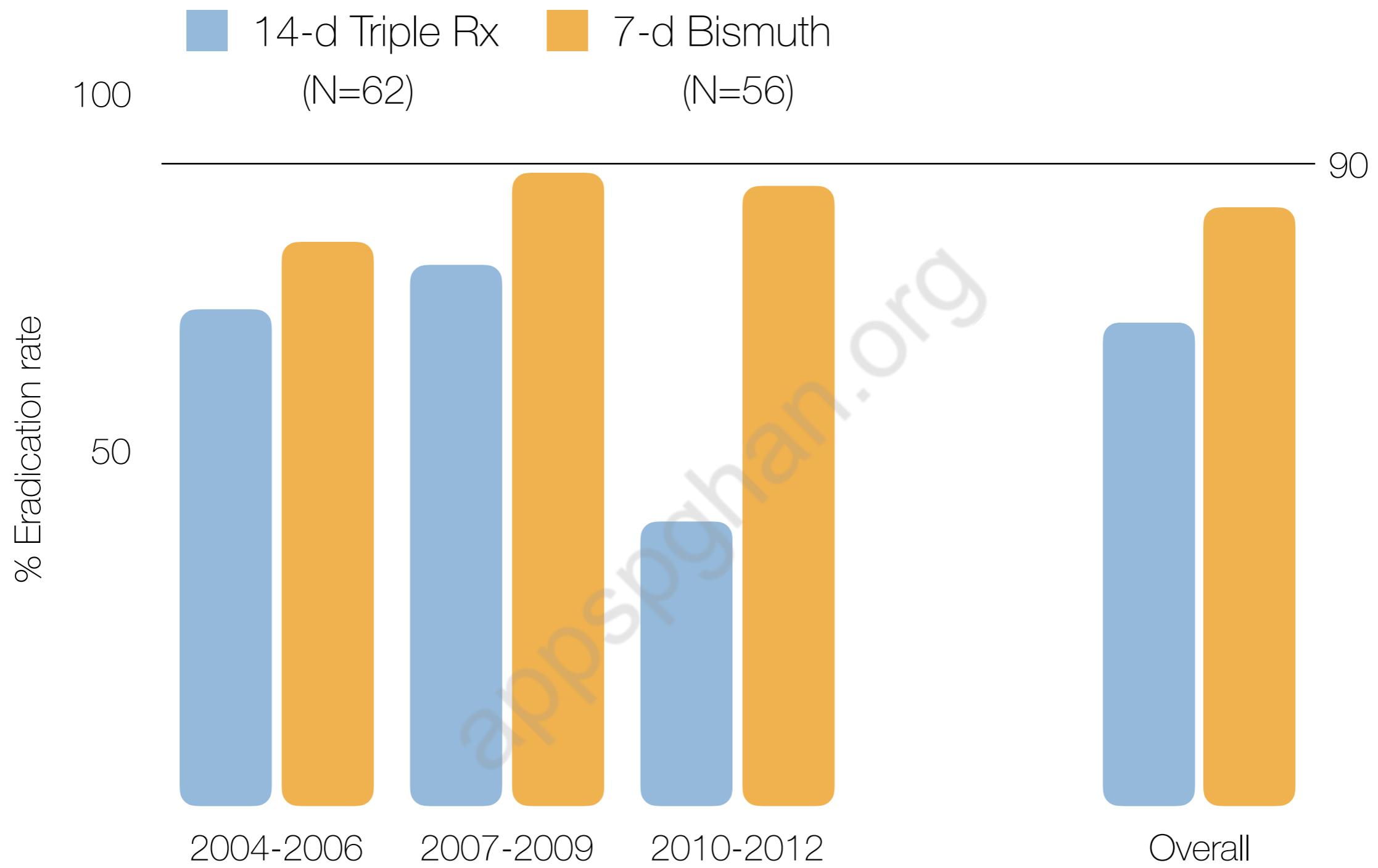
France Israel Belgium



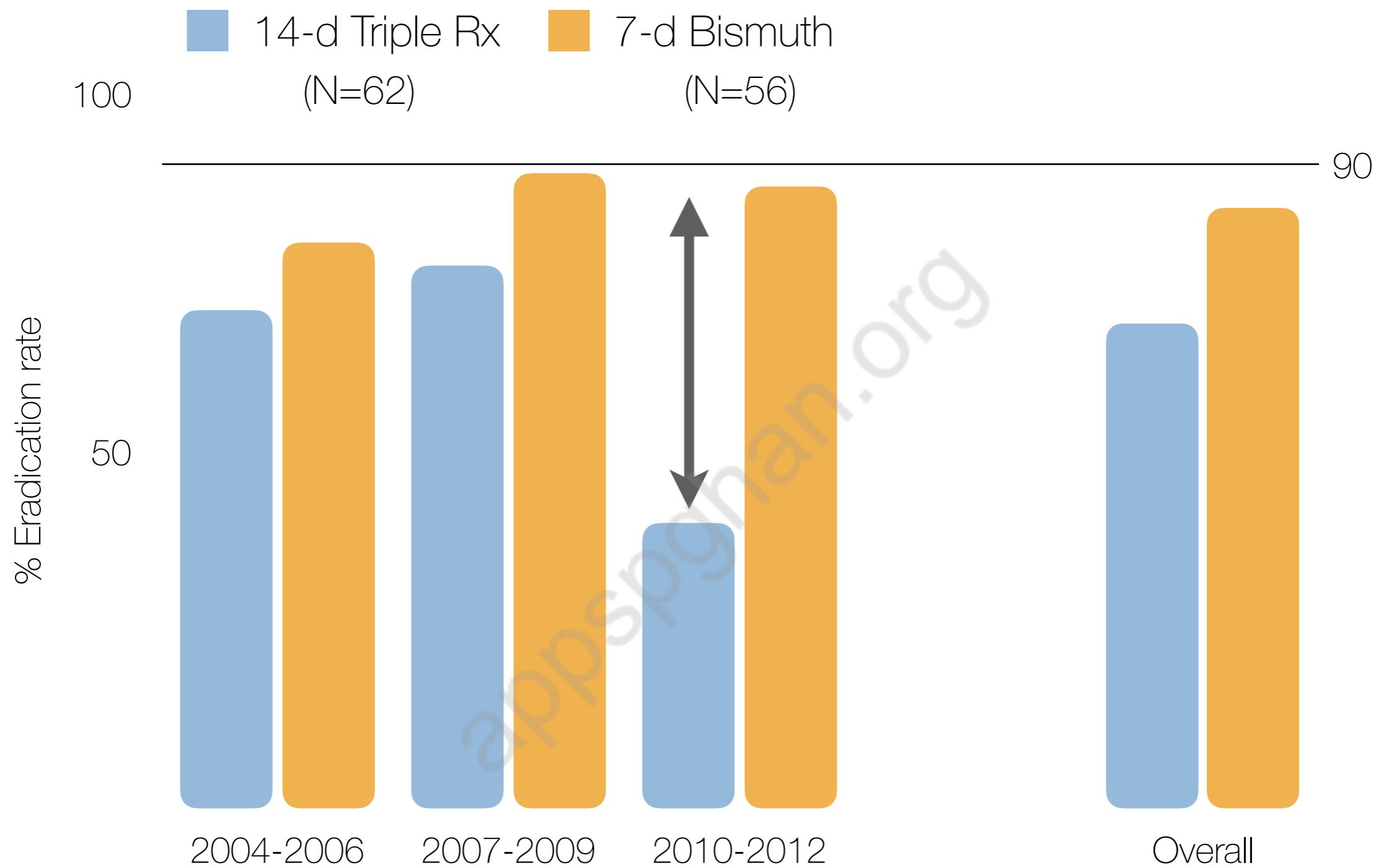
Raymond J, et al. Helicobacter **2010**;15:21-7.
Zevit N, et al. Scand J Gastroenterol **2010**;45:550-5.
Miendje Deci VY, et al. J Clin Microbiol **2011**;49:2200-9.

Therapeutic options

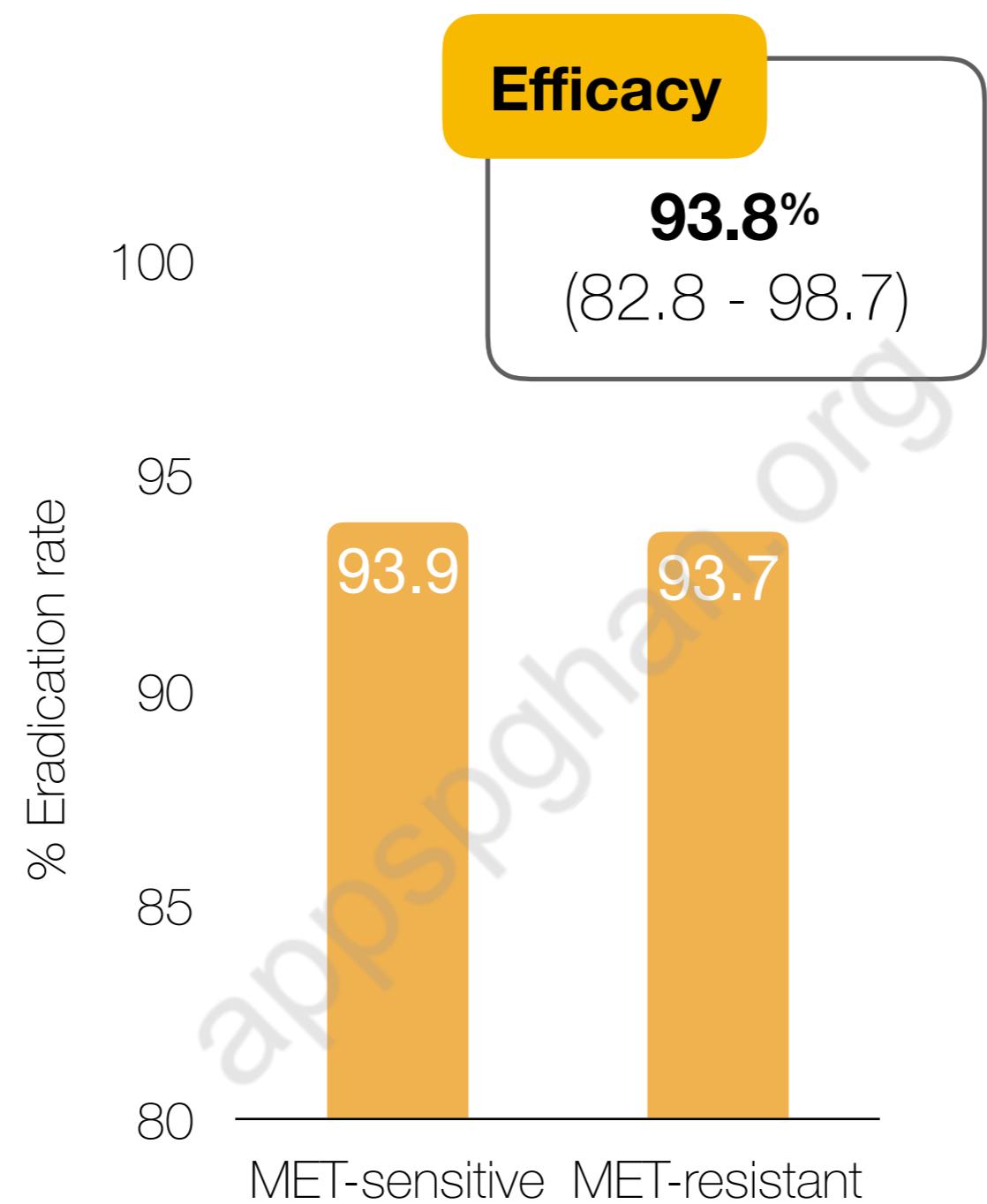
- Triple therapy : PPI-AMO-**CLA/MET**
- High-dose triple therapy : PPI-**AMO**-CLA/MET
- Bismuth-based quadruple therapy : PPI-AMO/**TETRA**-MET-**Bismuth**
- Concomitant quadruple therapy : PPI-AMO-CLA-MET
- Quinolone-based triple therapy : PPI-AMO-**LEVOFLOX**
- Sequential therapy : 5-d PPI-**AMO** followed by 5-d PPI-**CLA-MET**



