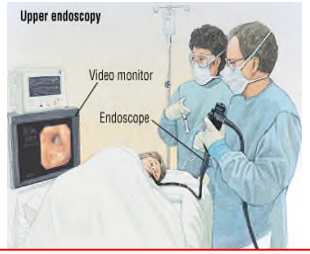


Quando è indicato richiedere test sierologici o accertamenti endoscopici ?

✓**Dispeptici con età < 55 anni, senza sintomi di allarme: Test and Treat**
✓**Controllo EGDS ogni 2-3 anni in C.A.G. e M.I.**

Maastricht IV 2012

Maastricht	MAPS Oporto	Maastricht IV Florence	Kyoto	China
				
Pepsinogens as ***"suggested"*** test	"Low serum pepsinogen levels ***can also predict precancerous conditions*** and, in such patients, Helicobacter pylori serology may also be useful for further detection of high risk individuals."	Pepsinogens are ***the best non invasive test*** to identify subjects at risk for gastric cancer	Serological tests ***(pepsinogen I and II and anti-H. pylori antibody)*** are useful for selecting subjects at high risk for gastric cancer. ***Consensus level=90%*** Eradication Hp in order to prevent gastric cancer	The Chinese society of digestive endoscopy, society of oncological endoscopy have given a consensus recommending serum screening for early gastric cancer by means of Gastropanel
2000	2011	2012	2014 Jan	2014 Jul

QUALI TESTS SIEROLOGICI SONO UTILI PER LO STUDIO DEL TRATTO DIGESTIVO SUPERIORE ?

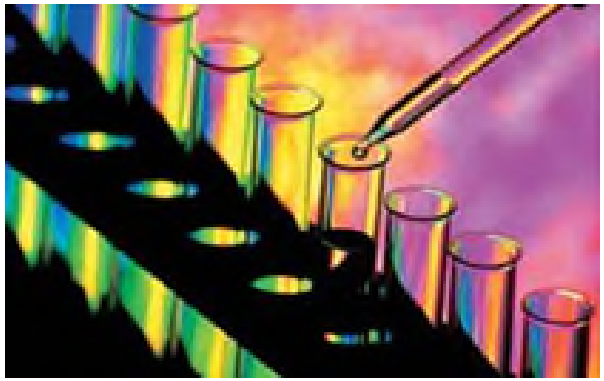
IL PATOLOGO

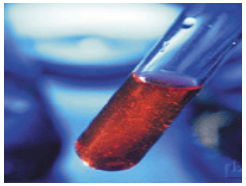
Cerca direttamente nel tessuto, il grado di infiammazione della mucosa evidenziandone le caratteristiche nei diversi compartimenti gastrici di:

- **Infiammazione**
- **Attività**
- **Atrofia e metaplasia intestinale**
- **Displasia**

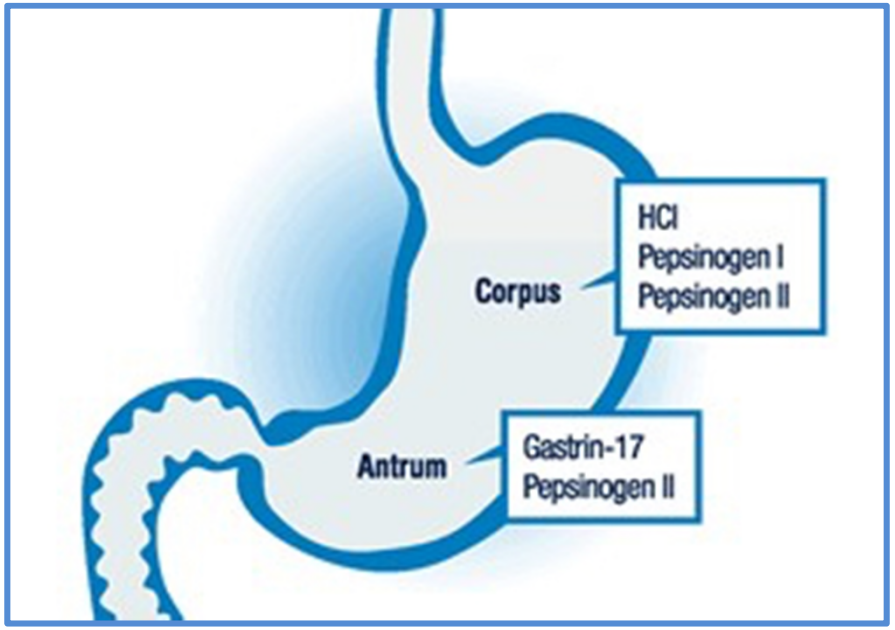
IL CLINICO (MMG)

Cerca nei fluidi le evidenze indirette del grado di infiammazione gastrica ed eventualmente del tipo e del grado di gastrite





FISIOLOGIA DELLA SECREZIONE ACIDA GASTRICA



PGI

PGII

G-17

IgG-Hp

PGI marker di secrezione acida gastrica

PGII:marker di infiammazione (gastrite)

G17 è lo stimolo fisiologico alla produzione di acido

IgG anti-H.pylori marker di infezione da H.p. in atto o pregressa

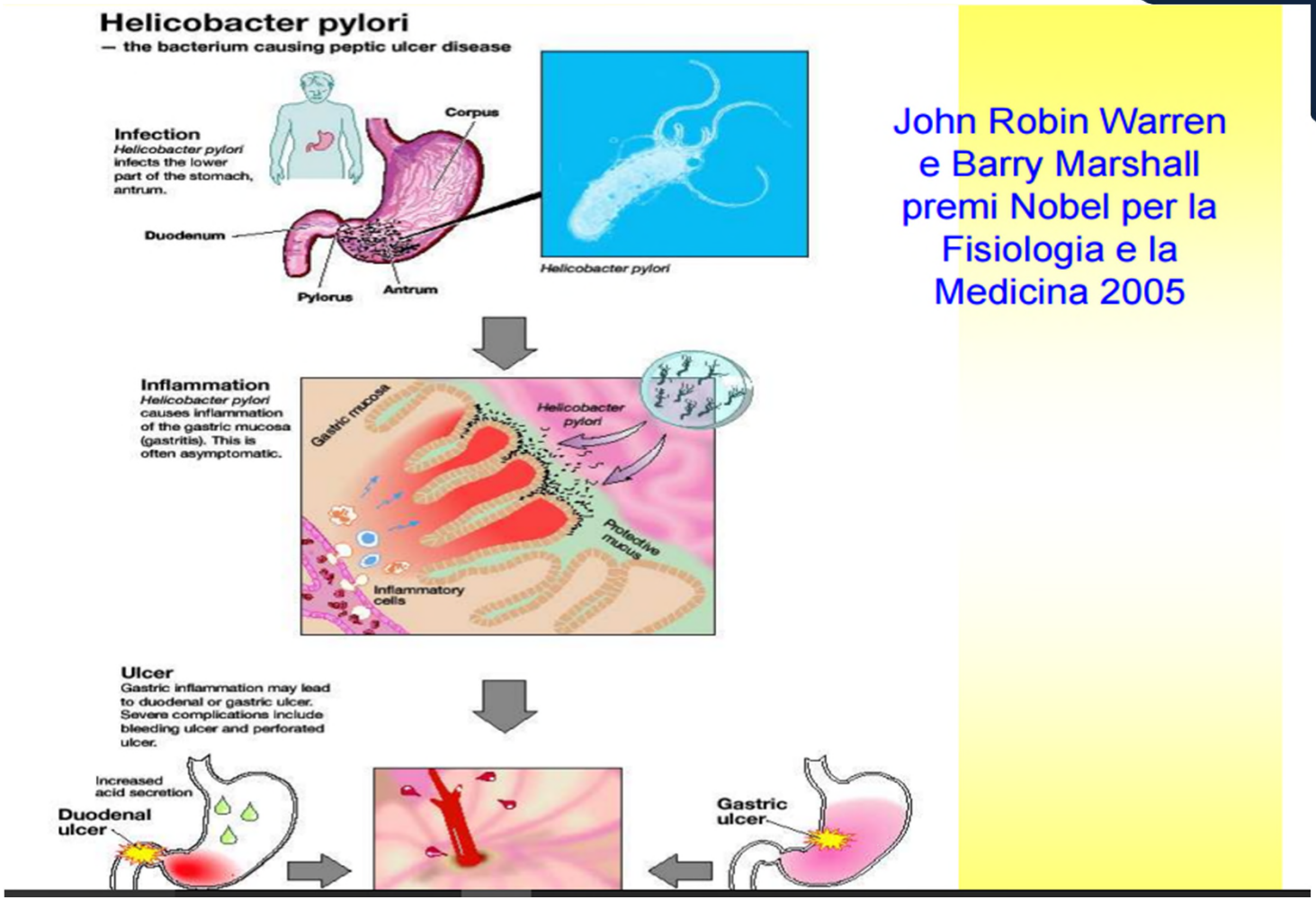
Scarpignato C. 2010

GASTRINA

Ormoni, ormoni candidati e neuropeptidi del tratto gastrointestinale

Ormone o peptide	Sede di sintesi	stimoli per la liberazione	effetti principali	Mediatore intracellulare dell'azione
Gastrina	Cellule G (mucosa dell'antro, duodeno)	Prodotti del catabolismo proteico nello stomaco, distensione della parete gastrica, attivazione vagale	Secrezione di HCl ↑, secrezione di pepsinogeno ↑, crescita della mucosa ↑, motilità gastrica ↑ ↑ Attività della pompa pilorica	Attivazione della fosfolipasi C

HELICOBACTER pylori



John Robin Warren e Barry Marshall premi Nobel per la Fisiologia e la Medicina 2005

SERUM PEPSINOGEN II AS A MARKER OF ACUTE INFLAMMATION AFTER H.P. INFECTION

20 HEALTHY VOLUNTEERS

	PG baseline		7 Day	14 Day		28 Day
PGI	75 ± 36	*p=ns	96 ± 92	363 ± 200	*p=ns	227 ± 200
% seroconversion			17%	71%		94%
PGII	9.1 ± 8.5	*p=0.008	18 ± 16	*p=0.00142 ± 40		
% seroconversion			28%	94%		

*Wilcoxon Rank Test

Nugaliova ZZ & Graham DY et al. 2005

SERUM PEPSINOGEN II: A NEGLECTED BUT USEFUL BIOMARKER TO DIFFERENTIATE BETWEEN DISEASED AND NORMAL STOMACHS

Journal of Gastroenterology and Hepatology JGH JGHF

doi:10.1111/j.1440-1746.2011.06692.x

GASTROENTEROLOGY

Serum pepsinogen II: A neglected but useful biomarker to differentiate between diseased and normal stomachs

Cai-yun He,*,† Li-ping Sun,*,† Yue-hua Gong,*,† Qian Xu,*,† Nan-nan Dong*,† and Yuan Yuan*,†

*Tumor Etiology and Screening Department of Cancer Institute and General Surgery, The First Affiliated Hospital of China Medical University, and †Key Laboratory of Cancer Control in Liaoning Province, Shenyang, China

Key words
biomarker, diseased stomach, *Helicobacter pylori*, pepsinogen II.

Accepted for publication 31 January 2011.

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Email: yyuan@mail.cmu.edu.cn

Abstract

Background and Aim: Serum pepsinogen II (sPGII) is underutilized and considered an inconspicuous biomarker in clinical practice. We refocused on this neglected but novel biomarker and conducted the present study, aiming to elucidate the normal level of sPGII in healthy Chinese patients and to investigate the clinical utility of sPGII for gastric disease screening.

Methods: In 2008–2009, a total of 2022 participants from northern China were selected and enrolled in the study. sPGII and *Helicobacter pylori* (*H. pylori*)–immunoglobulin G were measured with ELISA.

