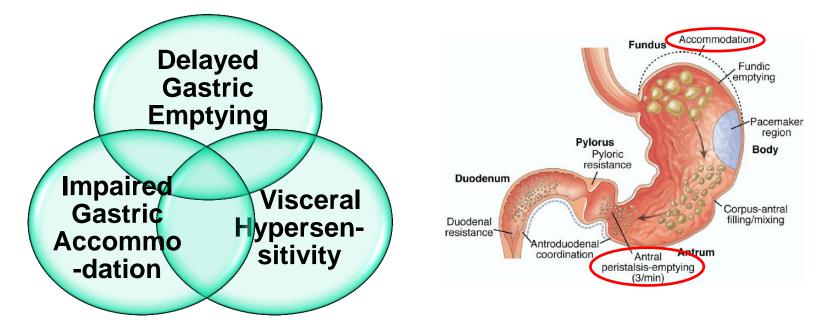
위염에 대한 오해와 진실

삼성서울병원 소화기내과 민 병훈





Chronic Dyspepsia in Gastritis Patients - Pathophysiology of functional dyspepsia



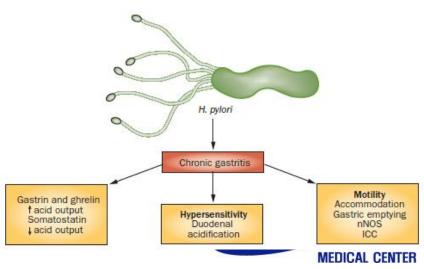
- Delayed gastric emptying: 40%
- Impaired gastric accommodation: 40%
- Hypersensitivity to gastric distension: 30%
- Hypersensitivity to acid

Talley NJ, et al. Am J Gastroenterol 2005;100:2324-2337



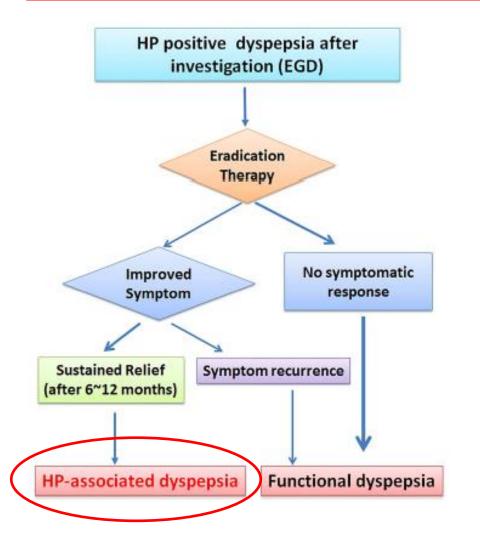
H. pylori-associated Dyspepsia- Weak association with dyspeptic symptoms

- *H. pylori* gastritis is the cause of dyspepsia in a subset of patients
- Self-administered infection with *H. pylori* can induce acute dyspeptic symptoms
- H. pylori eradication for chronic dyspepsia
 - Relative risk reduction over placebo: 10% (36% vs 29%)
 - Number needed to treat: 14
 - **1/14 = 7.1%**



Suzuki H et al. Nat Rev Gastroenterol Hepatol 2013;10: 168-74

H. pylori-associated Dyspepsia

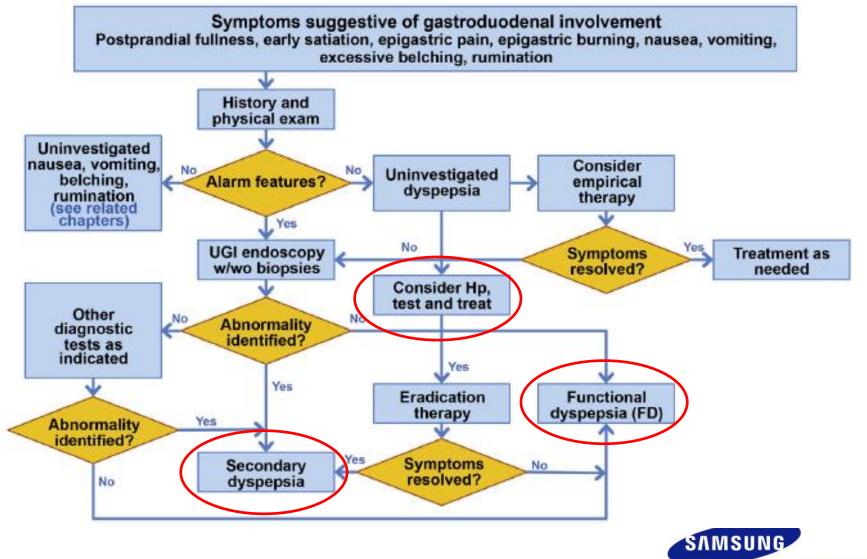


- Symptoms can be attributed to *H. pylori* gastritis, if successful eradication therapy is followed by sustained symptom remission
- At least 6 months after
 H. pylori eradication for symptomatic gain
 - Time for gastritis to recover



