Reflusso Duodeno Gastro Esofageo e Prevenzione

PROF PAOLA IOVINO

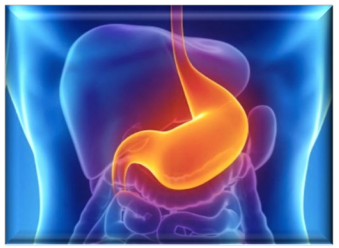
GASTROENTEROLOGIA

UNIVERSITÀ DI SALERNO

What is BILE reflux?

When the material produced by the pancreas and the liver gets into the duodenum, it is mixed with duodenal fluid and form a solution that contains also bile

Basnayake C APT 2021

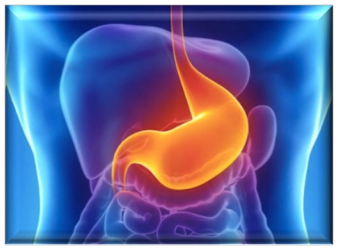


What is GERD?

When this solution gets into the stomach and then up into the esophagus,

It is called BILE REFLUX.

Basnayake C APT 2021



What is BILE reflux?

Bile reflux is ALSO named

DUODENO-GASTRO-ESOPHAGEAL REFLUX

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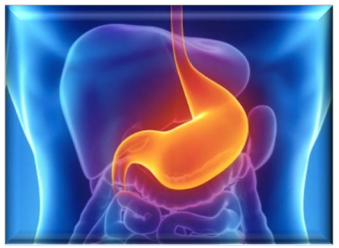
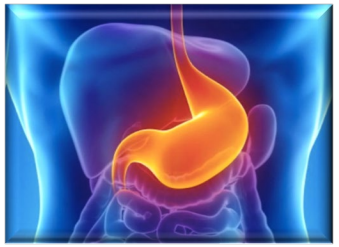
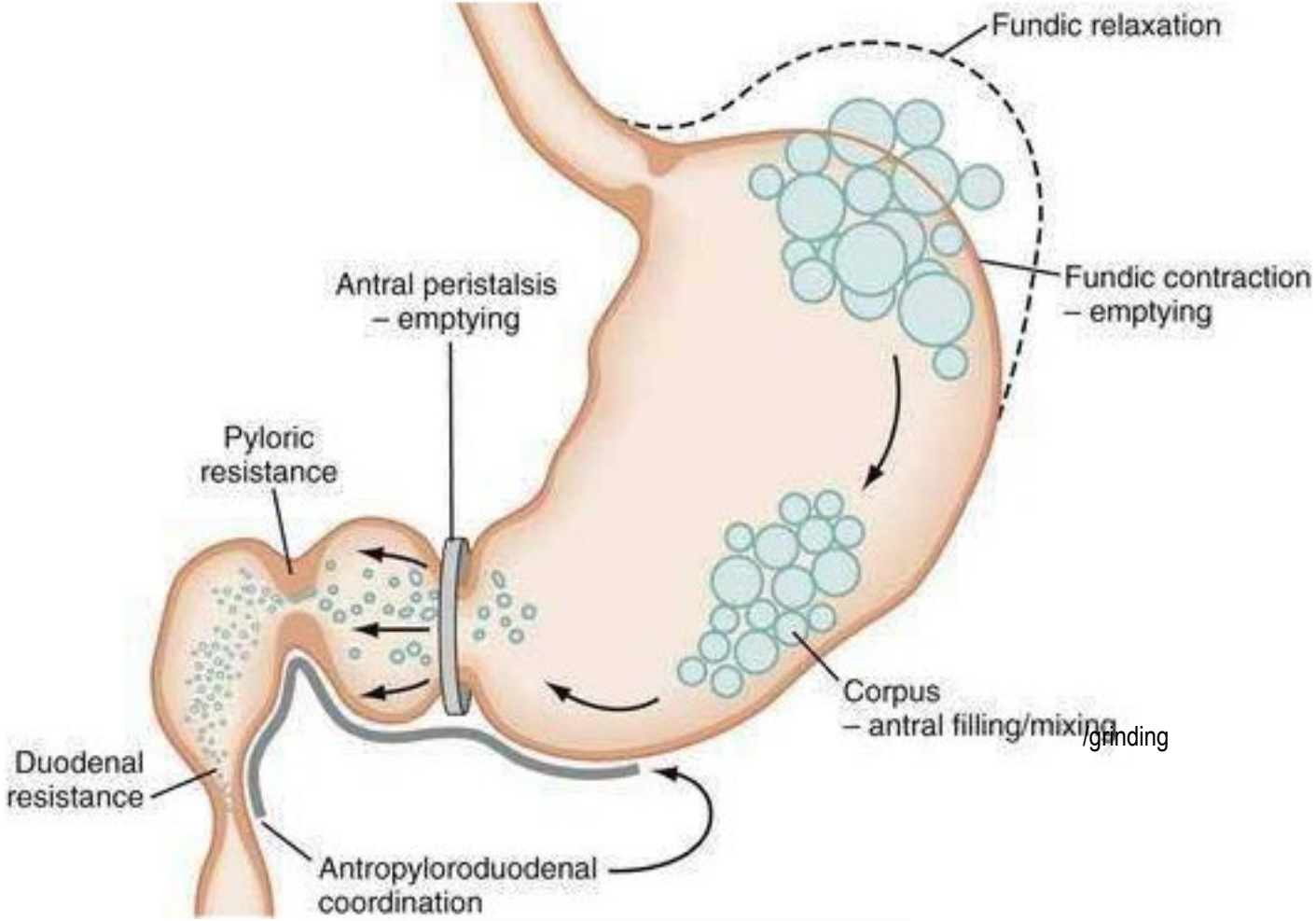


Normally, there is always a certain amount of duodeno-pancreatic secretion that goes into the stomach, most commonly at night and postprandially. In the stomach, this solution is mixed with gastric content, which is, most of the time, acid.

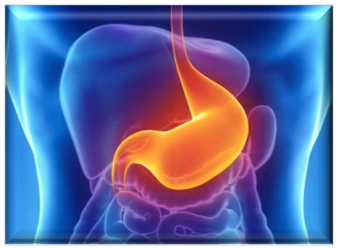
Keaneetal. 1981; Sonnenbergetal. 1982; Thompson 1982; Heading 1983; Muller-Lissner 1983),




Fundic relaxation
Fundic contraction
– emptying
Antral peristalsis
– emptying
Pyloric
resistance
Corpus
– antral filling/mixing
/grinding
Duodenal
resistance
Antropyloroduodenal
coordination

What is GERD?