Results: sPGII showed a normal value of 6.6 microg/L in a total of 466 patients with endoscopically- and histologically-normal stomachs. A small sex difference was observed: the average value of sPGII was 7 microg/L and 6 microg/L in males and females, respectively ($P < 0.001$). In the differentiation between healthy and diseased (endoscopically-diseased stomach or gastritis/atrophic gastritis in endoscopic biopsies) stomach mucosae, the best sPGII cut-off value was 8.25 microg/L (sensitivity 70.6%, specificity 70.8%). In screening the *H. pylori* seropositivity, the optimum cut-off sPGII value was 10.25 microg/L (sensitivity 71.6%, specificity 70.1%).

Conclusions: We demonstrated that the mean values of sPGII in a healthy Chinese population are 7 microg/L and 6 microg/L for males and females, respectively. sPGII significantly increases in diseased and *H. pylori*-infected stomach, and the best sPGII cut-off value is 8.25 microg/L in the differentiation between patients with healthy and diseased stomach mucosae. Furthermore, Chinese patients with sPGII greater than 10.25 microg/L are at greater risk of various *H. pylori*-related gastropathies, and are therefore prior candidates for gastro-protection therapy.

He CY et al.. J Gastroenterol Hepatol 2011;26:1039-46.

SERUM PEPSINOGEN II: A NEGLECTED BUT USEFUL BIOMARKER TO DIFFERENTIATE BETWEEN DISEASED AND NORMAL STOMACHS

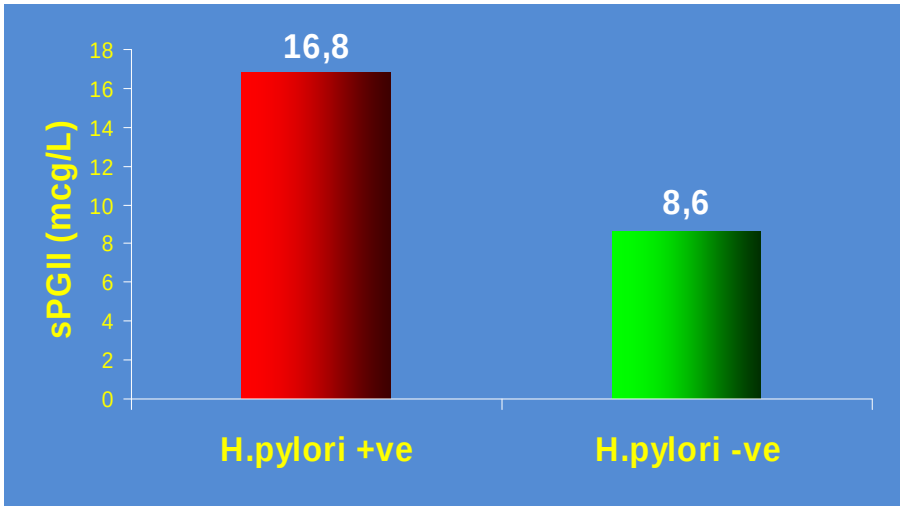
Table 3 Stratification analysis of serum pepsinogen II (sPGII) levels between different statuses of *Helicobacter pylori* (*H. pylori*)–immunoglobulin G

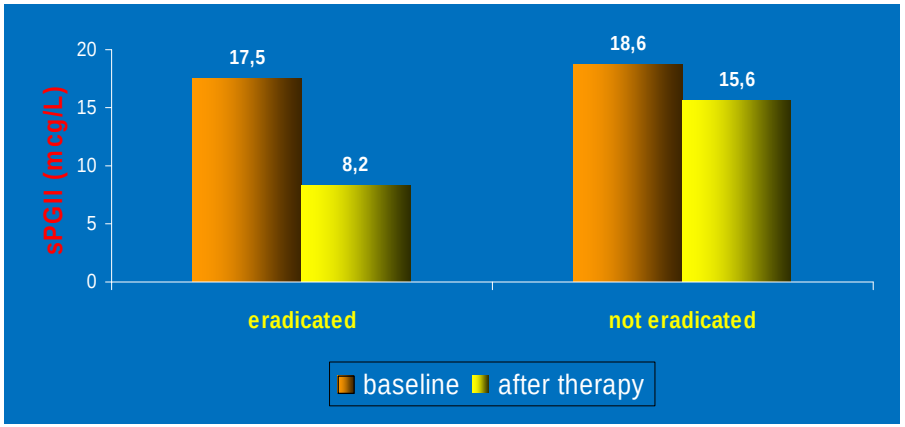
Endoscopic diagnosis	*n* (*H. pylori*+/*H. pylor* –) (seropositive %)	sPGII (microg/L)		*P*-value†
		H. pylori seropositive	*H. pylori* seronegative	
NOR	0/466 (0)	/	6.6 (4.9, 8.7)	NA
SG	495/239 (67.4)	14.0 (9.0, 20.5)	9.5 (5.8, 15.7)	< 0.001
SG-IM	177/139 (56.0)	13.9 (10.5, 20.1)	7.9 (5.3, 11.6)	< 0.001
AG	180/110 (62.1)	15.1 (10.1, 21.7)	7.5 (5.6, 13.0)	< 0.001
GD	56/73 (43.4)	15.3 (10.6, 25.1)	12.0 (6.9, 18.4)	0.006
GC	32/55 (36.8)	16.1 (9.7, 21.0)	9.4 (6.1, 17.5)	0.007

†*P*-values for comparisons of sPGII by the Mann–Whitney *U*-test between *H. pylori*-seropositive and -seronegative individuals according to confounding status of stomach mucosa. Values are medians (with 25–75% quartiles). AG, atrophic gastritis; GC, gastric cancer; GD, dysplasia; NA, not applicable; NOR, normal stomach mucosae without evidence of *H. pylori* infection or active gastritis; SG, active *H. pylori* superficial gastritis; SG-IM, superficial gastritis with intestinal metaplasia.

He CY et al.. J Gastroenterol Hepatol 2011;26:1039-46.

CLINICAL USEFULNESS OF PEPSINOGEN II IN DIAGNOSIS OF H.p+ NAG



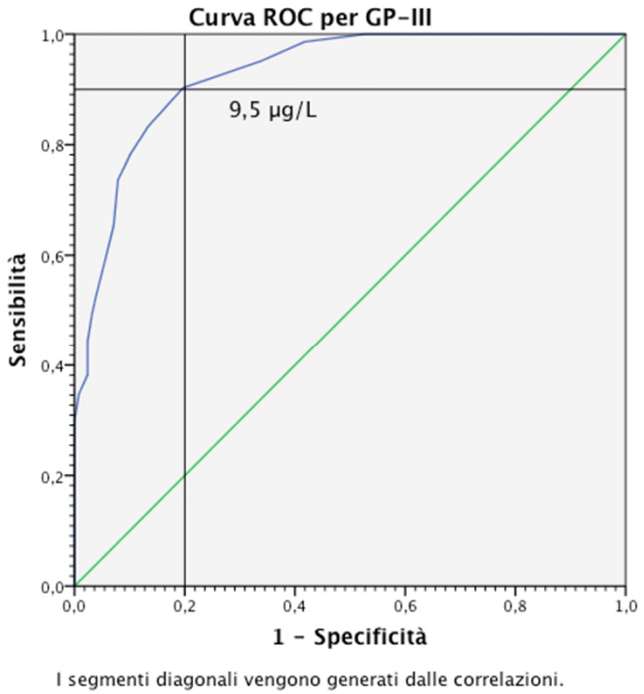


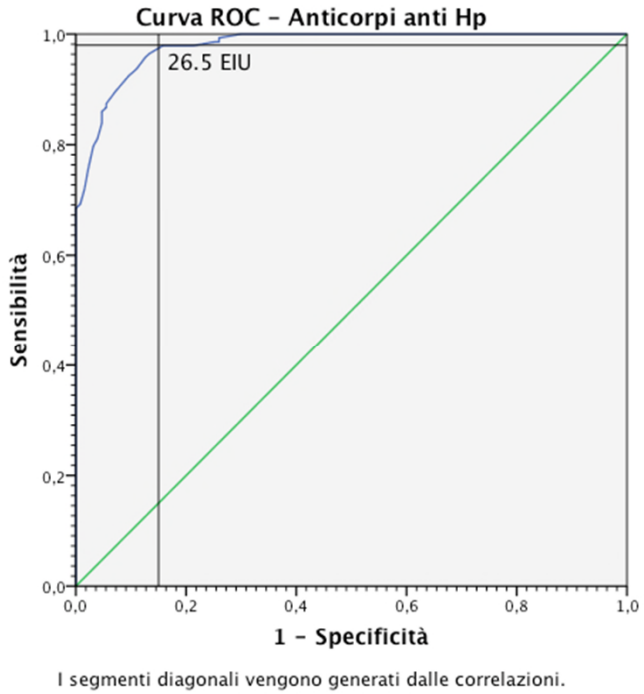
313 PAZIENTI DISPEPTICI

Di Mario et al, Digestion 2004

CURVE ROC PGII

144 pazienti con diagnosi endoscopica di NAG H.p+ e 127 pazienti con dispepsia H.p negativa.





Goni E. et al. EHSG 2014 ACCEPTED

Ci sono condizioni che consigliano un tipo di accertamento piuttosto che un altro (età, farmaci, familiarità, ecc.) ?

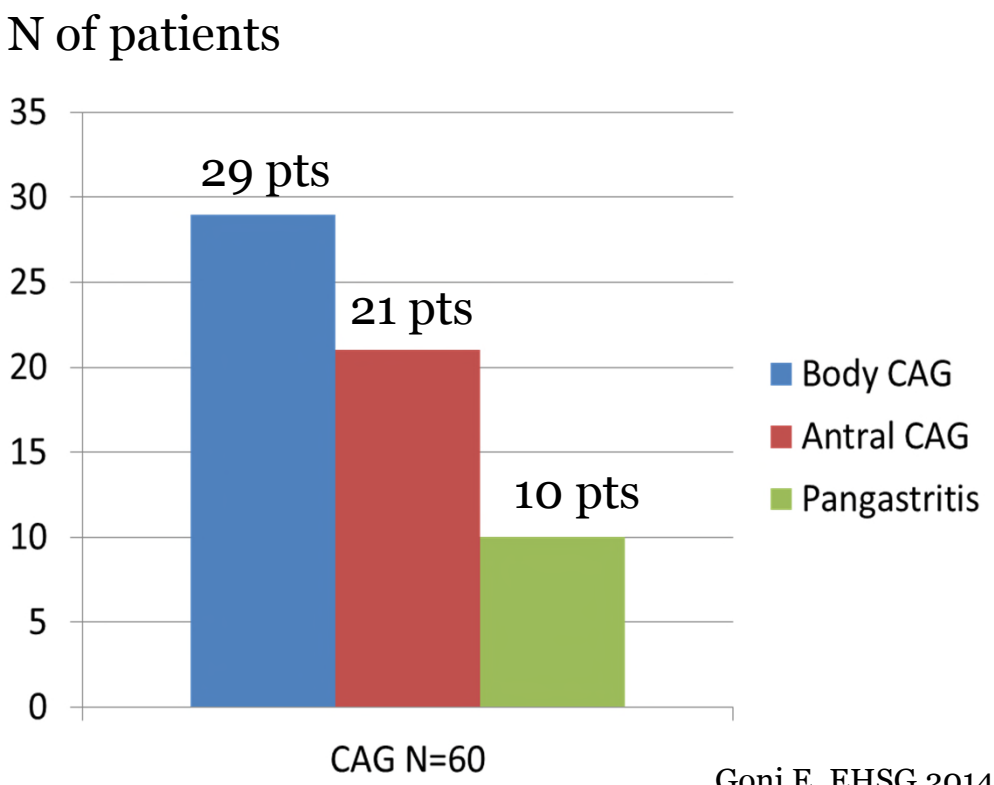
- **Atrofia gastrica: aumenta all'aumentare dell'età ?**
- **I farmaci: interferiscono con la risposta al Gastropanel ?**
- **In caso di familiarità per K gastrico, si deve preferire l'istologia alla sierologia ?**