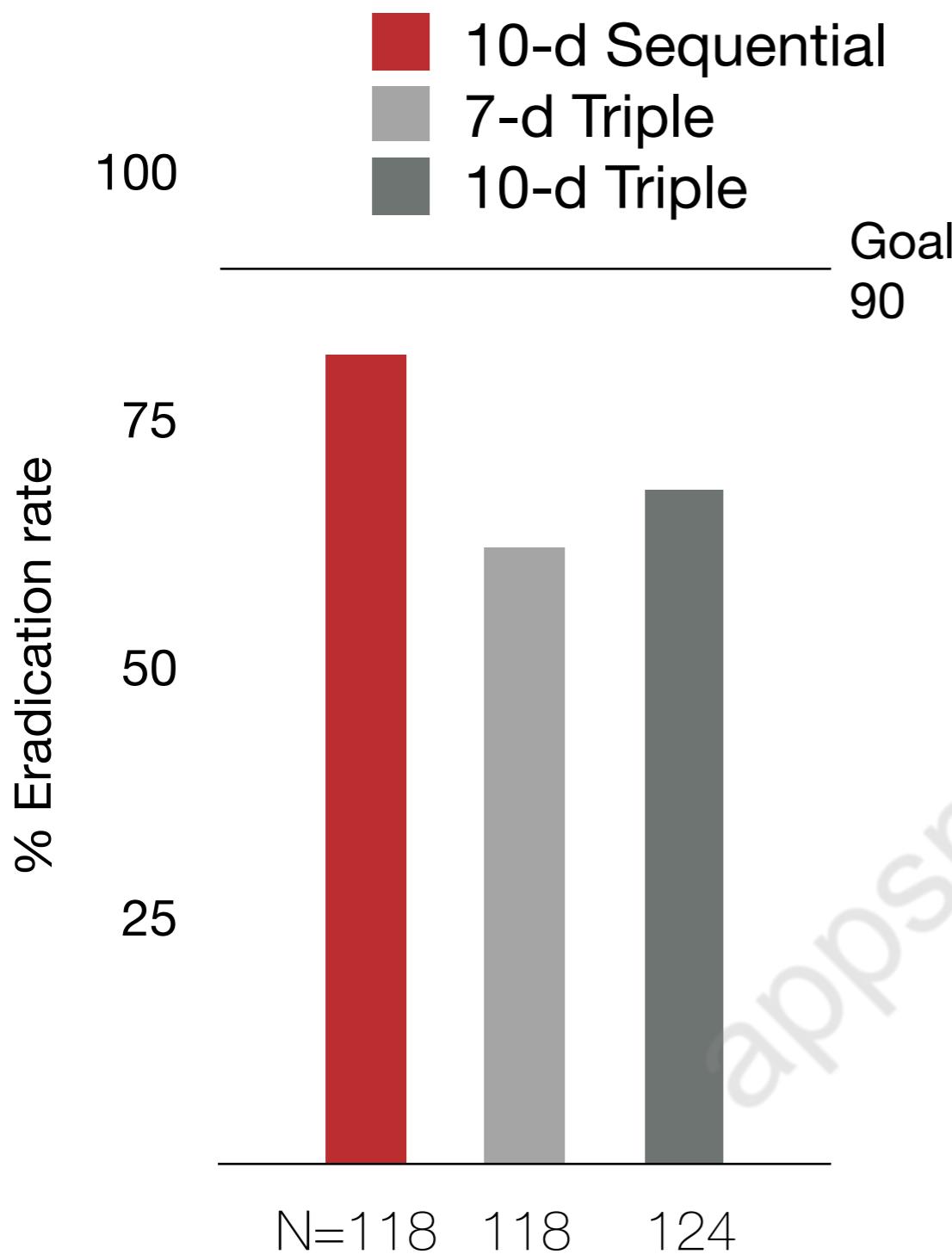
Hong J and Yang HR. Pediatr Gastroenterol Hepatol Nutr **2012**;15:237-42.