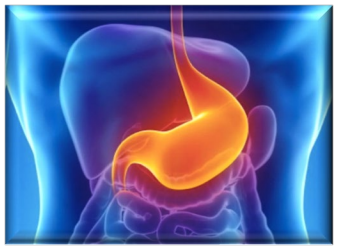
Reflux of gastric contents to the esophagus is a physiological event: a healthy person typically has reflux episodes.



What is GERD?

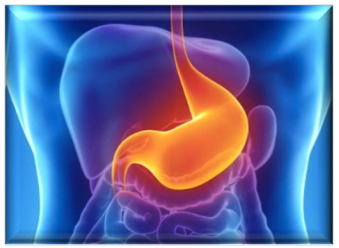
GERD is a condition which develops when the reflux of stomach contents causes troublesome symptoms and/or complications

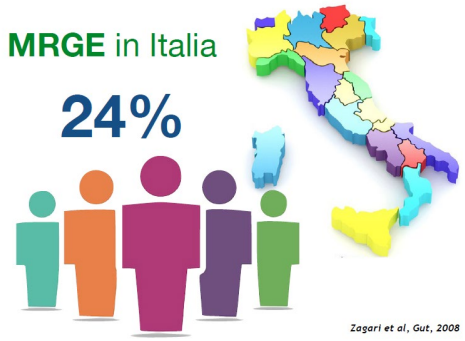
Vakil N et al. *Am J Gastroenterol*, 2006



‘troublesome symptoms’ = MODERATE-SEVERE symptoms that occur more than once a week

Vakil N et al. *Am J Gastroenterol*, 2006





The Montreal Definition and Classification of GERD
Vakil,2006

La MRGE è una condizione che si sviluppa quando un reflusso di contenuto gastrico causa sintomi o complicanze fastidiosi

Sindrome esofagea

Sindrome sintomatica

- Sindrome tipica da reflusso
- Sindrome da reflusso con dolore toracico

Sindrome con danno esofageo

- Esofagite
- Stenosi
- Es. Barrett
- AdenoCa esofageo

Sindrome extraesofagea

Associazione stabilita

- Tosse da reflusso
- Laringite da reflusso
- Asma da reflusso
- Erosione dentale da reflusso

Associazione ipotizzata

- Faringite
- Sinusite idiopatica
- Fibrosi polmonare idiopatica
- Otite media ricorrente

How is bile reflux distinguished from acidic reflux?

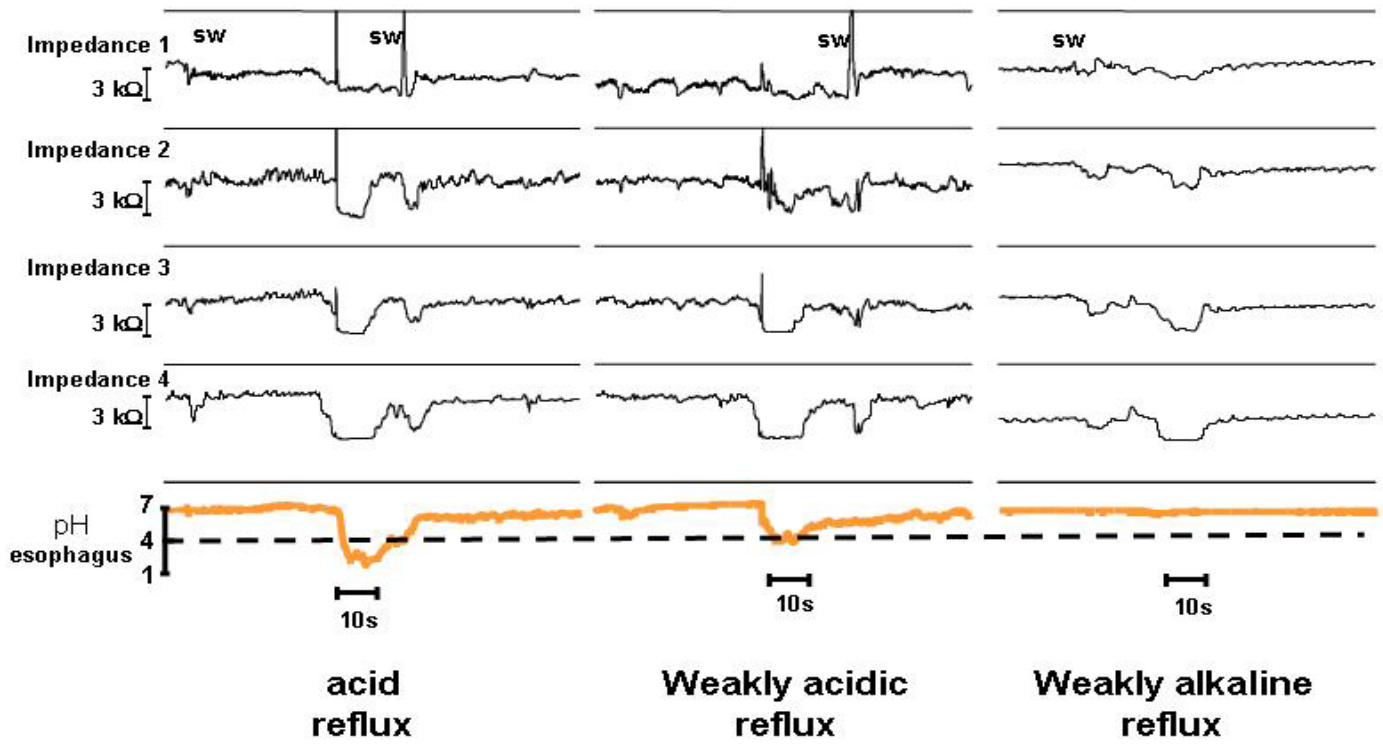
- It is not possible to distinguish BILE REFLUX from ACIDIC REFLUX in terms of signs and symptoms.

Other than acidic reflux, are there any conditions with which bile reflux can be confused?