CHRONIC ATROPHIC GASTRITIS IN THE ELDERLY

- ✓117 patients (M:F=1:3) over 80 year old (mean age: 87 years; range: 80-103)
- ✓Medical history, admission diagnosis, co-morbilidies and co-therapy were registered
- ✓ Body GCA: PG I <25 µg/L, G-17>10 pmol/L

Antral GCA: G-17<2 pmol/L in PPI therapy

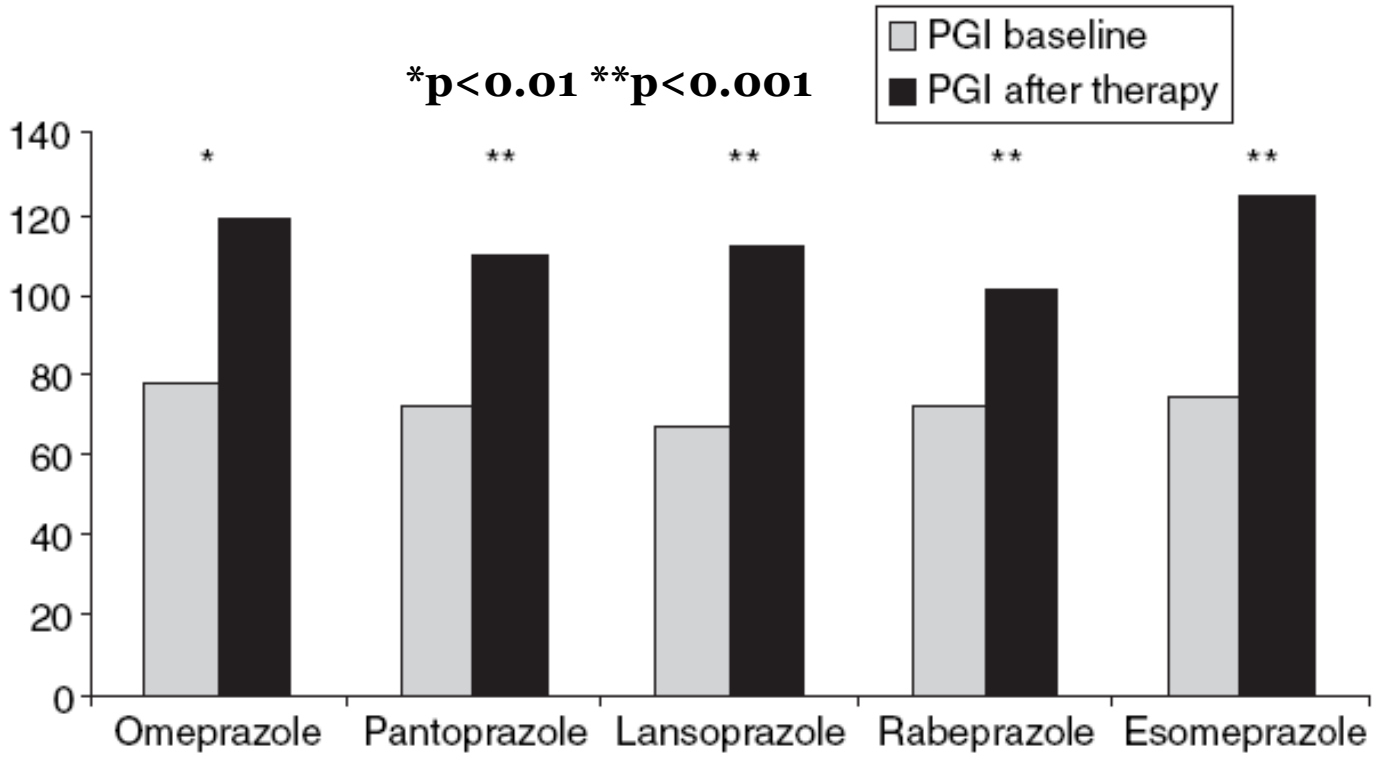
Pangastritis: PG I <25 µg/L and G-17<2 pmol/L



Goni E. EHSG 2014

Influence of antisecretory treatment with proton pump inhibitors on serum pepsinogen I levels

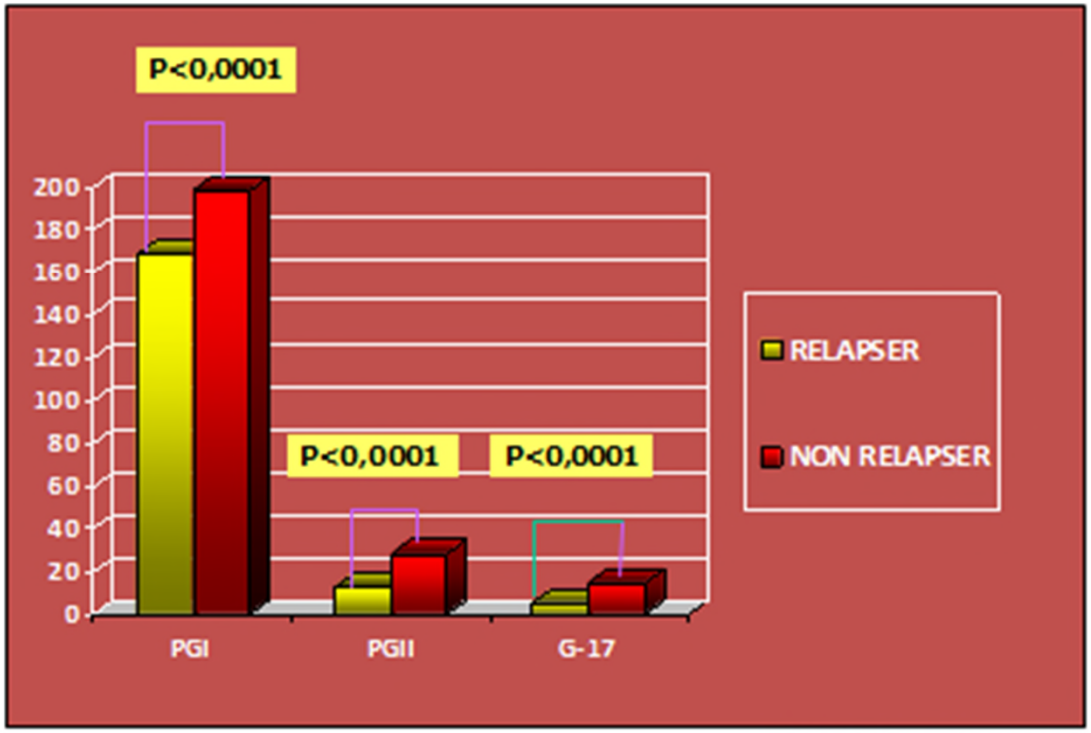
126 dyspeptic pts (F 69, mean age: 53, range 15-91)



Di Mario F et al Fundament Clin Pharmacol 2005:19;497-501

Gastropanel modifications after PPI administration in GERD

After PPI therapy:



Di Mario F et al 2009 UEGW

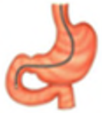
Serological biopsy in first degree relatives of patients with gastric cancer

Mean age
57.7 years
(range 34-87)

Mean age
58.3 years
(range 29-82)

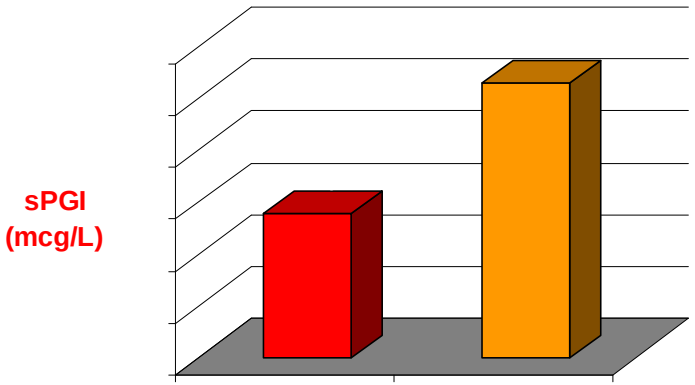
25 Hp+ve subjects without family history of gastric cancer

25 Hp+ve subjects with family history of gastric cancer



Except in 12 subjects with family history of gastric cancer affected by bloating and irregular intestinal transit.

F. Di Mario et al, Scand J Gastroenterol. 2003



Histology	Group **with** fam. (13 Pz)	Group **without** fam. (25 pz)
APG	6	10
PAN	4	7
CPG	3	8
Atrophy	7	3
Int. Metaplasia	7	1
Dysplasia	1	0

Clin Gastroenterol Hepatol. 2008 Feb;6(2):174-9. doi: 10.1016/j.cgh.2007.11.016.

Serum pepsinogen I, pepsinogen II, and gastrin 17 in relatives of gastric cancer patients: comparative study with type and severity of gastritis.

Haj-Sheykholeslami A[1], Rakhshani N, Amirzargar A, Rafiee R, Shahidi SM, Nikbin B, Khosravi F, Massarrat S.

Author information

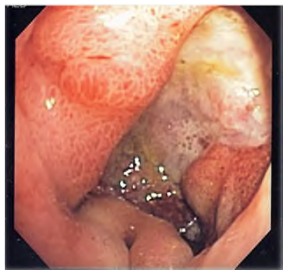
Abstract

BACKGROUND & AIMS: First-degree relatives of gastric cancer patients are at risk for developing precancerous conditions. The aim of this study was to investigate the potential of biomarkers pepsinogen I (PGI), pepsinogen II (PGII), their ratio (PG I:II), as well as gastrin 17 for screening of precancerous conditions and corpus predominant gastritis.

METHODS: First-degree relatives of gastric cancer patients underwent endoscopy. Three biopsy specimens from the antrum and 3 from the corpus were evaluated according to the Sydney classification. Serum was taken for the measurement of fasting PGI, PGII, and gastrin 17 by enzyme-linked immunosorbent assay kits.

RESULTS: A total of 481 patients were examined (age, 47.8 +/- 6.7 y). With the extension of gastritis, PGII was increased up to 2.5 times (6.6 +/- 2.8 microg/mL in normal mucosa, 9.5 +/- 6.7 microg/mL in antral gastritis, and 16.9 +/- 12.4 microg/mL in corpus-predominant gastritis; $P < .01$), PGI increased slightly (88.3 +/- 29.4 microg/mL in normal mucosa and 111.2 +/- 71.4 microg/mL in corpus-predominant gastritis), and gastrin 17 was increased substantially in corpus-predominant gastritis (15.3 +/- 19.5 pmol/mL vs 3.8 +/- 5.7 pmol/mL in normal mucosa). By using a cut-off value of 7.5 microg/mL for PGII, any type of gastritis from normal mucosa can be diagnosed with a sensitivity and specificity of 80%. The sensitivity and specificity of the PG I:II ratio (< or =3) and gastrin 17 (>17 pmol/mL) together were 9.4% and 99% for screening corpus-predominant gastritis and 14.8% and 97.8%, respectively, for screening intestinal metaplasia in the corpus.

CONCLUSIONS: PGII is a suitable marker for screening any gastritis from normal mucosa, but neither PGI, the PG I:II ratio, gastrin 17, nor their combination were able to select those with precancerous conditions and corpus-predominant gastritis among the first-degree relatives of gastric cancer patients.



E' possibile, tramite la sierologia, identificare quali anziani gastroproteggere dall'assunzione di farmaci potenzialmente gastrolesivi ?