Suzuki H, et al. Nat Rev Gastroenterol Hepatol 2013;10:168-74

Management of Patients with Dyspepsia



MEDICAL CENTER

Stanghellini V, et al. Gastroenterology 2016;150;1380-92

Functional Dyspepsia - Definition in ROME IV criteria

- Secondary dyspepsia
 - Organic, systemic, or metabolic cause of dyspepsia
- H. pylori-associated dyspepsia
 - A subset of secondary dyspepsia patients whose symptoms are treated by *H. pylori* eradication

Functional dyspepsia

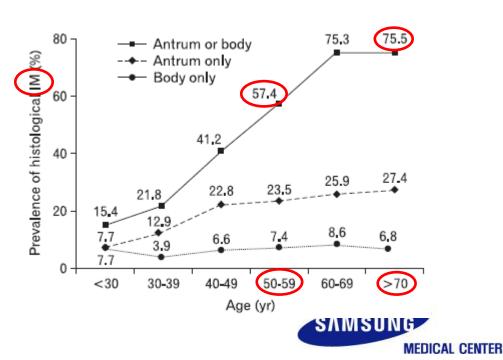
 Those in whom no identifiable explanation for the symptoms can be identified by traditional diagnostic procedures



Stanghellini V, et al. Gastroenterology 2016;150;1380-92

Prevalence of CAG or IM in Korea - Histology-based

- 1330 subjects most of which had gastroduodenal diseases
- Topographic biopsies from both antrum & body
- Atrophy
 - Antrum: 57.2%
 - Body: 38.3%
- Intestinal metaplasia
 - Antrum: 52.7%
 - Body: 36.3%
 - Overall: 59.9%



Lim JH, et al. Gut Liver 2013;7:41-50

Endoscopic Diagnosis of CAG or IM - Limited accuracy

- 1330 Korean patients
- Updated Sydney system as pathologic standard
- Endoscopic diagnosis of atrophy in antrum/body
 - Sensitivity: 61.5%/46.8%
 - Specificity: 57.7%/76.4%



Endoscopic diagnosis of IM in antrum/body

- Sensitivity: 24.0%/24.2%
- Specificity: 91.9%/88.0%

Lim JH, et al. Gut Liver 2013;7:41-50 Eshmuratov A, et al. Dig Dis Sci 2010;55:1364-75



Chronic Atrophic Gastritis & IM - Established precancerous lesions

- Very common (> 50%) in Korea, especially in elderly (>75%)
- Accuracy of endoscopic diagnosis of CAG & IM
 - Very limited, especially for IM (sensitivity: 24%)
- Eradication of *H. pylori*
 - Potential for improving CAG but not IM
 - Potential for preventing GC in patients without IM or extensive CAG
- Recent expansion of insurance coverage
 - Appropriate target???



Pepsinogen

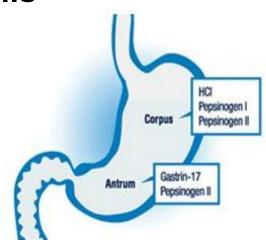
- Marker for extensive atrophic gastritis

Pepsinogen I

- Secreted by chief and mucous neck cells
- Corpus and fundus only
- Extensive atrophic gastritis including corpus → marked decrease

Pepsinogen II

- Secreted by chief and mucous neck cells
- Pyloric glands
- Brunner's glands in duodenum
- Extensive atrophic gastritis including corpus → mild decrease



ABC Method

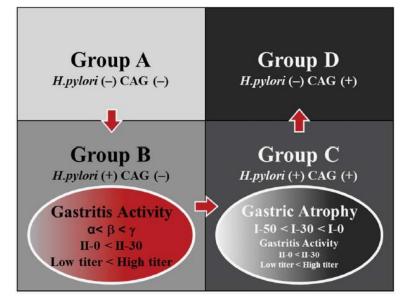
- Serum pepsinogen & H. pylori Ab

- Mean 4.7 years of follow-up
- Annual incidence of GC
 - A: HP (-), PG (WNL) → 0.04%
 - B: HP (+), PG (WNL) → 0.06%
 - C: HP (+), PG (AG) → 0.35%
 - D: HP (-), PG (AG) → 0.60%

proportional hazard model

	Hazard ratio	95% CI	p Value
Group			
A	1		
В	1.1	0.4-3.4	0.81
С	6.0	2.4-14.5	< 0.0001
D	8.2	3.2-21.5	< 0.0001
Age (y)			
<60	1		
>60	5.3	2.9-9.9	<0.0001
ex			
Female	1		
Male	3.2	1.3-8.2	0.01