Bile reflux ≠ nonacidic reflux

- ✓ **Nonacidic reflux is a type of refluxate that can be recognized only by pH-impedance monitoring.**
- ✓ **Nonacidic reflux might or might not contain bile.**
- ✓ **Bile is more often associated with acidic gastric juice than with a nonacidic component of gastric contents.**

Patterns of esophageal reflux



Sifrim et al 2004

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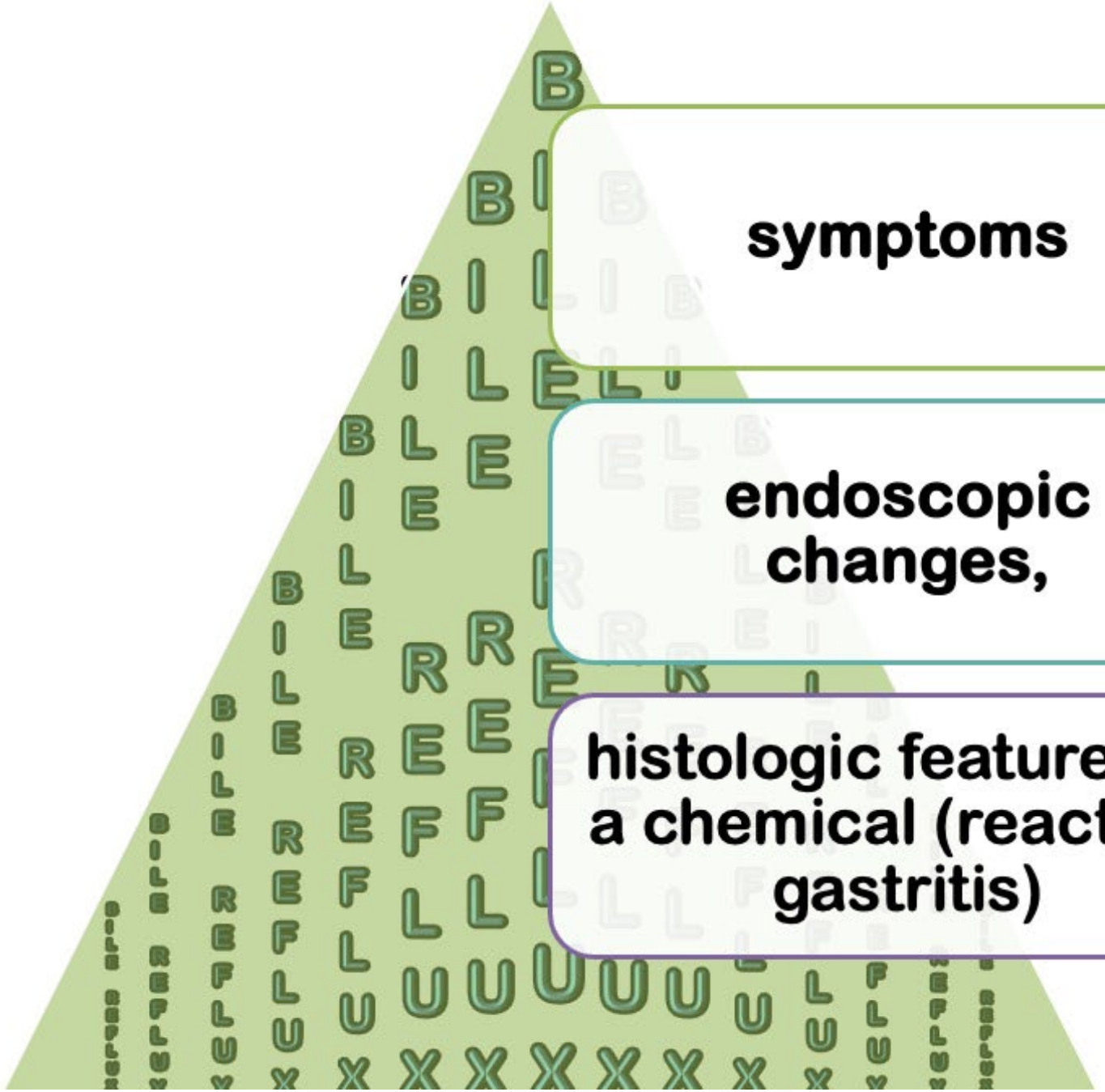
Basnayake C APT 2021



symptoms

endoscopic changes,

histologic features of a chemical (reactive) gastritis)

Method	Advantages	Disadvantages
Endoscopy	• Easy visualization	• Poor sensitivity/specificity of bile • Positive predictive value • Requires sedation • High cost
Aspiration studies	• Less invasive than endoscopy • No sedation • Low cost	• Short duration of study • Requires familiarity with enzymatic assay for BA
Scintigraphy	• Noninvasive	• Semiquantitative at best • Radiation exposure • High cost
pH monitoring	• Easy to perform • Relatively noninvasive • Prolonged monitoring • Ambulatory	• pH >7 not a marker for DGER • Not specific for DGER
Bilirubin monitoring (Bilitec)	• Easy to perform • Relatively noninvasive • Prolonged monitoring • Ambulatory • Good correlation with gastric BA concentrations	• Current design underestimates DGER by ~30% in acidic medium (pH <3.5) • Requires modified diet

BA = bile acid.