GASTROPROTECTION IN THE ELDERLY

Along with the well know therapeutic effect, long-term PPIs use is also associated with an increased risk of:

a) Small Intestinal Bacterial Overgrowth syndrome (SIBO) [3, 4, 5]

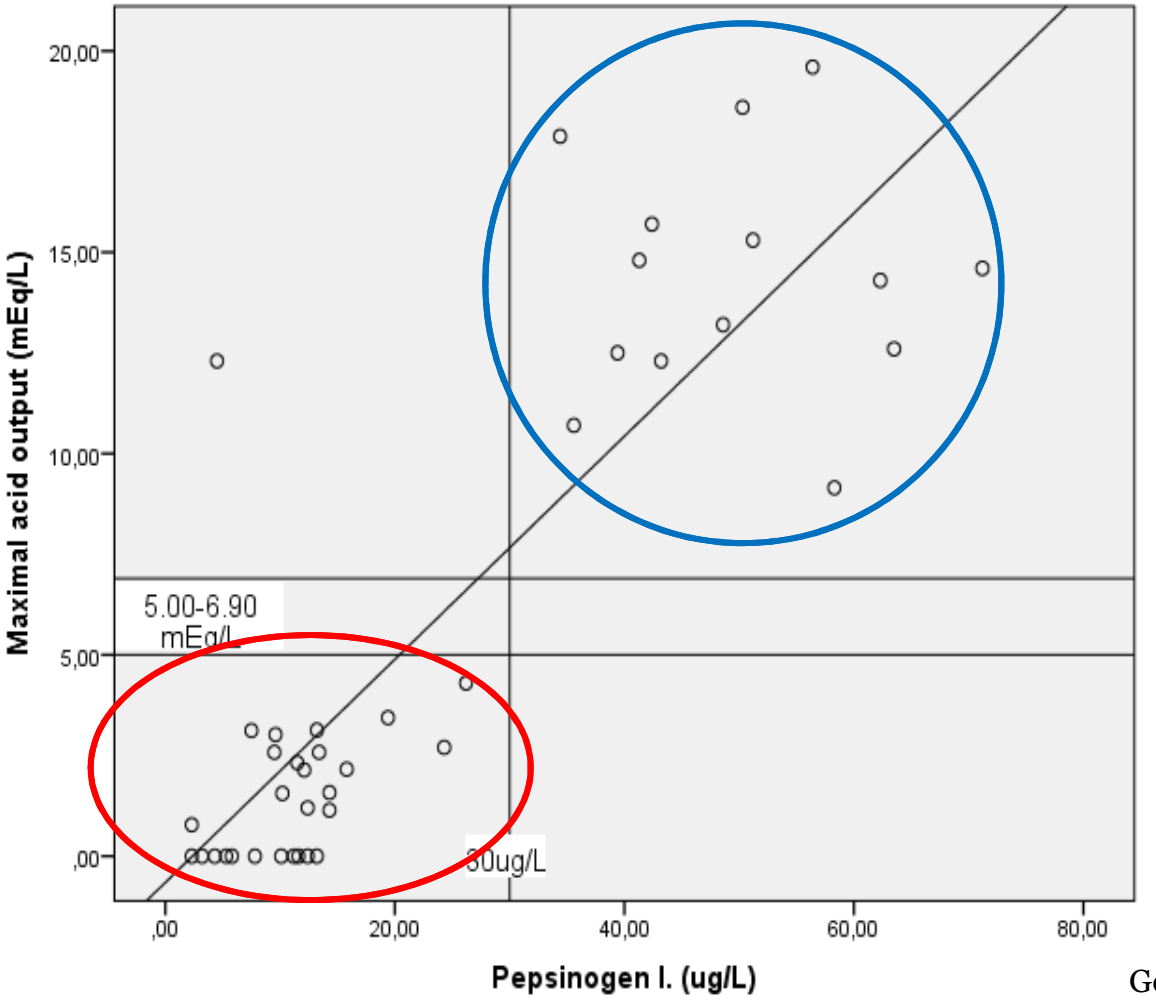
b) *Clostridium difficile* and other enteropathogen infections [3, 5]

c) Micronutrients malabsorption (calcium, iron etc) [3, 6]

d) Bone fractures [3, 7, 8]

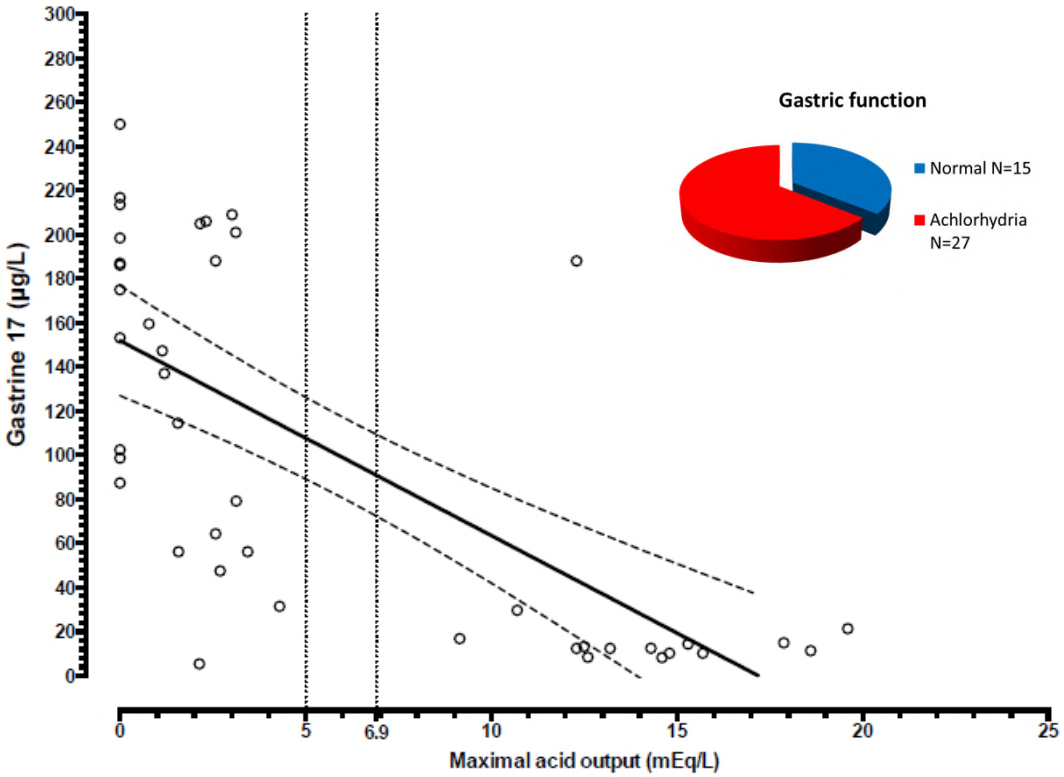
3 Best Pract Res Clin Gastroenterol 2013;27:443-54.
4 Am J Gastroenterol 2012;107:730-5.
4 Am J Gastroenterol 2014;109(6):922.
5 Am J Gastroenterol 2013;108:1794-801.
6 JAMA 2013;310:2435-42.
7 Curr Treat Options Gastroenterol 2014;12:414-23.
8 J Bone Miner Res 2014;29:2489-97.

Correlazione fra Maximal Acid Output (M.A.O.) e pepsinogeno I



Goni E. DDW 2014

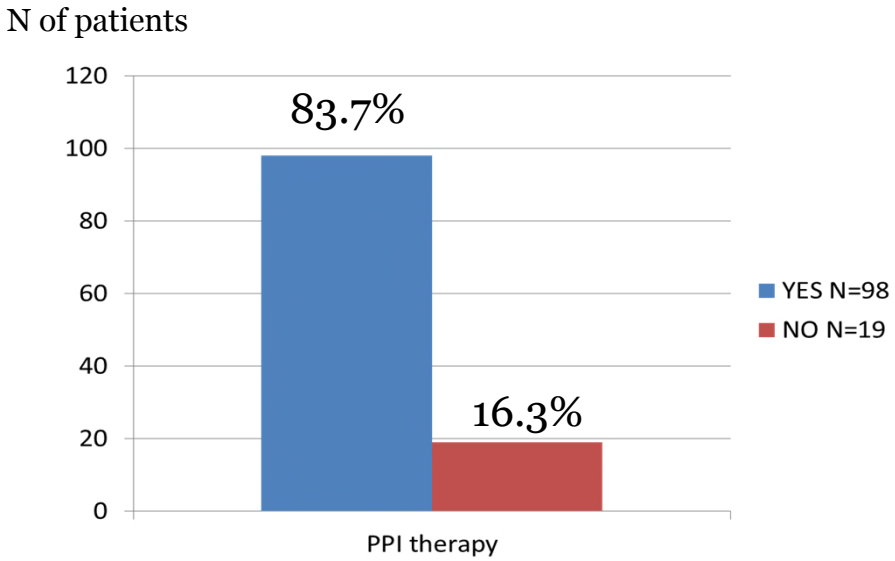
Relationship between G17 and maximal acid output (M.A.O.)



R square 0,4982, P value< 0,0001

Goni E. DDW 2014

PPI ADMINISTRATION IN THE ELDERLY



Patients	PPI use	PPI use %
NORMAL	28/32	87.5%
ANTRAL CAG	16/21	76.2%
BODY CAG	23/29	79.3%
PANGASTRITIS	9/10	90%
NAG Hp+	22/25	88%

Goni E. EHSG 2014

Possiamo screenare i pazienti ad alto rischio di G.C.A. mediante la sierologia ?

Chronic Atrophic Gastritis (CAG) and H. Pylori infection

4.655 Healthy male factory workers in Japan

F-up 7.7 years

↓

Screen with H. Pylori antibodies and sPGI

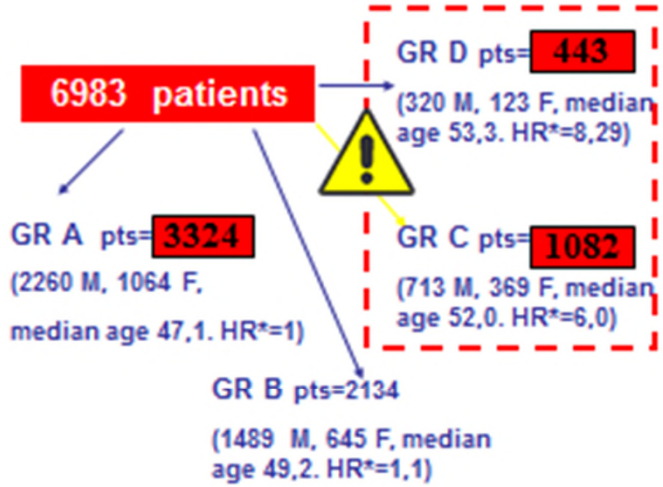
78% positive antibody titers
28.9% sPGI indicative for CAG