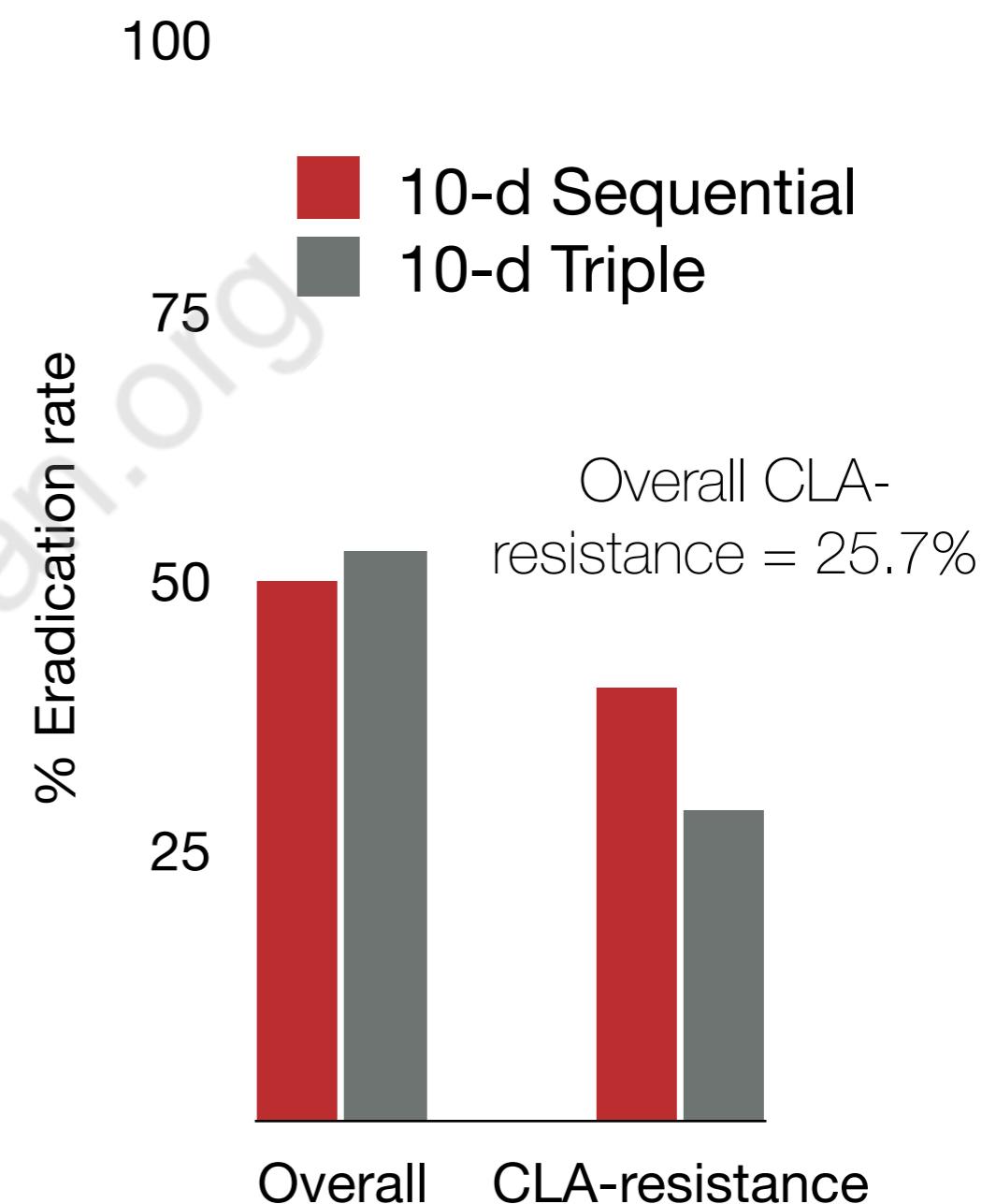
Hong J and Yang HR. Pediatr Gastroenterol Hepatol Nutr **2012**;15:237-42.



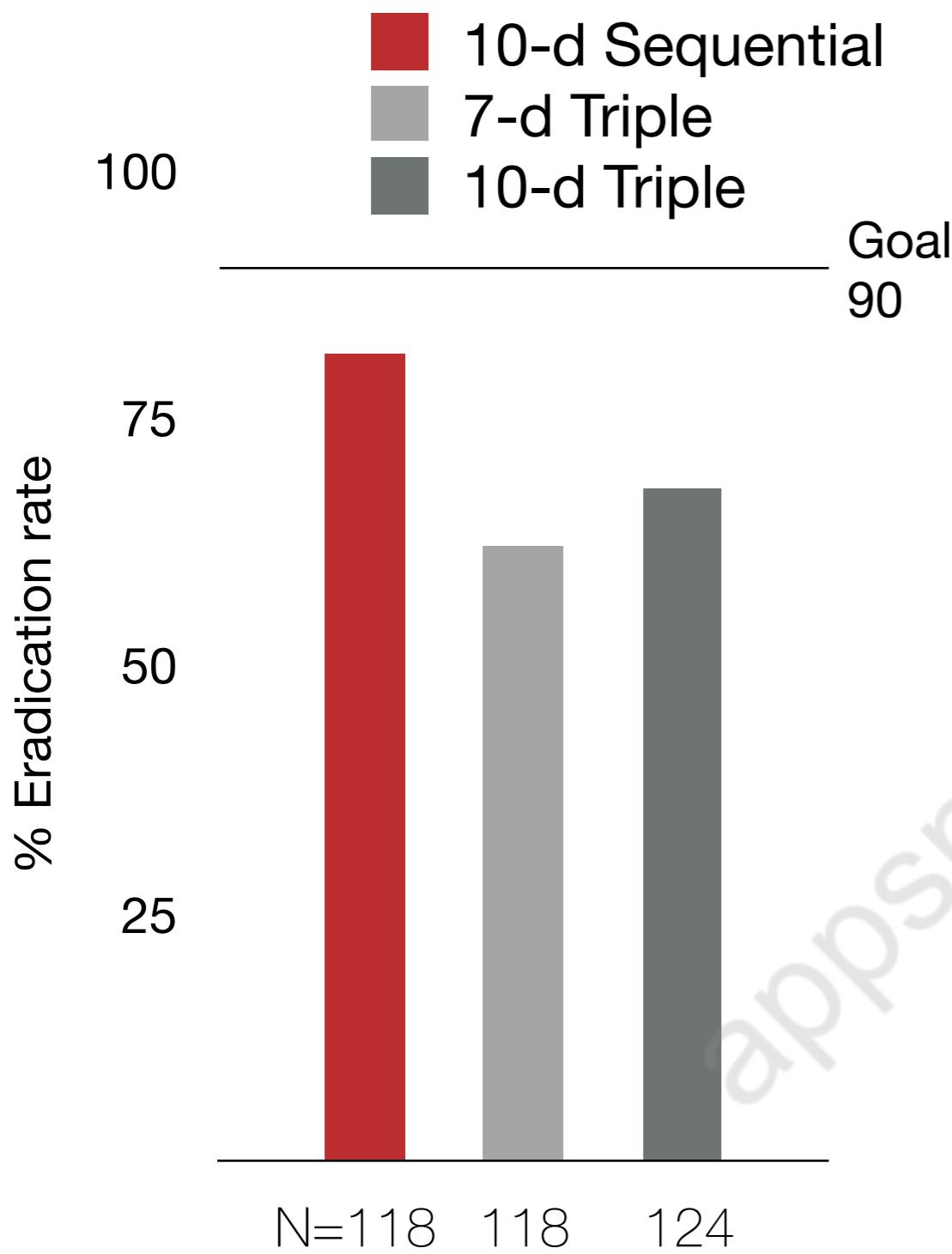
Delchier JC, et al. Aliment Pharmacol Ther **2014**;40:171-7.