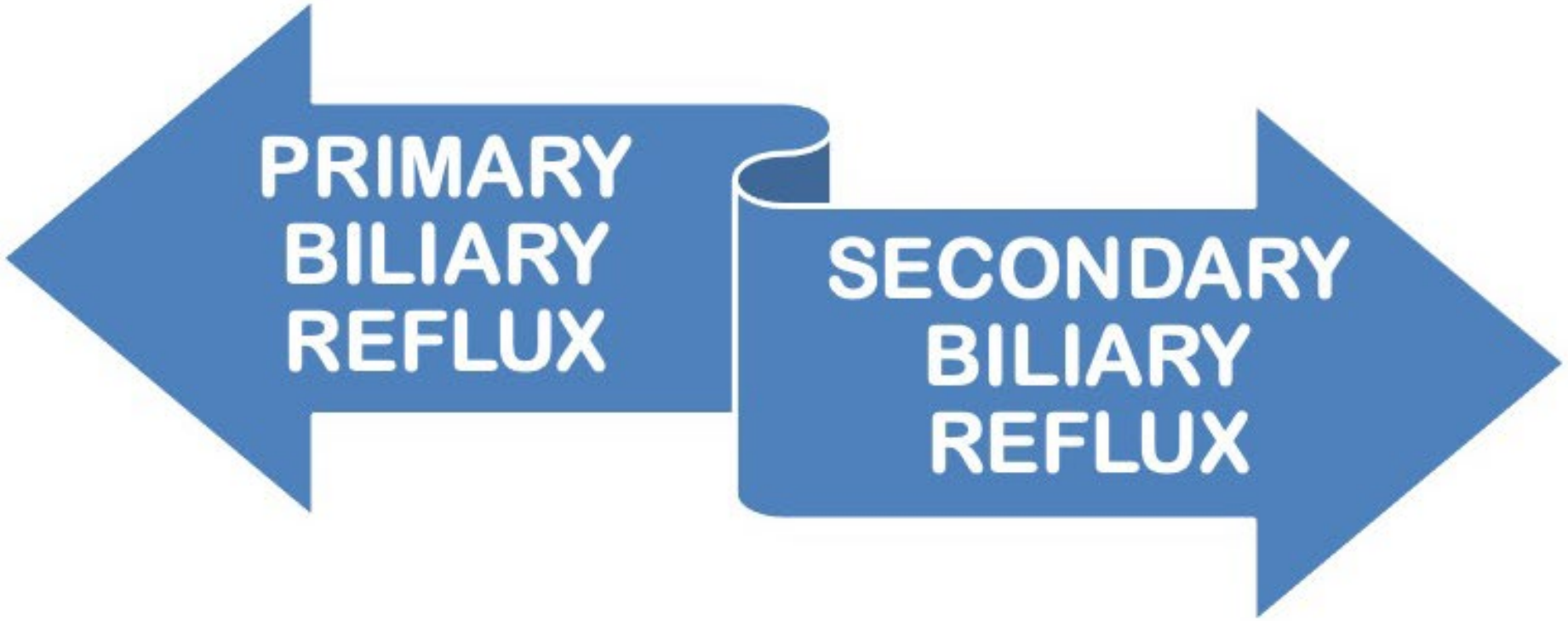
Vaezi and Richter Am J Med. 2001

Findings Gastritis	Grade	Grade 0	Grade 1	Grade 2	*P* value
Residual food	Grade 0	180 (49.0%)	84 (23.0%)	12 (3.3%)	NS (0.6732)
	Grade 1	19 (5.0%)	8 (2.2%)	2 (0.5%)	
	Grade 2	20 (5.4%)	13 (3.6%)	2 (0.5%)	
	Grade 3	10 (2.7%)	4 (1.1%)	2 (0.5%)	
	Grade 4	0 (0.0%)	1 (0.3%)	0 (0.0%)	
Extent of gastritis	Grade 0	136 (77.7%)	0 (0.0%)	0 (0.0%)	<0.0001
	Grade 1	0 (0.0%)	60 (16.4%)	7 (1.9%)	
	Grade 2	0 (0.0%)	50 (13.7%)	10 (2.7%)	
	Grade 3	0 (0.0%)	0 (0.0%)	1 (0.3%)	
Bile reflux	Grade 0	237 (64.9%)	95 (26.0%)	15 (4.1%)	NS (0.6732)
	Grade 1	18 (4.9%)	15 (4.1%)	3 (0.8%)	

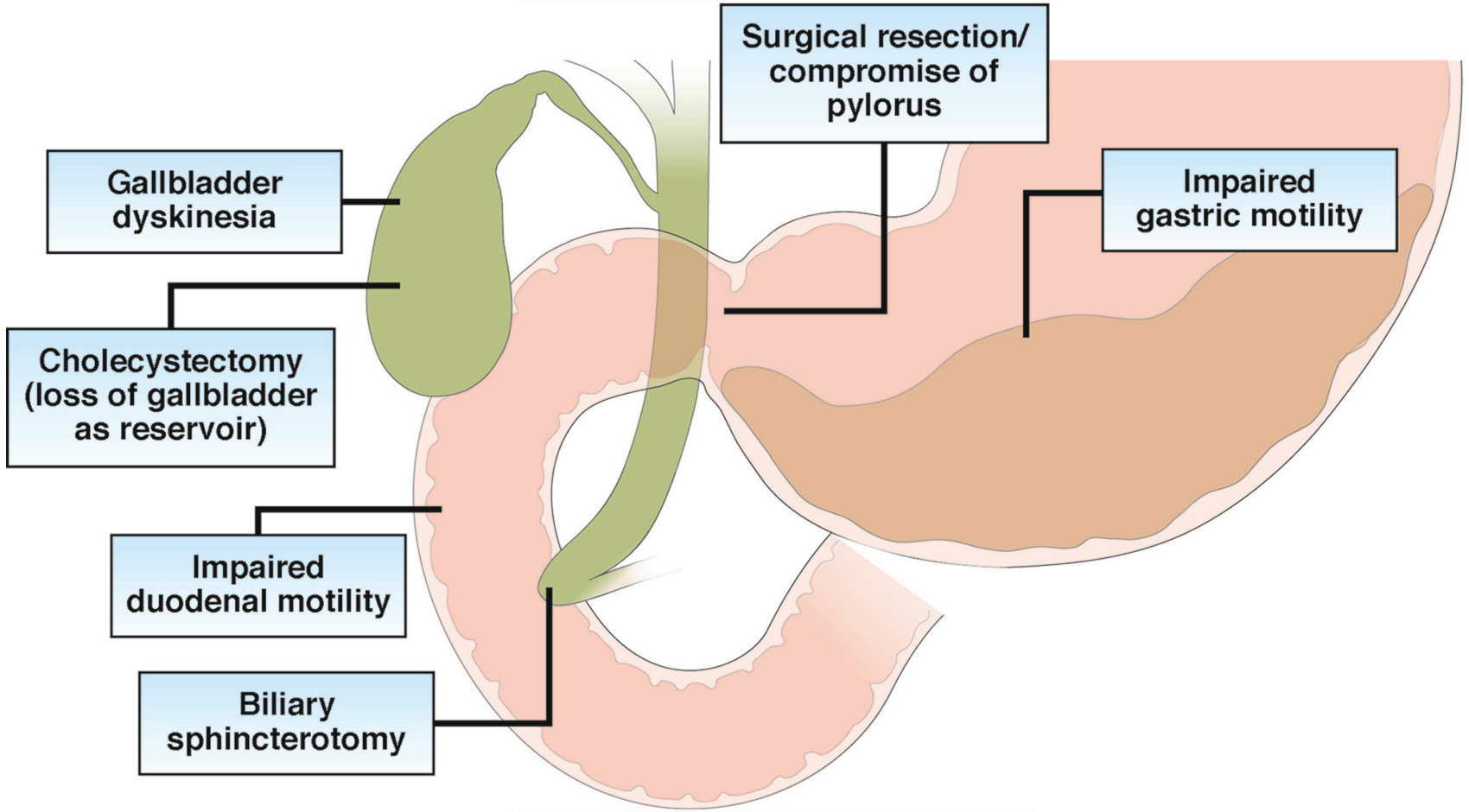
NS, Not significant

Kubo M et al Gastric Cancer (2002) 5: 83–89

In consideration of all of these difficulties in evaluating the functional state of the residual stomach by endoscopy alone, it seems that any attempt to determine the grade of gastritis with visual indices alone is an impossible