↓

45 Gastric Cancer detected

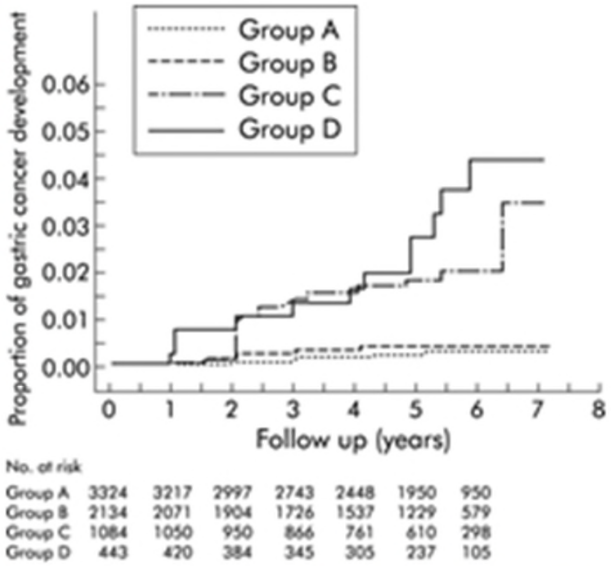
Ohata H Int J Cancer 2004; 109: 138-143

PGI, PGI/II RATIO, IgG ANTI-Hp AND GASTRIC CANCER



	A	B	C	D
Pepsinogen index	N	N	↓	↓
IgG anti-Hp	-	+	+	-

↓ = sPGI < 70 ng/ml and PGI/PGII ratio < 3,0 ng/ml
N = all other cases

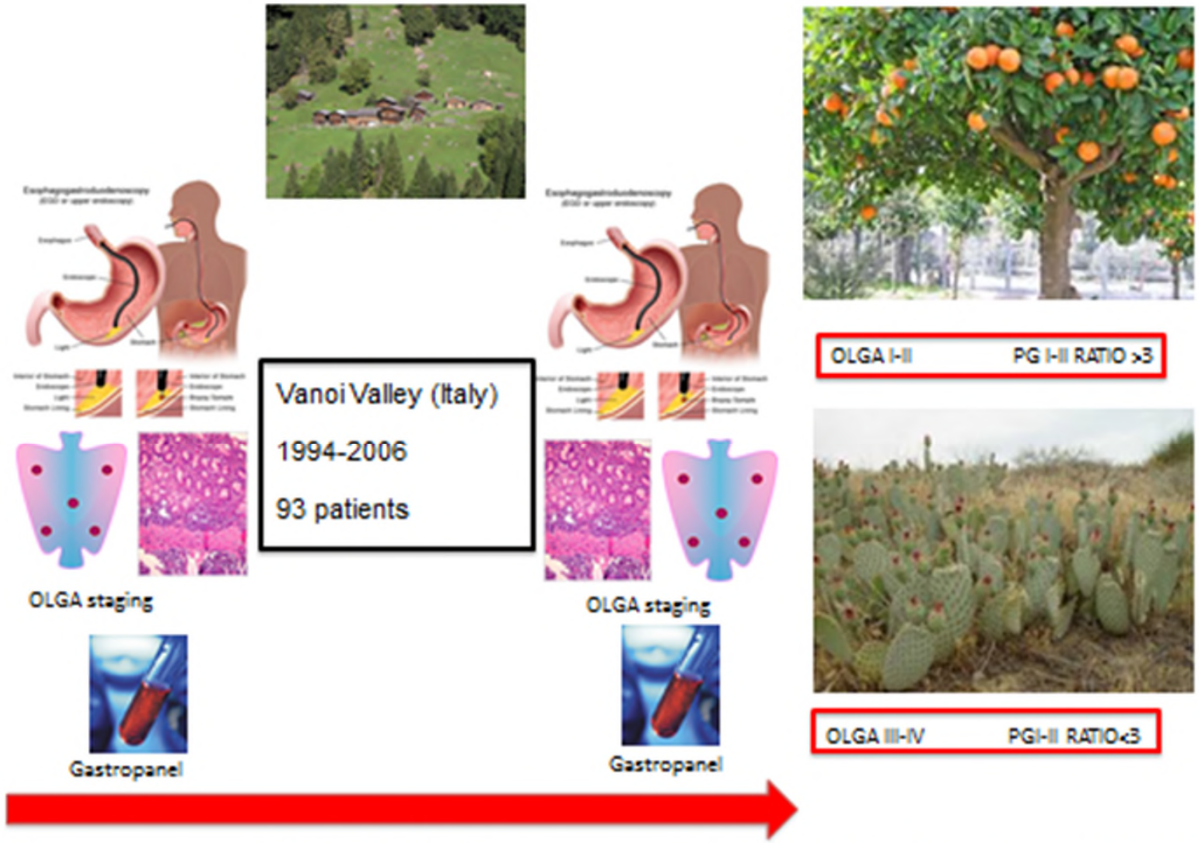


(HR* = Hazard Ratio)

Follow-up 4,7 years

Watabe et al. Gut 2005; 54: 764-68

Valore prognostico dei pepsinogeni nello sviluppo di cancro gastrico



Rugge M. *et al.* APT 2010;31:1104-11

Temporal changes in serum biomarkers and risk for progression of gastric precancerous lesions: A longitudinal study

Huakang Tu[1,2,3], Liping Sun[1], Xiao Dong[4], Yuehua Gong[1], Qian Xu[1], Jingjing Jing[1], Qi Long[5], W. Dana Flanders[2,5,6], Roberd M. Bostick[2,6] and Yuan Yuan[1]

[1]Tumor Etiology and Screening Department of Cancer Institute and General Surgery, The First Affiliated Hospital of China Medical University, Key Laboratory of Cancer Etiology and Prevention (China Medical University), Liaoning Provincial Education Department, Shenyang, Liaoning, 110001, China
[2]Department of Epidemiology, Rollins School of Public Health, Emory University, Atlanta, Georgia
[3]Molecules to Mankind Program, Laney Graduate School, Emory University, Atlanta, Georgia
[4]Department of Computational Biology and Bioinformatics, School of Biology, Georgia Institute of Technology, Atlanta, Georgia
[5]Department of Biostatistics and Bioinformatics, Rollins School of Public Health, Emory University, Atlanta, Georgia
[6]Winship Cancer Institute, Emory University, Atlanta, Georgia

Effectively managing precancerous lesions is crucial to reducing the gastric cancer (GC) burden. We evaluated associations of temporal changes in multiple serological markers (pepsinogen I [PGI], PGII, PGI/II ratio, gastrin-17 and anti-*Helicobacter pylori* IgG) with risk for progression of gastric precancerous lesions. From 1997 to 2011, repeated esophagogastroduodenoscopies with gastric mucosal biopsies and blood sample collections were conducted on 2,039 participants (5,070 person-visits) in the Zhuanghe Gastric Diseases Screening Program, Liaoning, China. Serum biomarkers were measured using ELISA, and gastric biopsies were evaluated using standardized histologic criteria. Odds ratios (OR) and 95% confidence intervals (CI) were estimated using generalized estimating equations for correlated binary outcomes. The ORs for progression of gastric conditions comparing those whose serum PGI, PGII, and anti-*H. pylori* IgG levels increased ≥50% relative to those whose decreased ≥50% were, respectively 1.67 (CI, 1.22-2.28), 1.80 (CI, 1.40-2.33) and 1.93 (CI, 1.48-2.52). The OR for those whose PGI/II ratio decreased ≥50% relative to those whose increased ≥50% was 1.40 (CI, 1.08-1.81), and for those whose PGII and anti-*H. pylori* IgG levels both increased ≥50% relative to those whose levels both decreased ≥50% the OR was 3.18 (CI, 2.05-4.93). Changes in gastrin-17 were not statistically significantly associated with progression. These findings suggest that temporal changes in serum PGI, PGII, PGI/II ratio, and anti-*H. pylori* IgG levels (especially PGII and anti-*H. pylori* IgG combined) may be useful for assessing and managing risk for progression of gastric precancerous lesions.

I PEPSINOGENI SIERICI RAPPRESENTANO UN INDICE DEL

TIPO, GRADO E STADIO DELLE GASTRITI ?

Gastric atrophy: staging and cancer risk

Rugge M, et al. OLGA staging for gastritis: a tutorial. Dig Liver Dis 2008;40:650-8.
Rugge et al. Gastritis OLGA-staging and gastric cancer risk: a twelve-year clinico-pathological follow-up study. Aliment Pharmacol Ther 2010;31:1104-11

		CORPUS			
		No atrophy (score 0)	Mild atrophy (score 1)	Mod. atrophy (score 2)	Severe atrophy (score 3)
ANTRUM (including incisura angularis)	No atrophy (score 0)	Stage 0	Stage I	Stage II	Stage II
	Mild atrophy (score 1)	Stage I	Stage II	Stage II	Stage III
	Moderate atrophy (score 2)	Stage II	Stage II	Stage III	Stage IV
	Severe atrophy (score 3)	Stage II	Stage III	Stage IV	Stage IV

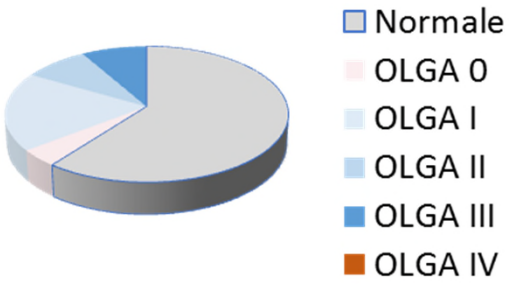
83 patients Stage 0-II vs 10 patients Stage III-IV

12 yrs follow-up

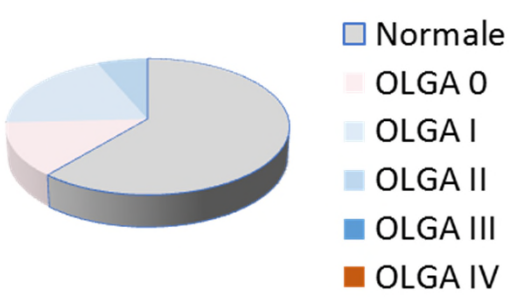
RR of neoplasia: 58.00; 95% CI: 5.67-592.53, p=0.001

CORRELAZIONE FRA DIAGNOSI SIEROLOGICA (GASTROPANEL) ED ISTOLOGICA (OLGA STAGING)