Table 3 Hazard ratio assessment adjusted by Cox





Watabe H, et al. Gut 2005;54:764-8

H. pylori Eradication for Preventing GC - Meta-analysis

year	Incidence rate ratio (95% CI)	Percent, weight	Author, year	Incidence rate ratio (95% CI)	Percent, weight
Lowest tertile of incidence			Asymptomatic infected individuals		
Kosunen et al, 2011	0.85 (0.43, 1.66)	7.10	Kosunen et al, 2011	0.85 (0.43, 1.66)	7.10
Correa et al, 2000	1.48 (0.25, 8.87)	1.00	Correa et al, 2000	1.48 (0.25, 8.87)	1.00
Wong et al, 2012	3.04 (0.32, 29.18)	0.63	Wong et al, 2012	- 3.04 (0.32, 29.18)	
Lee et al. 2013	0.94 (0.46, 1.90)	6.48	Lee et al, 2013	0.94 (0.46, 1.90)	6.48
Yanaoka et al, 2009	0.75 (0.30, 1.87)	3.84			3.84
Wong et al, 2004	0.63 (0.25, 1.63)	3.58	Yanaoka et al, 2009	0.75 (0.30, 1.87)	
Saito et al, 2005	0.55 (0.09, 3.29)	1.00	Wong et al, 2004	0.63 (0.25, 1.63)	3.58
Zhou et al, 2008	0.29 (0.06, 1.38)	1.30	Saito et al, 2005	0.55 (0.09, 3.29)	1.00
Subtotal (I-squared = 0.0%, P = .770)	0.80 (0.56, 1.15)	24.93	Zhou et al, 2008	0.29 (0.06, 1.38)	1.30
	, , , ,		You et al, 2006	0.65 (0.42, 1.01)	17.20
Intermediate tertile of incidence			Mabe et al, 2009	0.49 (0.24, 0.99)	6.32
You et al. 2006	0.65 (0.42, 1.01)	17.20	Takenaka et al, 2007	0.23 (0.07, 0.75)	2.28
Mabe et al. 2009	0.49 (0.24, 0.99)	6.32	Take et al, 2007	0.42 (0.13, 1.36)	2.32
Takenaka et al. 2007	0.23 (0.07, 0.75)	2.28	Ogura et al. 2008	0.35 (0.13, 0.91)	3.44
Take et al, 2007	0.42 (0.13, 1.36)	2.32	Saito et al. 2000	0.13 (0.01, 2.36)	0.37
Choi et al, 2014	0.61 (0.28, 1.32)	5.27	Subtotal (I-squared = 0.0% , $P = .508$)	0.62 (0.49, 0.79)	56.86
Ogura et al, 2008	0.35 (0.13, 0.91)	3.44		0.02 (0.40, 0.10)	00.00
Nakagawa et al, 2006	0.43 (0.21, 0.88)	6.30	Individuals after endoscopic resection of		
Fukase et al, 2008	0.38 (0.17, 0.81)	5.48	early gastric cancer Choi et al, 2014	0.61 (0.28, 1.32)	5.27
Subtotal (I-squared = 0.0% , $P = .694$)	0.49 (0.38, 0.64)	48.61			
	0.10 (0.00, 0.01)	10.01	Nakagawa et al, 2006	0.43 (0.21, 0.88)	6.30
Highest tertile of incidence			Fukase et al, 2008	0.38 (0.17, 0.81)	5.48
Bae et al, 2014	0.49 (0.29, 0.83)	11.77	Bae et al, 2014	0.49 (0.29, 0.83)	11.77
Uemura et al, 1997	0.09 (0.00, 1.54)	0.39	Uemura et al, 1997	0.09 (0.00, 1.54)	0.39
Kim et al. 2014	0.27 (0.06, 1.19)	1.49	Kim et al, 2014	0.27 (0.06, 1.19)	1.49
Shiotani et al, 2008	- 1.23 (0.16, 9.69)	0.75	Shiotani et al, 2008	1.23 (0.16, 9.69)	0.75
Kwon et al, 2014	0.32 (0.13, 0.78)	4.18	Kwon et al, 2014	0.32 (0.13, 0.78)	4.18
Maehata et al. 2012	0.59 (0.28, 1.25)	5.83	Maehata et al. 2012	0.59 (0.28, 1.25)	5.83
Saito et al, 2000	0.13 (0.01, 2.36)	0.37	Seo et al. 2013	0.42 (0.11, 1.69)	1.67
Seo et al, 2013	0.42 (0.11, 1.69)	1.67	Subtotal (I-squared = 0.0%, $P = .867$)	0.46 (0.35, 0.60)	43.14
Subtotal (I-squared = 0.0% , $P = .713$)	0.42 (0.11, 1.69)	26.46		0.40 (0.35, 0.00)	45.14
Subtotal (I-squared = $0.0\%, P = .713$)	0.45 (0.32, 0.64)	20.40	Overall	0.54 0.46, 0.65)	100.00
Overall -squared = 0.0%, P = .673)	0.54 0.46, 0.65)	100.00	NOTE: weights are from random effects analysis	0.54 0.46, 0.65)	100.00
NOTE: weights are from random effects analysis					
	10		.1 .25 .5 1 2 4 10		
.1 .25 .5 1 2 4	10		Favor eradication Favor n	on-eradication	

Figure 2. Summary incidence rate ratio of gastric cancer associated with *H pylori* eradication by traditional random-effects meta-analysis, stratified by baseline incidence of gastric cancer.

Figure 3. Summary incidence rate ratio of gastric cancer associated with *H pylori* eradication by traditional random-effects meta-analysis, stratified by clinical scenario (asymptomatic infected individuals vs individuals after endoscopic resection of early gastric cancer).



Lee YC, et al. Gastroenterology 2016;150:1113-24