McCabe 4TH ME & Dilly CK CGH 2018



McCabe 4TH ME & Dilly CK CGH 2018

Table 1 Initial reconstruction, interval, and location of remnant gastric cancer based on primary disease

Ref.	Primary disease	No. of patients	Initial reconstruction (B-Ⅰ/B-Ⅱ/R-Y)	Interval (yr)	Location (Stomal/non-stomal)
Tanigawa *et al*[8] 2002	Benign	20	7/13	25.8	8/12
	Cancer	27	18/9	10.6	3/24
An *et al*[22] 2007	Benign	25	-	28.6	16/9
	Cancer	13	-	18.8	7/6
Ohashi *et al*[23] 2007	Cancer	108	71/28[1]	7.5	14/94
Schaefer *et al*[24] 2007	Benign	19	1/18	34.0	11/8
Ahn *et al*[25] 2008	Benign	13	0/13	32.4	12/1
	Cancer	45	6/38[1]	6.8	23/21
Firat *et al*[26] 2009	Benign	26	0/26	32.0	16/10
Ojima *et al*[27] 2010	Benign	17	12/5	22.0	8/9
	Cancer	21	16/5	9.0	2/19
Mezhir *et al*[5] 2011	Benign	105	B-Ⅱ: 97	32.0	72/33
Komatsu *et al*[28] 2012	Benign	19	4/15	30.0	9/10
	Cancer	14	12/1[1]	12.0	2/12
Li *et al*[29] 2013	Benign	88	28/60	32.1	55/33
	Cancer	24	14/10	16.8	9/15
Tokunaga *et al*[30] 2013	Benign	89	23/66	31.0	46/43
	Cancer	78	59/17[1]	9.4	13/65
Leo *et al*[31] 2014	Benign	176	10/167	34.6	71/105

Ohira M World J Gastroenterol 2016

IJC
International Journal of Cancer

Gastric stump cancer after distal gastrectomy for benign gastric ulcer in a population-based study

Jesper Lagergren[1,2], Anna Lindam[1] and Robert M. Mason[3]

[1] Upper Gastrointestinal Research, Department of Molecular Medicine and Surgery, Karolinska Institutet, Stockholm, Sweden
[2] Division of Cancer Studies, King's College London, London, United Kingdom
[3] Department of Surgery, St. Thomas' Hospital, London, United Kingdom

In conclusion, this large population based study revealed

- **a prevalence 140/ 18912 (0.74%) of remnant gastric cancer**
- **an increased risk of cancer in the gastric remnant only 30 years or longer after gastric resection for benign disease, whereas other factors did not influence this risk.**

2012

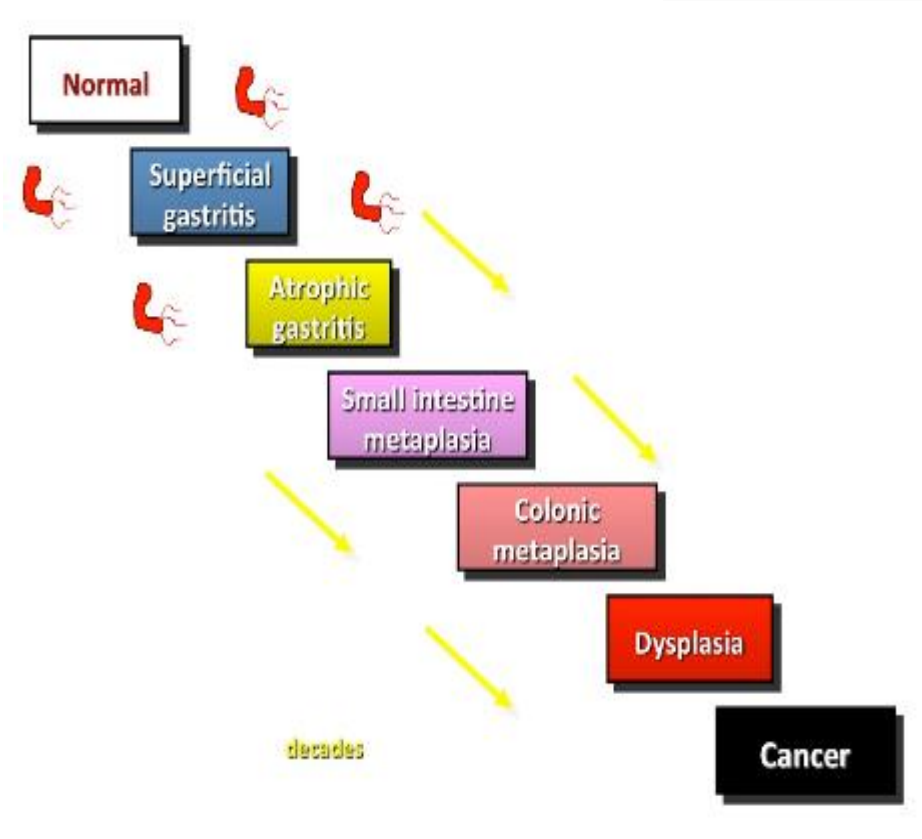
Chronic damage attributed to duodenogastric reflux