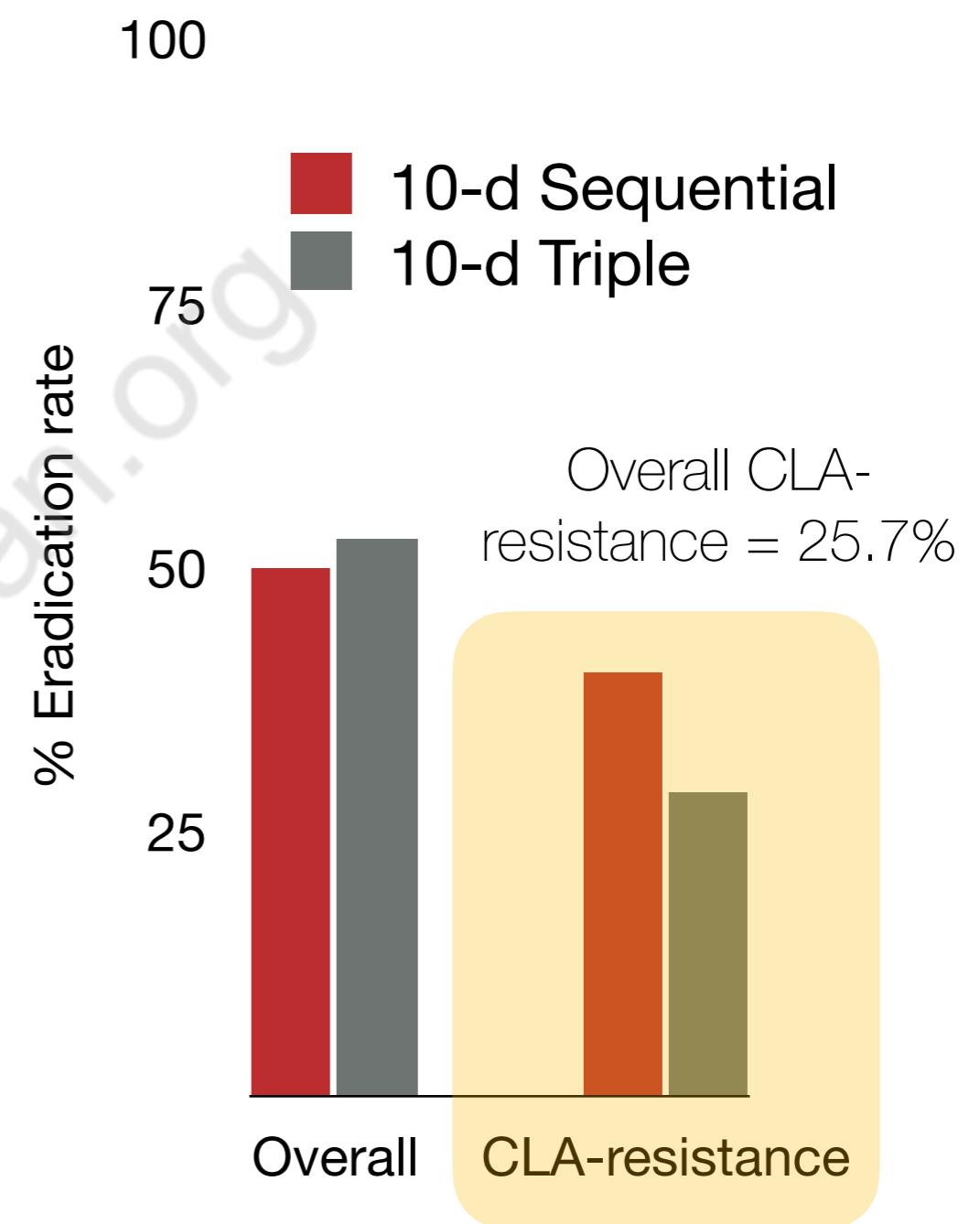
Huang J, et al. Aliment Pharmacol Ther
2013;38:1230-5.



Kutluk G, et al. Eur J Gastroenterol Hepatol
2014;26:1202-8.