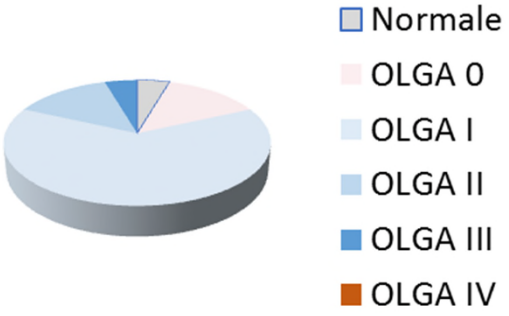
Normal



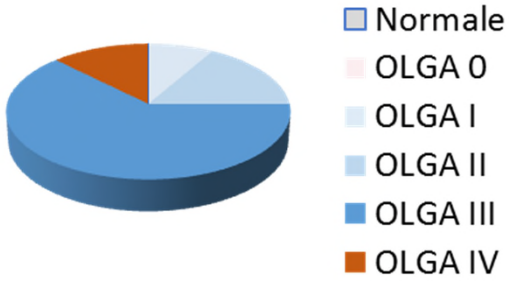
GERD



Hp + gastritis



Atrophic gastritis

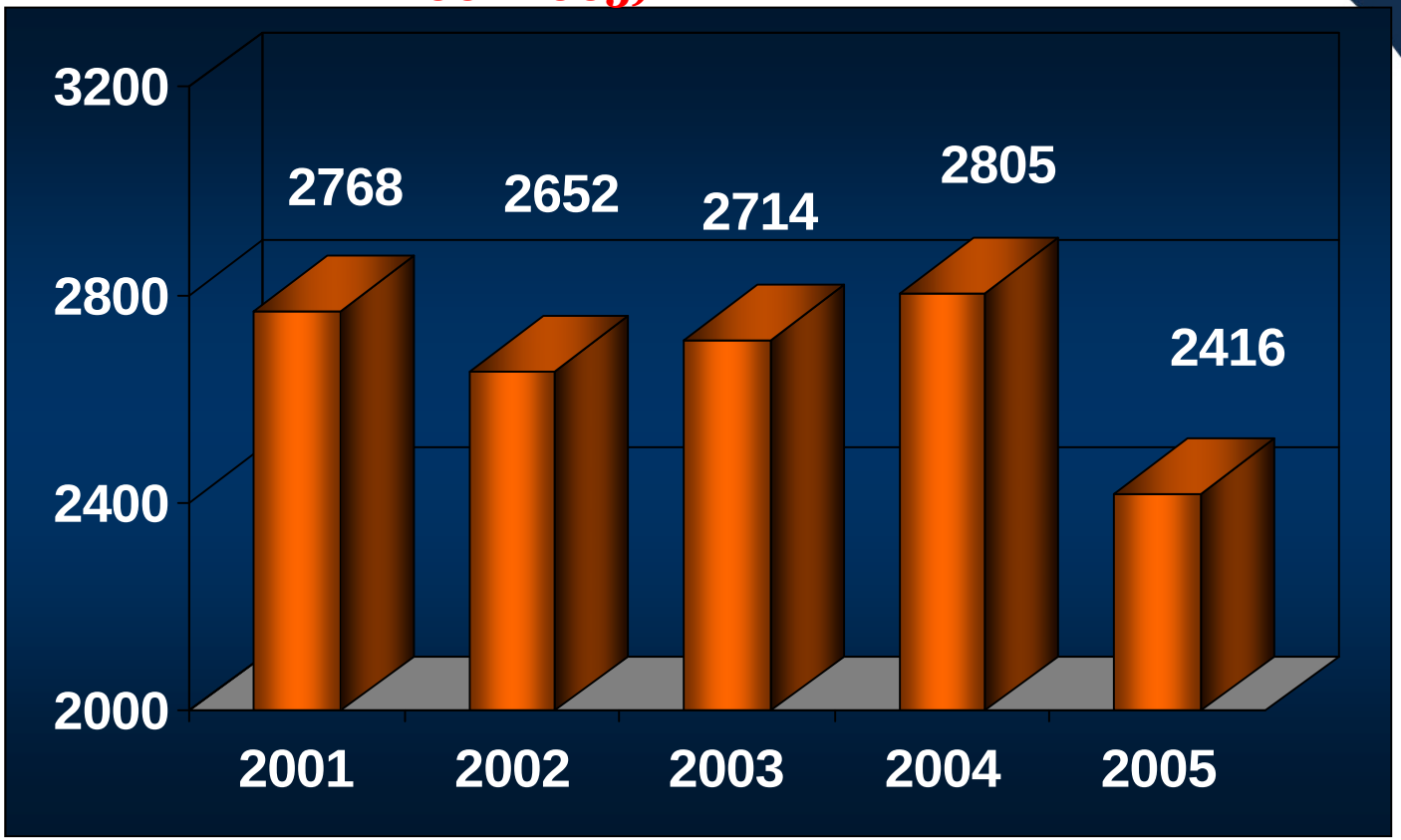


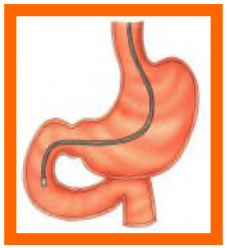
Rugge M.et al. DDW May 2013

L'utilizzo della sierologia, può rappresentare un mezzo per l'appropriatezza prescrittiva dell'EGDS ?

APPROPRIATEZZA PRESCRITTIVA DELL'EGDS MEDIANTE UTILIZZO DELLA SIEROLOGIA

(ESPERIENZA PARMA 2001-2005)

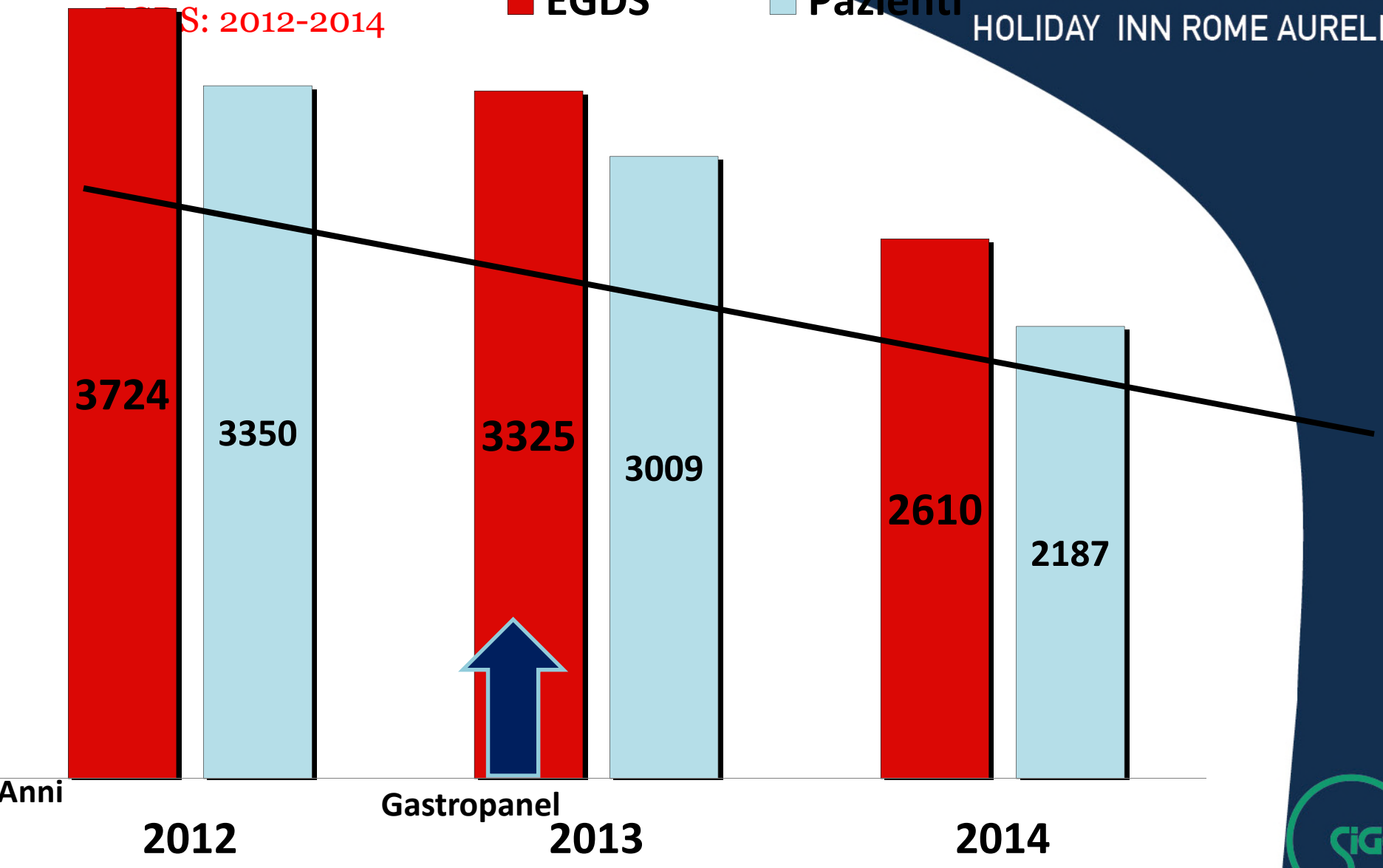




Di Mario F. DDW 2006

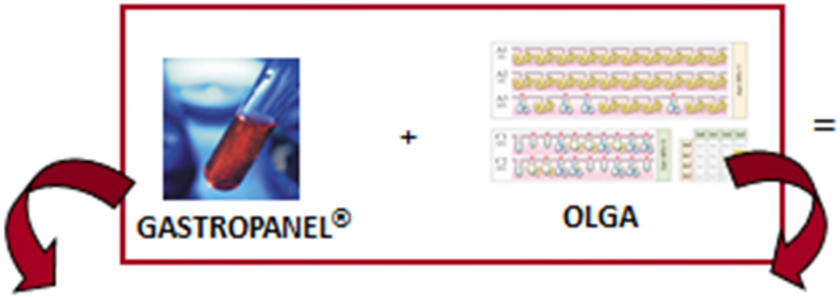
U.O. DI ENDOSCOPIA – ULSS4

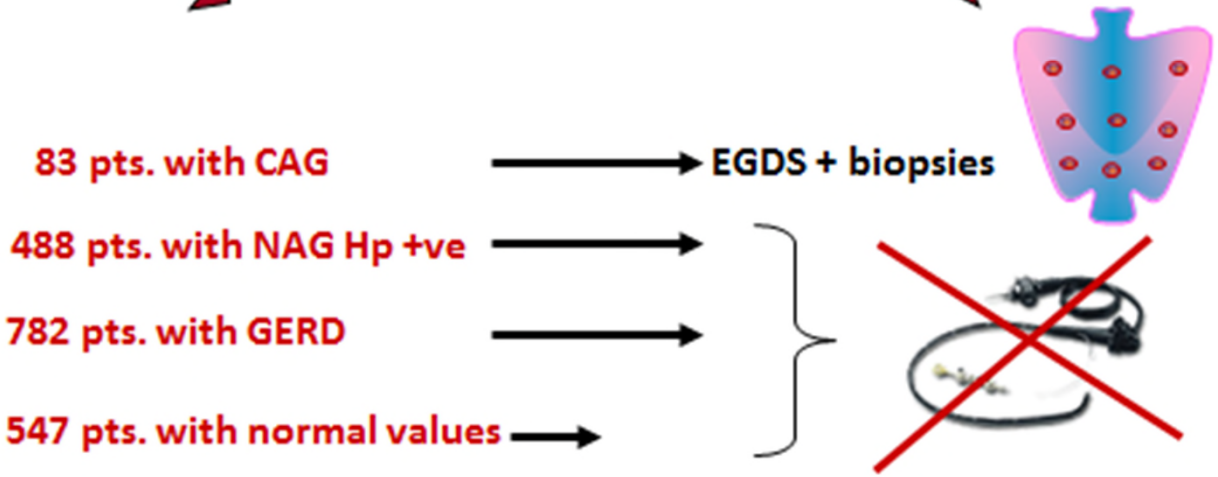
S: 2012-2014



APPROPRIATEZZA PRESCRITTIVA DELL'EGDS MEDIANTE UTILIZZO DELLA SIEROLOGIA

(ESPERIENZA TREVISO 2011-2013)





Di Mario F. DDW 2013

Esiste una sierologia utilizzabile nella diagnostica della malattia da reflusso gastroesofageo (MRGE) ?

USEFULNESS OF G 17 IN ORDER TO DETECTDIFFERENT MANIFESTATIONS OF REFLUX DISEASE IN PRIMARY CARE

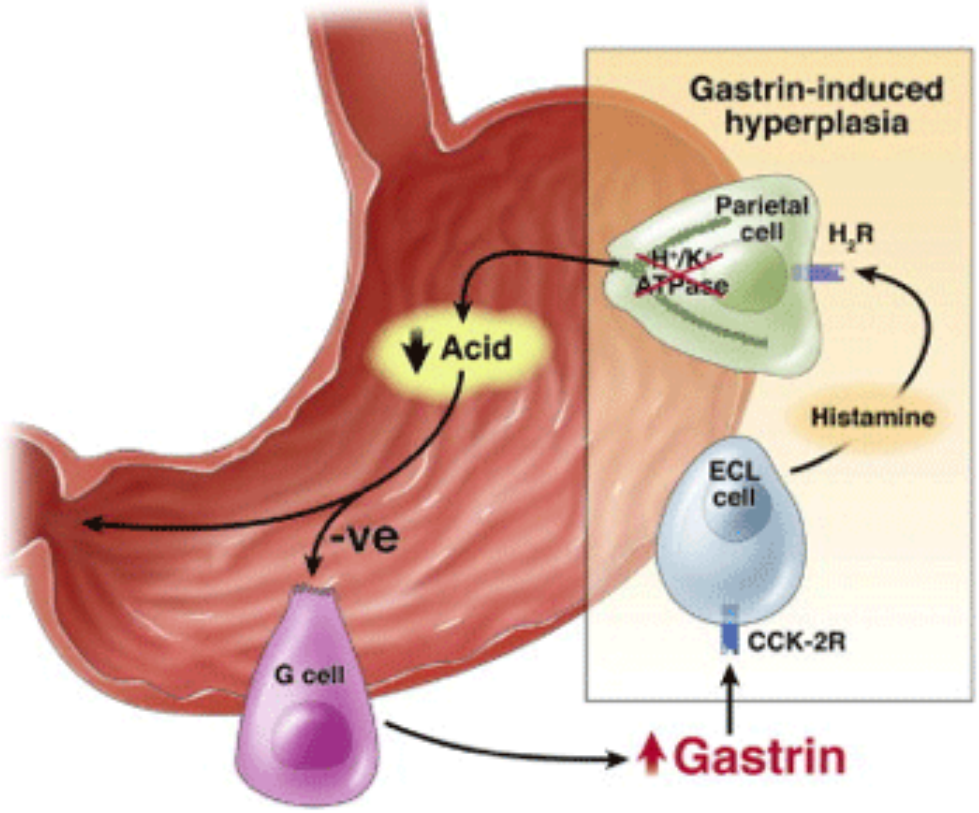
	Los Angeles A	Los Angeles B	NERD	Non atrophic gastritis Hp+	Dyspeptic subjects Hp-
Patients (N°)	126	28	214	144	127
Age (years)	42 ± 8	45 ± 11	51 ± 14	57 ± 12	44 ± 8
PG1 (ug/L)	93.78 ± 31	90.85 ± 44	90.22 ± 37	85.27 ± 55	104 ± 35
PG2 (ug/L)	6.7 ± 2.4	8.82 ± 5.3	7.17 ± 8.4	18.83 ± 9.6	8.4 ± 6.1
G17 (pmol/L)	1.48 ± 0.4	0.95 ± 0.3	2.3 ± 3.6	6.78 ± 3.7	5.3 ± 4.7
Hp Abs (EIU)	6.2 ± 4.3	14.85 ± 6.2	13.56 ± 5.3	55.41 ± 31.5	14.2 ± 8.9

Goni E. DDW 2014

FISIOPATOLOGIA DELLA GASTRINA 17 NELLA MALATTIA DA REFLUSSO

La gastrina 17 ha un fisiologico feedback sul LES, attraverso i recettori della CCK:

1) Diminuisce la pressione del LES
2) aumenta la % di rilasciamenti transitori (TLESRs) associati al reflusso



a) Liu JF et al. J Gastroenterol Hepatol 2008 ;23:1608-12
b) Straathof JW et al. Dig Dis Sci 1997;42:2547-51.
c) Aggestrup S. Regul Pept 1985;12:1-7.
d) Jensen DM et al. Gastroenterology 1978 ;75:825-7.