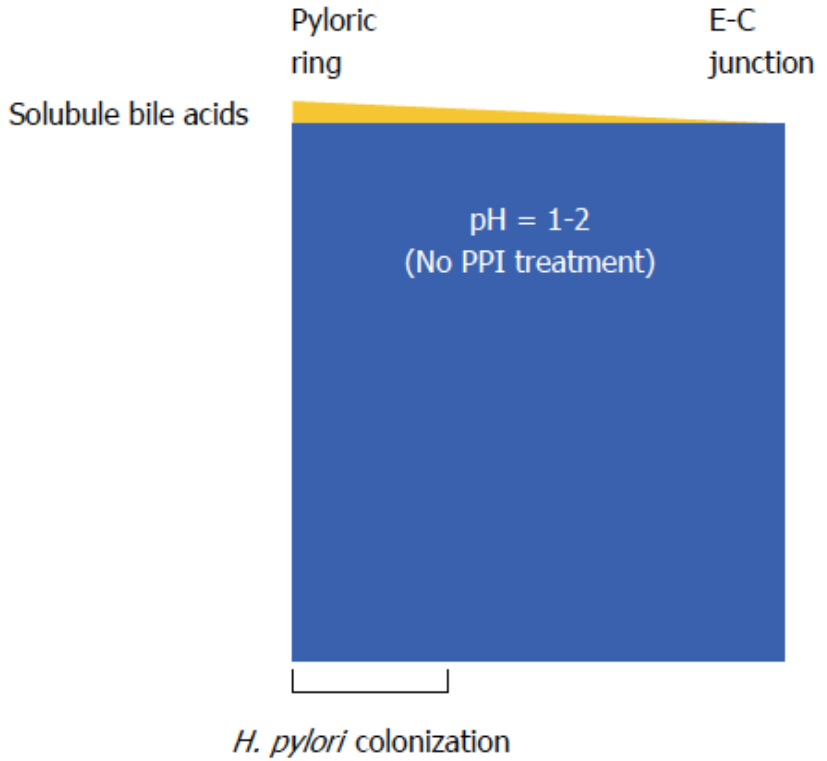
is

one of

the main factors responsible for changes affecting remnant gastric mucosa after distal gastrectomy

Miwa K et al Carcinogenesis 1992;
Kondo K et al Carcinogenesis 1995;
Kondo K et al Gastric Cancer 2002;





Mukaisho et WJG 2014

- bile acids are chemorepellents for H. pylori

Worku ML et al J Med Microbiol 2004

- an inverse relationship exists between bile reflux and the presence of H. pylori, which may account for the absence of H. pylori in the stomach with persistent biliary reflux

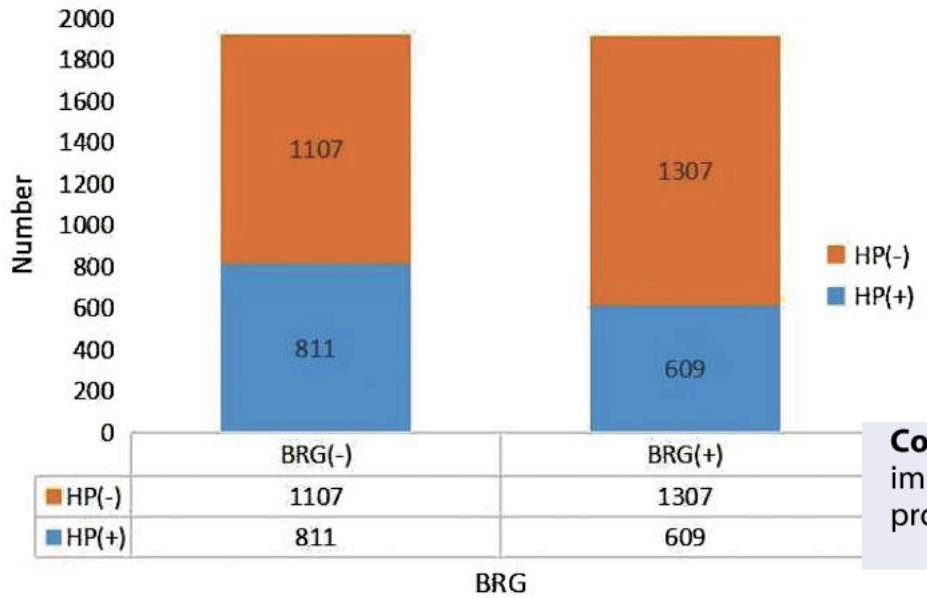
Thao TD et al Biochem Pharmacol 2008

Scandinavian Journal of Gastroenterology
2022, VOL. 57, NO. 12, 1430–1434
https://doi.org/10.1080/00365521.2022.2094721

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/igas20

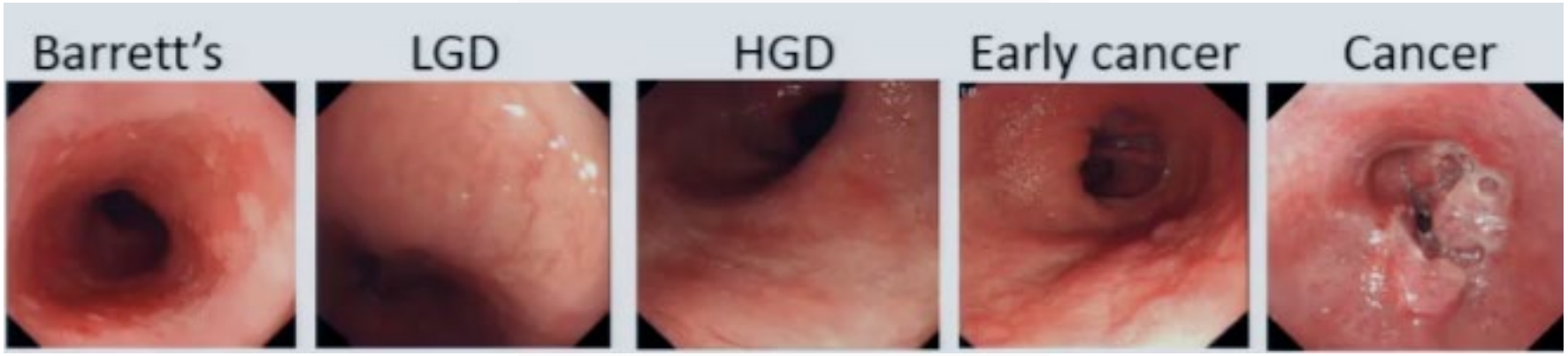
Negative correlations between bile reflux gastritis and *Helicobacter pylori* infection