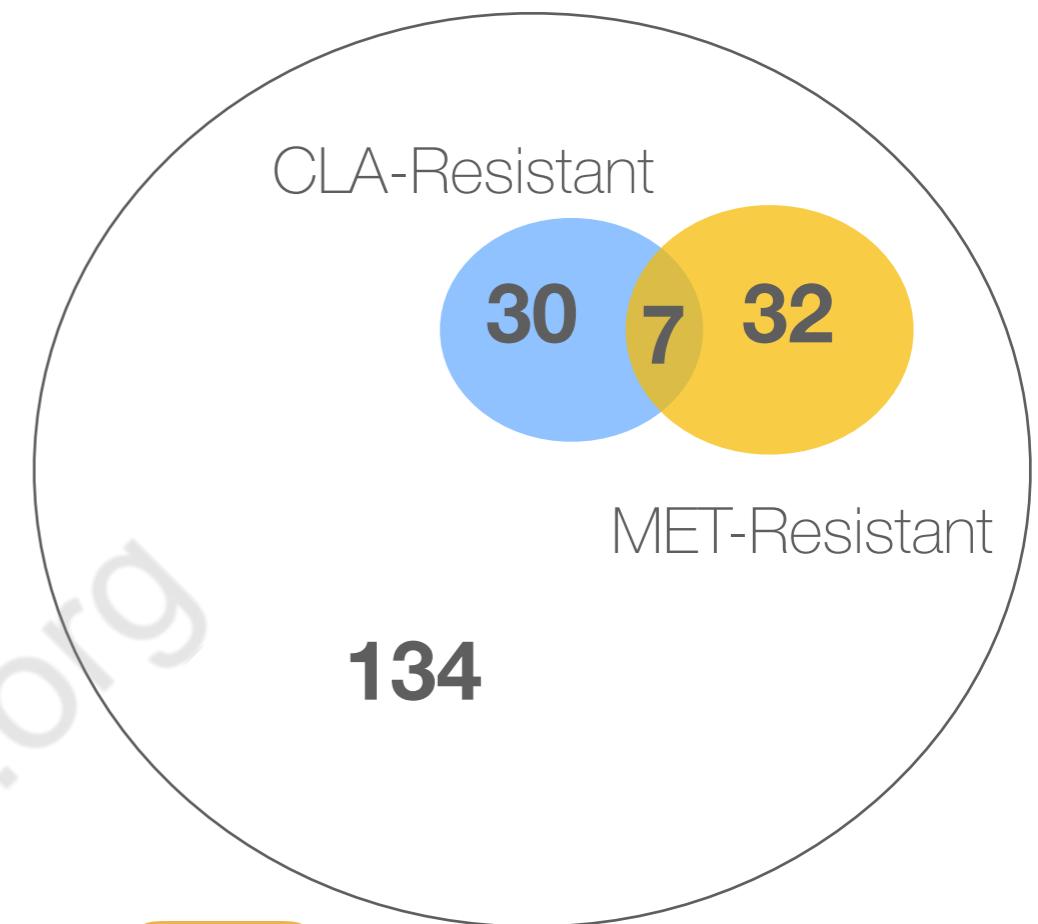
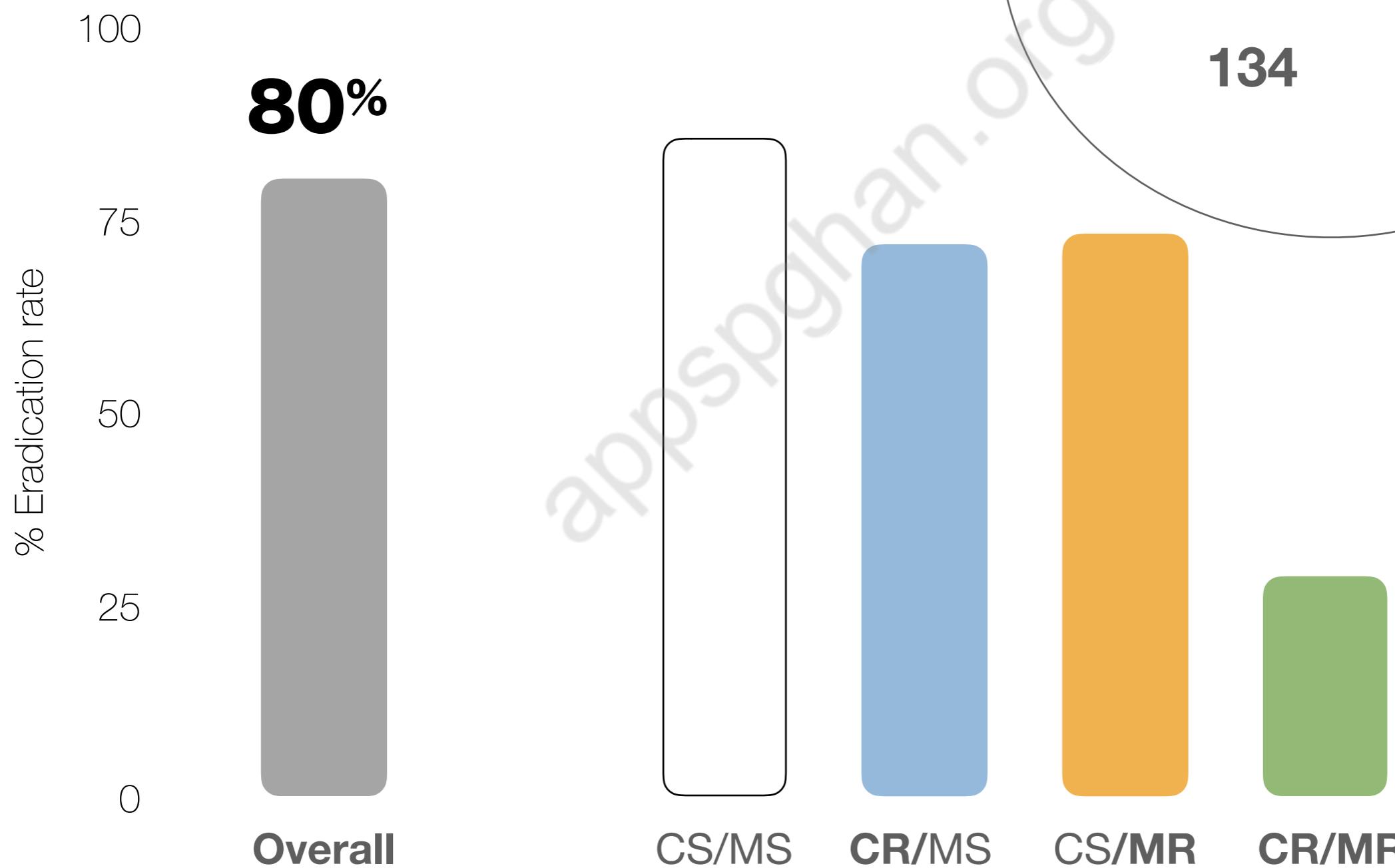
Huang J, et al. Aliment Pharmacol Ther
2013;38:1230-5.