World J Gastroenterol. 2005 Oct 14;11(38):5988-92

Low circulating levels of gastrin-17 in patients with Barrett's esophagus.

Sipponen P, Vauhkonen M, Helske T, Kaarlainen I, Harkonen M.

Author information

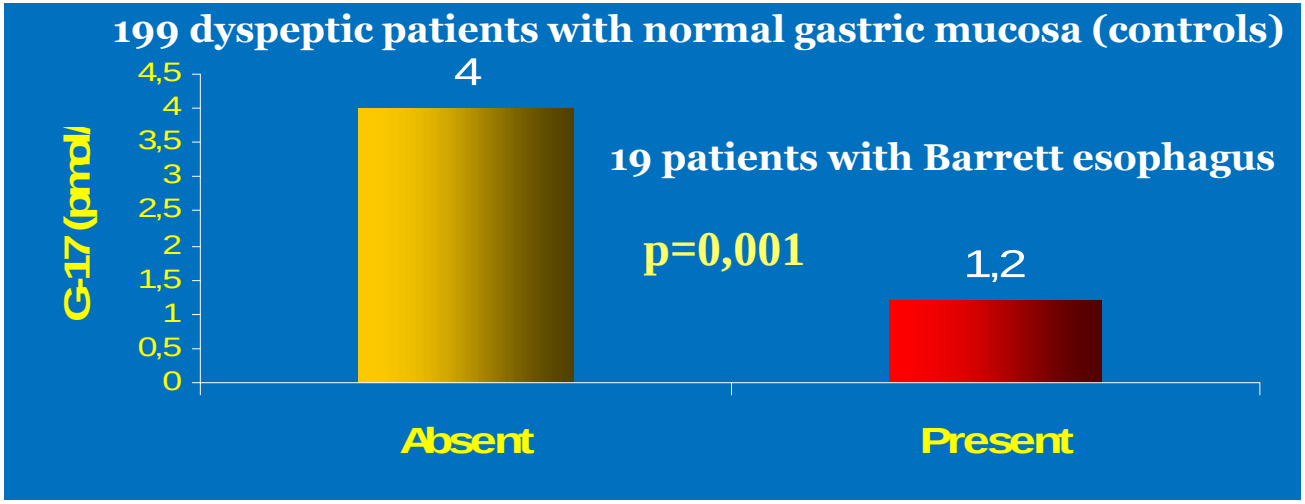
Abstract

AIM: To examine whether the fasting levels of serum gastrin-17 (G-17) are lower in Barrett's esophagus (BE) patients than in non-Barrett controls.

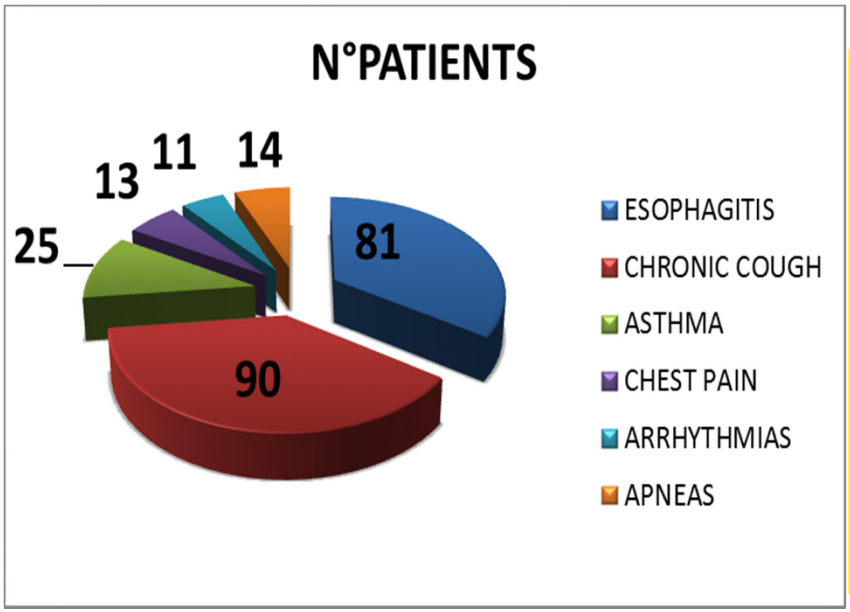
METHODS: Nineteen patients with BE (presenting with a tubular segment > or =2 cm long in lower esophagus and intestinal metaplasia of incomplete type ("pecialized columnar epithelium") in endoscopic biopsies from the tubular segment below the squamocolumnar junction were collected prospectively from outpatients referred to diagnostic gastroscopy. The controls comprised 199 prospectively collected dyspeptic outpatients without BE or any endoscopically visible lesions in the upper GI tract. Fasting levels of serum G-17 (G-17fast) were assayed with an EIA test using a mAb highly specific to amidated G-17. None of the patients and controls received therapy with PPIs or other antisecretory agents.

RESULTS: The mean and median levels of G-17fast in serum were significantly lower (P = 0.001) in BE patients than in controls. The positive likelihood ratios (LR+) of low G-17fast to predict BE in the whole study population at G-17fast levels <0.5, <1, or <1.5 pmol/L were 3.5, 3.0, and 2.8, respectively. Among patients and controls with healthy stomach mucosa, the LR+ were 5.6, 3.8, and 2.6, respectively. In the whole study population, serum G-17 was below 2 pmol/L in 15 of 19 BE patients (79%). The corresponding prevalence was 66 of 199 (33%) in controls (P<0.001). The G-17fast was 5 pmol/L or more in only one of the 19 BE patients (5%). In controls, 76 of the 199 patients (38%) had such high serum G-17fast levels (P<0.01).

CONCLUSION: Serum levels of G-17fast tend to be lower in native patients with BE than in healthy controls.



234 consecutives patients enrolled from 2008 to may 2010
(mean age: 47,3 ys; range 19-76 ys)
114 men (mean age 46,65 ys; range 22-76 ys)
120 women (mean age 47,39 ys; range 19–74 ys)

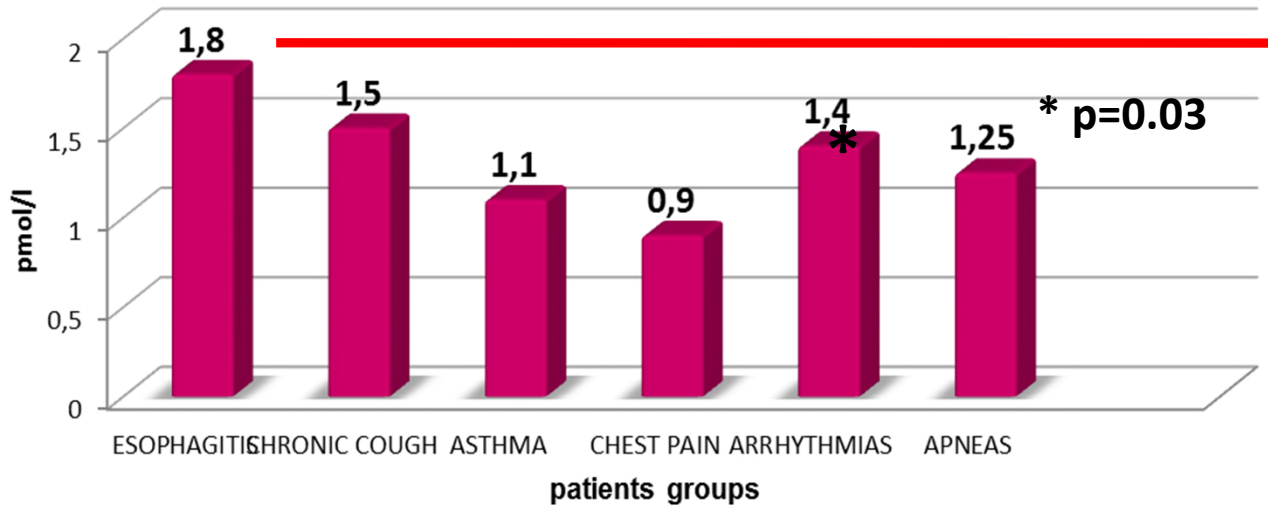


234 patients were divided into six groups:
90 patients with chronic cough,
25 pts with non allergic asthma,
13 pts with non cardiac chest pain
11 pts with arryhtmias
14 pts with nocturnal obstructive apneas
Control group: 81 patients with typical symptoms of GERD and endoscopic evidence of esophagytis

Di Mario F et al 2009 DDW

G-17 MEDIAN

n.v. G-17: 2-7pmol/l



In all groups values of gastrin 17 were lower than normal levels as previously reported in patients with typical symptoms

in patients with atypical symptoms, serum levels of this parameter are lower than control group

There is a statistically significant difference in patients with chest pain (p=0,032)

GASTROPANEL

	Valori di riferimento*
Pepsinogeno I (PGI)	30 – 160 µg/l
Pepsinogeno II (PGII)	3 – 15 µg/l
PGI/PGII	3 – 20
Gastrina-17b (G17b)	1 – 7 pmol/l
Gastrina-17s (G17s)	3 – 30 pmol/l
H. pylori IgG (HPAbG)	< 30 EIU

*I valori di riferimento del GastroPanel possono essere soggetti a modifiche in seguito all'ottenimento di nuovi dati provenienti dagli studi clinici.