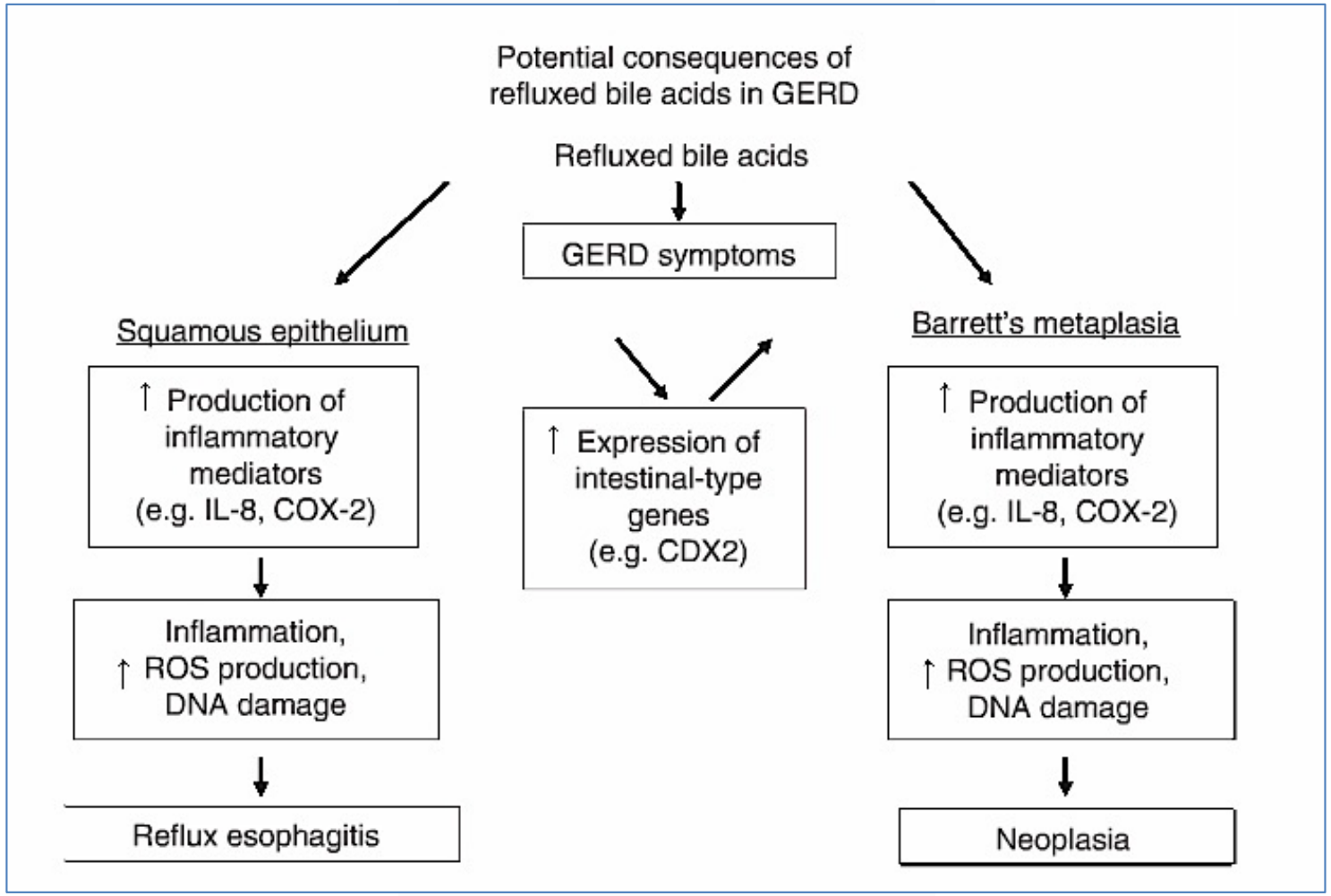
Xian-hua Zhuo, Jia-chen Sun, Wei-jie Zhong & Yi Lu



Conclusion: Patients with bile reflux may have less likely to get HP infection. HP eradication is an important thing for the prevention of gastric cancer and this study serves as a foundation and may provide directions for future research.

Which is the impact of bile acids and bile salts on the esophageal mucosa and the development of Barrett's esophagus and cancer ?





McQuaid KR et al 2011

AP&T Alimentary Pharmacology & Therapeutics WILEY

Which therapy?

- **PPIs 9 studies**
- **Prokinetic agents 2 studies**
- **Histamine receptor antagonist 1 study**
- **Baclofen 1 study**

10 studies Bilitec 2000 as the device to measure bile reflux, 3 studies used a sodium ion electrode.

Systematic review: duodenogastroesophageal (biliary) reflux prevalence, symptoms, oesophageal lesions and treatment

Chamara Basnayake[1,2] | Annelies Geeraerts[1] | Ans Pauwels[1] | Ger Koek[3] | Michael Vaezi[4] | Tim Vanuytsel[1] | Jan Tack[1]

Only 1 study utilised a randomised controlled trial design

2021

Which therapy?

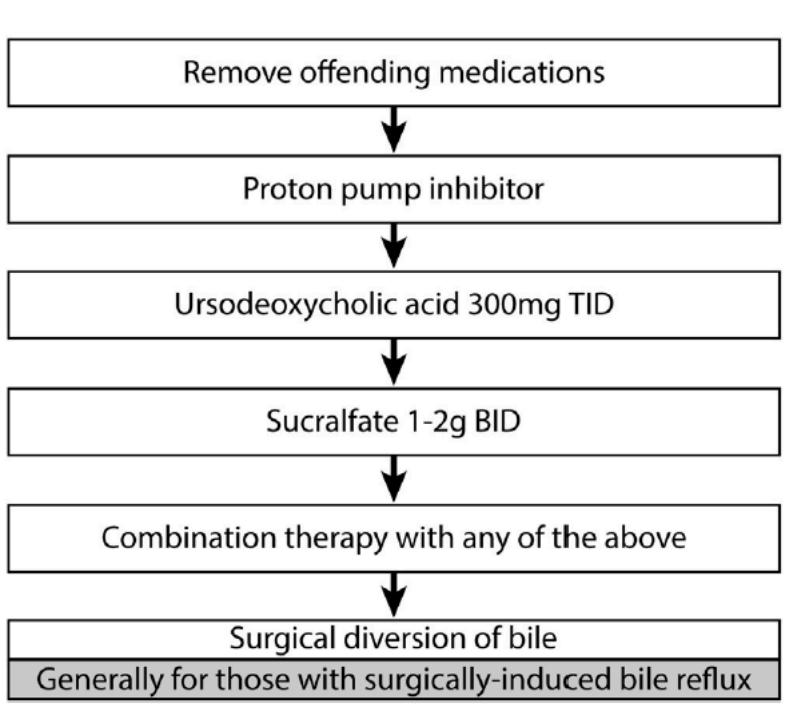


Figure 5. Proposed treatment algorithm.