Kutluk G, et al. Eur J Gastroenterol Hepatol
2014;26:1202-8.

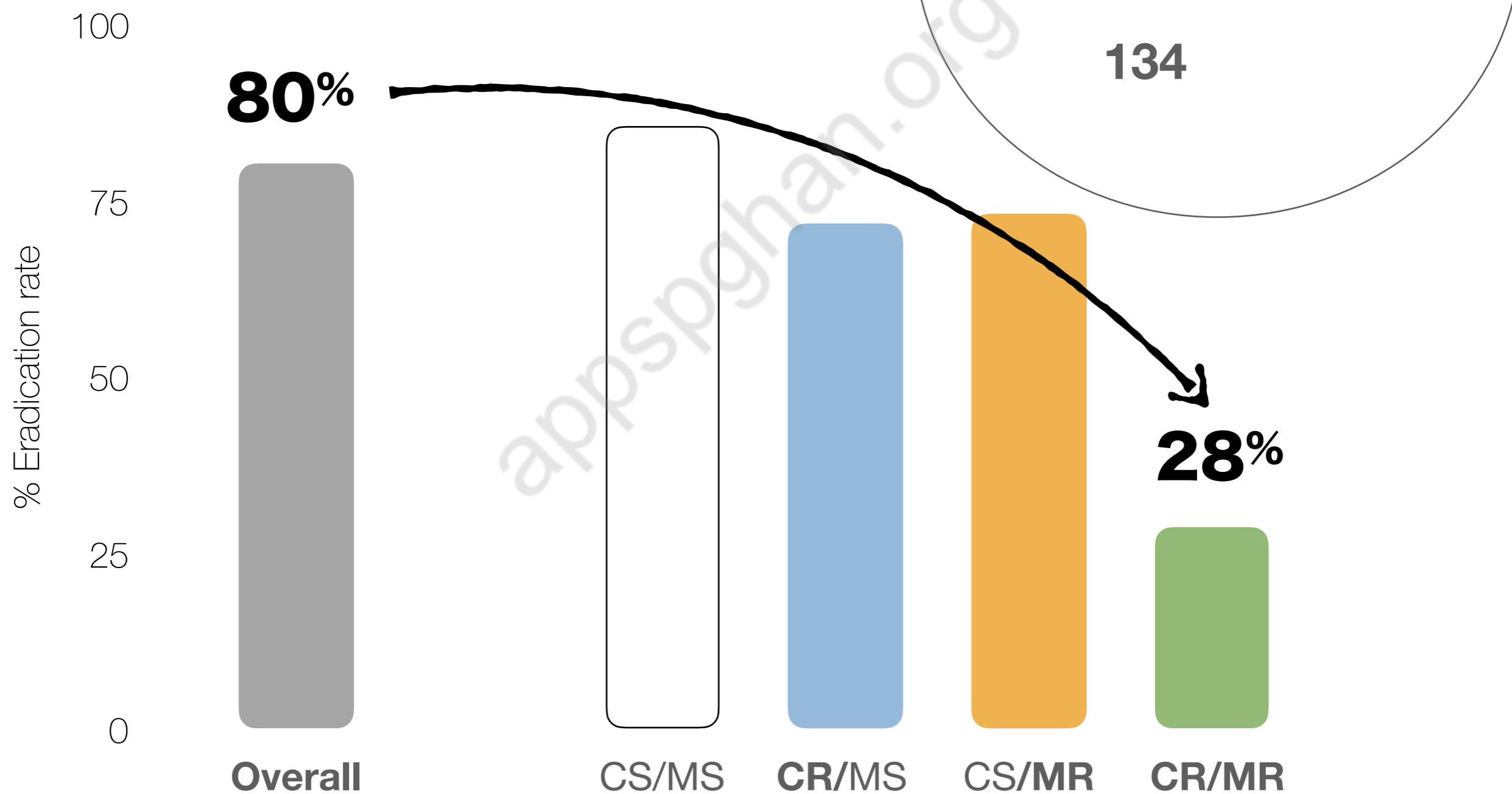
10-d Sequential therapy

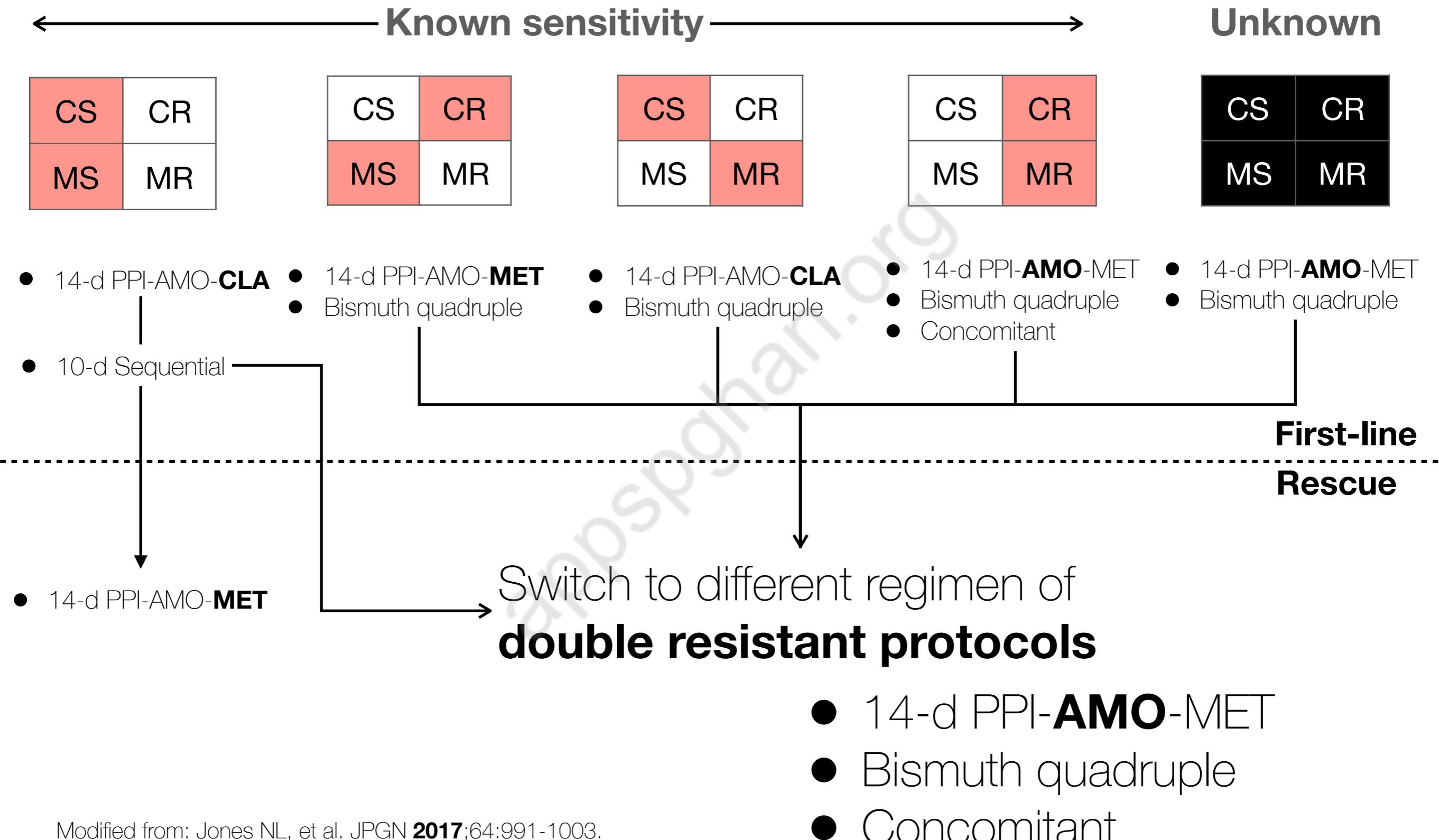
Schwarzer A, et al. Helicobacter 2015;21:106-13.



10-d Sequential therapy

Schwarzer A, et al. Helicobacter 2015;21:106-13.





Modified from: Jones NL, et al. JPGN 2017;64:991-1003.

Drug	Body weight (kg)	Morning dose (mg)	Evening dose (mg)
Omeprazole/Esomeprazole	15-24	20	20
	25-34	30	30
	>35	40	40
Amoxicillin	15-24	500/750	500/750
	25-34	750/1000	750/1000
	>35	1000/1500	1000/1500
Clarithromycin	15-24	250	250
	25-34	500	250
	>35	500	500
Metronidazole	15-24	250	250
	25-34	500	250
	>35	500	500
Bismuth	15-24		
	<10 years	262 QID	
	>10 years	524 QID	

Hp eradication **10-14 d**

S	Recommend
H	QoE

Cont. PPI
2-4 wk

2 and 4 wk a/f
PPI and ABO

Resistant to

CLA MET

Suggested protocol (14 d)

N	N	PPI+AMO+CLA
Y	N	PPI+AMO+MET or Bismuth-based
N	Y	PPI+AMO+CLA or Bismuth-based
Y	Y	PPI+(high dose) AMO+MET or Bismuth-based [§]
Unknown		PPI+ AMO+MET or Bismuth-based [§]

[§] or concomitant therapy

Jones NL, et al. JPGN **2017**;64:991-1003.

¹³C-UBT/sAg

**Success
eradication**

No

Re-treat

	NASPGHAN 2000	NASPGHAN/ESPGHAN 2011	NASPGHAN/ESPGHAN 2016
14 statements		21 statements	16 statements
Endoscopically Hp-positive PUD	✓	✓	✓
Hp w/ RAP/FAP	✗	✗	✗
Hp w/ FHx of gastric cancer	✗	±	Not addressed
Refractory IDA	Not addressed	±	±
Chronic ITP	Not addressed	Insuff. data	±
Short stature	Not addressed	Insuff. data	✗