GastroPanel® – interpretation guide snapshot

Structural and functional causes of dyspeptic symptoms diagnosed by GastroPanel test (PGI, PGII, PGI/PGII, G-17, Hp-Ab)

PGI, PGII, PGI/PGII, G-17b Normal; Hp-	PGI, PGII, PGI/PGII Normal or High; Hp-; G-17b High	PGI, PGII, PGI/PGII Normal, Hp-; G-17b Low	PGI, PGII, G-17b High; PGI/PGII Normal, Hp-	PGI, PGII, PGI/PGII, G-17 Normal or High; Hp+	PGI or PGI/PGII Low; G-17b High; Hp+ or Hp-	PGI, PGI/PGII Normal; G-17b Low; Hp+	PGI Low, PGII Normal or Low; PGI/PGII Low, G-17b Low, Hp+
Healthy stomach mucosa	Healthy stomach mucosa, patient possibly on PPI treatment; stomach is hypochlorhydric	Healthy stomach mucosa; high acid output is likely	Short (4-10-day) pause in PPI treatment	Superficial, non-atrophic H.pylori (Hp) gastritis	Atrophic gastritis in the corpus	Atrophic gastritis in the antrum	Atrophic pangastritis
No need for gastroscopy	No need for gastroscopy	No need for gastroscopy; GERD or NERD conceivable	PGI and PGII need more time than G-17b to turn normal	Eradicate Hp and consider gastroscopy if symptoms	Gastroscopy mandatory		

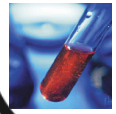
Normal structure Referral to General Practitioner Referral to Specialist; gastroscopy/biopsy

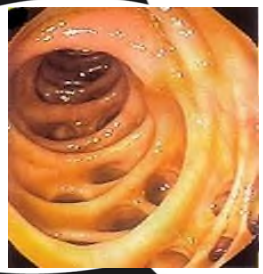
NUOVI STRUMENTI NEL WORK-UP DIAGNOSTICO

Operative **L**ink for **G**astritis **A**ssessment gastritis stage **(O.L.G.A)**

Calprotectina

Gastropanel





Diverticular **I**nflammation and **C**omplication **A**ssessment **(D.I.C.A)**

Proposta:

RICERCA DI ASSOCIAZIONE FRA PATOLOGIA AUTOIMMUNE GASTRICA E TIROIDEA

THYROID
Volume 20, Number 12, 2010

DOI: 10.1089/thy.2010.0041

Prevalence of Parietal Cell Antibodies in a Large Cohort of Patients with Autoimmune Thyroiditis

Serenella Checchi, Annalisa Montanaro, Cristina Ciuoli, Lucia Brusco, Letizia Pasqui, Carla Fioravanti, Fausta Sestini, and Furio Pacini

Background: Autoimmune thyroiditis (AIT) may be associated with other organ-specific autoimmune disorders, including autoimmune gastritis, but the prevalence of this association is not entirely quantified. The aim of this study was to investigate the prevalence of parietal cell antibodies (PCA) in a large cohort of consecutive patients with AIT.
Methods: We retrospectively studied 2016 consecutive women and 258 men with AIT seen at our referral center in the period from 2004 to 2008. All patients were screened for the presence of PCA in the serum.
Results: The prevalence of serum PCA in female patients was 29.7% and progressively increased from 13% in the first-second decade of life to peak at 42% in the ninth decade. During follow up, 21.1% of the PCA-positive patients converted to PCA-negative status. Mean (±standard deviation) basal PCA levels in this group were significantly lower (32 ± 28 U/mL) compared with those remaining PCA positive (129 ± 200 U/mL). A similar prevalence (29.8%) with a similar age-dependency was found in male patients.
Conclusions: In conclusion, our study demonstrates a high, age-dependent prevalence of PCA in an unselected large population of patients with AIT.

CAMPUS SIGE 2015
Malattie Digestive nelle Cure Primarie
ROMA, 23-24 GENNAIO 2015
HOLIDAY INN ROME AURELIA

UTILIZZO DI GASTROPANEL COME TEST PREDITTIVO DI GASTRITE CRONICA ATROFICA DEL CORPO GASTRICO NEI PAZIENTI CON MALATTIE AUTOIMMUNI DELLA TIROIDE

Rudi De Bastiani, Antonio Tursi, Ignazio Grattagliano, Manuela De Polo, Elisabetta Baldi, Maria Zamparella, Guido Sanna, Enzo Pirrotta, Fabio Bernard, Paolo Bacchin, Laura Boscariolo, Mario Bortot, Giuseppe Polizzi, Lucarelli Maurizio, Francesco Di Mario

Accepted UEGW 2014

INTRODUZIONE

La prevalenza delle tiroiditi autoimmuni nella popolazione generale è alta (5-15%) e spesso è associata ad altre patologie autoimmuni. Una di queste è la gastrite autoimmune, presente in modo asintomatico nel 20-30% dei pazienti con tiroidite autoimmune e nel 2-8% della popolazione generale. La gastrite autoimmune è una condizione precancerosa dello stomaco che incide notevolmente sull'assorbimento di vitamine, oligonutrienti e sulla somministrazione orale di alcuni farmaci. La diagnosi è attualmente viene effettuata tramite la ricerca nel siero di anticorpi contro le cellule parietali gastriche (APCA) e l'istologia.

Gastropanel si compone di quattro parametri: PG-I (pepsinogen-I), PG-II (Pepsinogeno-II), SG-17 (gastrina-17) e gli anticorpi Helicobacter *pylori*. Gastropanel è stato pertanto proposto come test sierologico non invasivo per selezionare i pazienti ad alto rischio di gastrite cronica atrofica, meritevoli di ulteriori indagini endoscopiche. Questo studio è volto ad indagare la presenza di gastrite atrofica cronica in pazienti con tiroidite autoimmune.

OBIETTIVI E METODI

I pazienti (n = 160) con tiroidite autoimmune sono stati estratti dal database di 16 medici di medicina generale. Dopo l'esclusione di cancro della tiroide, l' ipotiroidismo farmaco-indotta, l'incapacità di sospendere PPI e controindicazioni per eseguire l'endoscopia, 145 pazienti (femmine = 130, età media 52 anni) sono stati ulteriormente studiati per le alterazioni gastriche.

APCA e Gastropanel sono stati eseguiti su un prelievo di sangue venoso. PG I / II <3 è stato considerato suggestivo di moderata o grave gastrite cronica atrofica del corpo gastrico e l'indicazione di eseguire una endoscopia del tratto gastrointestinale superiore.

RISULTATI

Gli APCA erano positivi in 22 pazienti (15,2%) e PG I / II era <3 in 20 (13,8%) pazienti con tiroidite autoimmune. Quindici pazienti (75%) con PG I / II <3 avevano anche gli APCA positivi. La gastrite cronica atrofica era presente in 24/145 (16,6%) pazienti: 11/22 (50%) APCA positivi, 13/20 (65%) PG I / II <3 e 10/15 (67%) avevano contemporaneamente gli APCA positivi e PG I / II <3. I pazienti (n = 24) con gastrite cronica atrofica all' istologia erano 11/24 (46%) con APCA positivi, 13 pazienti (54%) con PG I / II <3, 10 (42%) positivo e 10 (42%) negativi per entrambi i test.

Attraverso una regressione logistica multipla è stato dimostrato che APCA da solo ha un valore predittivo positivo per la gastrite atrofica del 50%, PG I / II <3 ha un valore predittivo positivo del 67%, mentre il PG I / II> 3 aveva un valore predittivo negativo del 86%. La positività sia per APCA che per PG I / II <3 aumenta fino al 69% il valore predittivo positivo per la diagnosi di gastrite cronica atrofica.

CONCLUSIONI

Nonostante il basso numero di pazienti, i risultati indicano che PG I / II <3 ha un valore predittivo superiore APCA per la diagnosi di gastrite cronica atrofica. La presenza contemporanea di entrambi (APCA e PG I / II <3) aumenta il valore predittivo per gastrite cronica atrofica in pazienti con tiroidite autoimmune. Gastropanel, insieme al dosaggio degli APCA, può rappresentare uno strumento non invasivo per selezionare i pazienti che necessitano di endoscopia ed istologia.

RUOLO DI APCA E GASTROPANEL NELLA DIAGNOSI DI GASTRITE AUTOIMMUNE

AUTORE	ANNO	NUMERO PAZIENTI	PGI<25 oppure PGI/PGII <3	APCA positivi
Venerito M.	2014	34 pz con tiroidite autoimmune	8 **(23,5%)**	11 **(32,3%)**
Alonso N.	2011	168 pz con DM I	11 **(6,5%)**	11 con PGI<25 **(6,5%)** 33 con PGI normale **(19,6%)**
Brenner H.	2013	9684 pz popolazione generale	-	**19,5%** Hp negativi **11,3%** Hp positivi **2,6%**
Antico A.	2014	429 pz popolazione generale	20 **(4,3%)**	-
Di Mario F.	2007	61 pz con tiroidite autoimmune	11 **(18%)**	19 **(31,1%)**
Cesari S.	2014	20 bambini con tiroidite autoimmune 19 familiari (genitori) 16 controlli pediatrici	2/20 **(10%)** 5/19 **(26,3%)** 1/16 **(6,2%)**	1/20 **(5%)** 4/19 **(21%)** 0/16 **(0%)**
De Bastiani R.	2014	145 pz popolazione generale	20/145 **(13,8%)**	22/145 **(15,2%)**
Di Mario F.	2006-2013	8000 pz popolazione generale	519/8000 **(6,5%)**	-
Checchi S.	2010	2276 pz con tiroidite autoimmune	-	680/2276 **(29,9%)**

AP&T Alimentary Pharmacology and Therapeutics

Autoimmune gastritis in autoimmune thyroid disease

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SUMMARY

Background
Autoimmune gastritis (AIG) leads to oxyntic gastric atrophy (OGA), a condition at increased risk for gastric cancer. AIG in conjunction with autoimmune thyroid disease (ATD) has been reported previously.

Aim
In a case–control study in patients with ATD, to evaluate the usefulness of serum pepsinogens for the identification of OGA, and to determine the relationship of *Helicobacter pylori* with OGA.

Methods
Patients with ATD (cases) and goitre (controls) were prospectively enrolled in the study. Pepsinogen (PG) I levels ≤25 μg/mL and PG I/II ratio ≤3 were indicative for OGA. Antibodies against *H. pylori*, CagA and parietal cells (APCA) were also determined. Esophagogastroduodenoscopy with biopsies was offered to patients with serological OGA.

Results
Totally, 34 ATD patients and 30 controls were enrolled. Serological OGA was present only in ATD patients (8/34, 23.5%, OR 8.3, 95% CI = 1.9–36.2). In all eight patients OGA was confirmed by histology. OLGA stage I, II, III and IV was described in 0%, 33%, 50% and 17% of the cases, respectively. About, 89% and 11% of OGA patients were seropositive for APCA or *H. pylori* infection, respectively. Gastric atrophy involved the angulus/antrum in 50% of AIG patients.

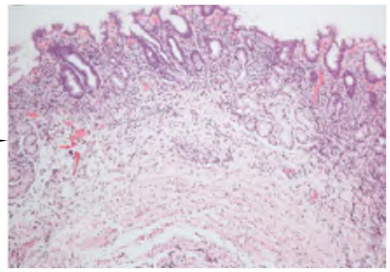
Conclusions
The seroprevalence of OGA is high in ATD patients and thus, testing of serum pepsinogens should be included in the clinical assessment of these patients. *H. pylori* infection is unlikely to be a principal factor in the pathogenesis of OGA in ATD patients. In AIG, gastric atrophy can spread from the oxyntic towards the antral mucosa.

GASTROPANEL IN PATIENTS AFFECTED BY AUTOIMMUNE THYROID DISEASE

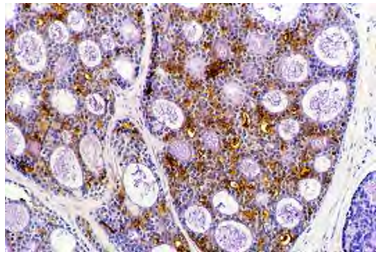
61 pts (Graves, Hashimoto): 18% (11 pts) presented CAG.

	Age	Sex	PG I	G-17
1	66	F	6.2	142
2	44	F	1.7	185
3	89	F	19.9	264
4	54	F	24.6	52
5	84	F	14.7	84
6	63	F	18.6	33
7	69	F	23.6	5.6
8	63	F	24	74
9	47	F	13.4	6.2

EGDS of 9 pts:



CAG



ADK

SCOPO:

Individuare pz con gastrite cronica atrofica del corpo-fondo (PGI<25 micromol/L , G17>10 pmol/L, PGI/PGII <3 micromol/L) con condizione di ipo/anacidità, a rischio di sviluppo di cancro gastrico da sottoporre ad EGDS con mappaggio bioptico e relativo follow-up

ASSOCIAZIONE FRA PATOLOGIA AUTOIMMUNE GASTRICA E TIROIDEA

1) Pazienti con tiroidite autoimmune; marzo 2015-dicembre 2015

2) Gastropanel + APCA

I pz positivi (APCA+, PGI<25, G17>10) verranno sottoposti ad EGDS con biopsie.

3) Esclusi pz con patologie croniche epatiche o renali, neoplasie, gastroresecati