McCabe 4TH ME & Dilly CK CGH 2018

Management advice for patients with reflux-like symptoms: an evidence-based consensus

Hungin, A. Pali[a]; Yadlapati, Rena[b]; Anastasiou, Foteini[c]; Bredenoord, Albert J.[d]; El Serag, Hashem[e]; Fracasso, Pierluigi[f]; Mendive, Juan M[g]; Savarino, Edoardo V.[h]; Sifrim, Daniel[i]; Udrescu, Mihaela[j]; Kahrilas, Peter J[k]

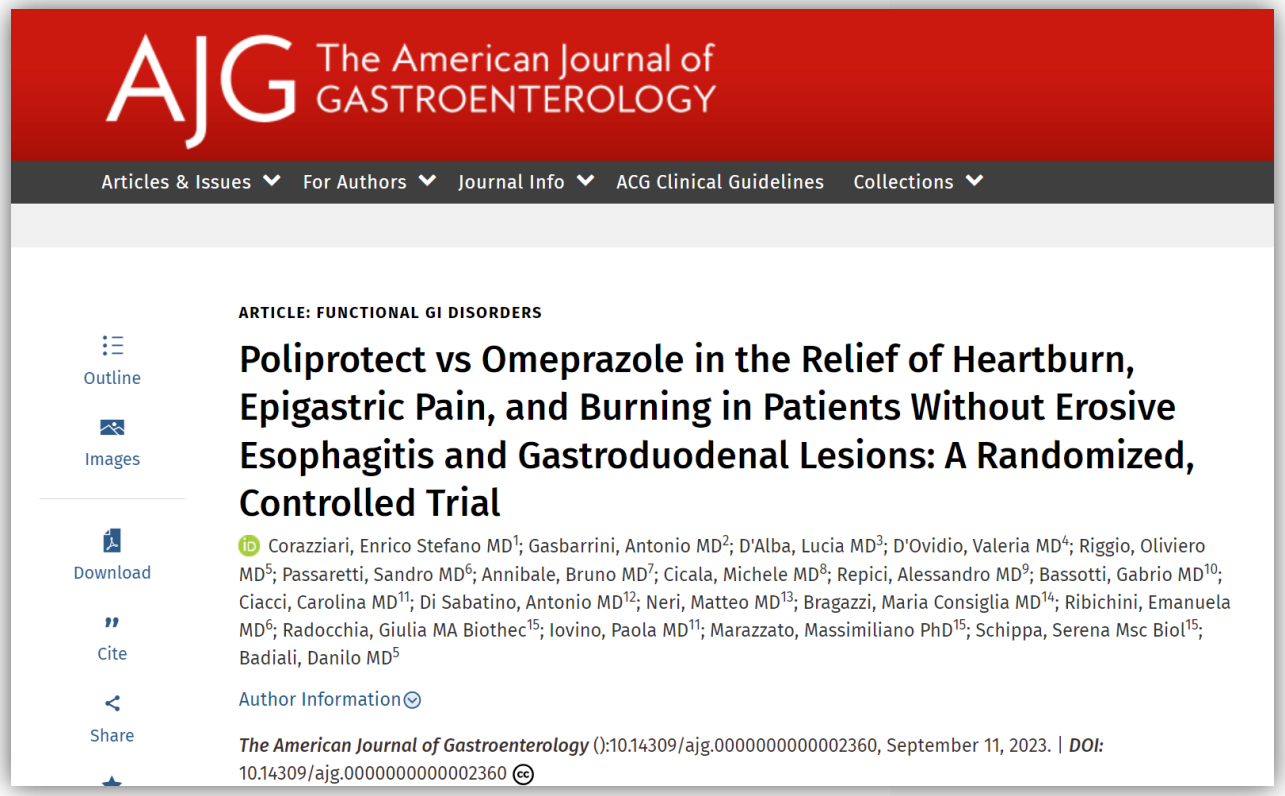
Author Information

European Journal of Gastroenterology & Hepatology 36(1):p 13-25, January 2024. | **DOI:** 10.1097/MEG.0000000000002682

Statement 18: Alginate-antacid combinations are an effective treatment for reflux-like symptoms. Agreement: 100% (6, 90.9%; 5, 9.1%; grade of evidence: A; strength of recommendation: high).

Statement 21: Products containing hyaluronic acid and chondroitin sulphate are an effective treatment option for reflux-like symptoms. Agreement: 81.8% (6, 82%; 5, 18%; grade of evidence: B; strength of recommendation: low).

PROTEZIONE DELLA MUCOSA: NUOVE EVIDENZE



AJG The American Journal of GASTROENTEROLOGY

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ARTICLE: FUNCTIONAL GI DISORDERS

Poliprotect vs Omeprazole in the Relief of Heartburn, Epigastric Pain, and Burning in Patients Without Erosive Esophagitis and Gastroduodenal Lesions: A Randomized, Controlled Trial

Corazziari, Enrico Stefano MD[1]; Gasbarrini, Antonio MD[2]; D'Alba, Lucia MD[3]; D'Ovidio, Valeria MD[4]; Riggio, Oliviero MD[5]; Passaretti, Sandro MD[6]; Annibale, Bruno MD[7]; Cicala, Michele MD[8]; Repici, Alessandro MD[9]; Bassotti, Gabrio MD[10]; Ciacci, Carolina MD[11]; Di Sabatino, Antonio MD[12]; Neri, Matteo MD[13]; Bragazzi, Maria Consiglia MD[14]; Ribichini, Emanuela MD[6]; Radocchia, Giulia MA Biothec[15]; Iovino, Paola MD[11]; Marazzato, Massimiliano PhD[15]; Schippa, Serena Msc Biol[15]; Badiali, Danilo MD[5]

Author Information

The American Journal of Gastroenterology ():10.14309/ajg.0000000000002360, September 11, 2023. | *DOI:* 10.14309/ajg.0000000000002360

prodotto 100 % naturale costituto da Poliprotect e da una frazione flavonoidica da Glycyrrhiza glabra and Matricaria recutita)

Poliprotect è costituito da:

- Frazione polisaccaridica aderente all'epitelio da *Aloe vera, Malva sylvestris* e *Althaea officinalis*
  per rafforzare la barriera epiteliale

- Componenti antiacidi dai minerali naturali limestone e nahcolite incorporati nella frazione polisaccaridica
  per tamponare l'acido sull'epitelio al quale aderisce

Is biliary reflux increased after OAGB?

there is still a long journey ahead of us.


S.I.C.OB.
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23 - 25 MAGGIO 2024
GIARDINI
NAXOS

Grazie