

Helicobacter pylori

Seroepidemiologic Study of *Helicobacter pylori* Infection in Korea

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Background/Aims: The aims of this study were to investigate the seroprevalence of *H. pylori* infection and to find out the various epidemiologic factors related to *H. pylori* infection in Korea. **Methods:** From May, 1997 to July, 1997, 2,449 healthy subjects from 5 health center responded to the self-administered questionnaires for various epidemiologic factors. At the same time, *H. pylori* IgG level in serum were tested by ELISA (GAP test) and proved to be *H. pylori* 'positive' in cases whose cut-off values were over 15 μ /mL. **Results:** The overall seroprevalence of *H. pylori* infection was 44.8%. In relation to age, the seroprevalence of *H. pylori* infection was 57.8% in adults (age>18), and 15.3% in children (age, 1-18). The seroprevalence was 1.1% in younger group than 5, 12.8% in group aged between 5 and 9, 20.4% in group aged between 10 and 14, 33.3% in group aged between 15 and 19, and 66.7% in the 20's. The results mean that the prevalence increases with age ($p<0.001$). Besides age, the other significant epidemiological factors affecting the seroprevalence of *H. pylori* infection were occupation, water source, presence of gastrointestinal symptoms in adults

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and FH of PUD and number of family members in children. **Conclusions:** In this study, the seroprevalence of *H. pylori* infection in adults was 57.8% which is lower than that of previous reports. Further epidemiologic studies is needed to identify the role of epidemiologic factors of childhood and adolescent period, the major affected periods. (**Kor J Gastroenterol 1999;33:170 - 182**)

Key Words: *H. pylori*, Seroprevalence, Epidemiology

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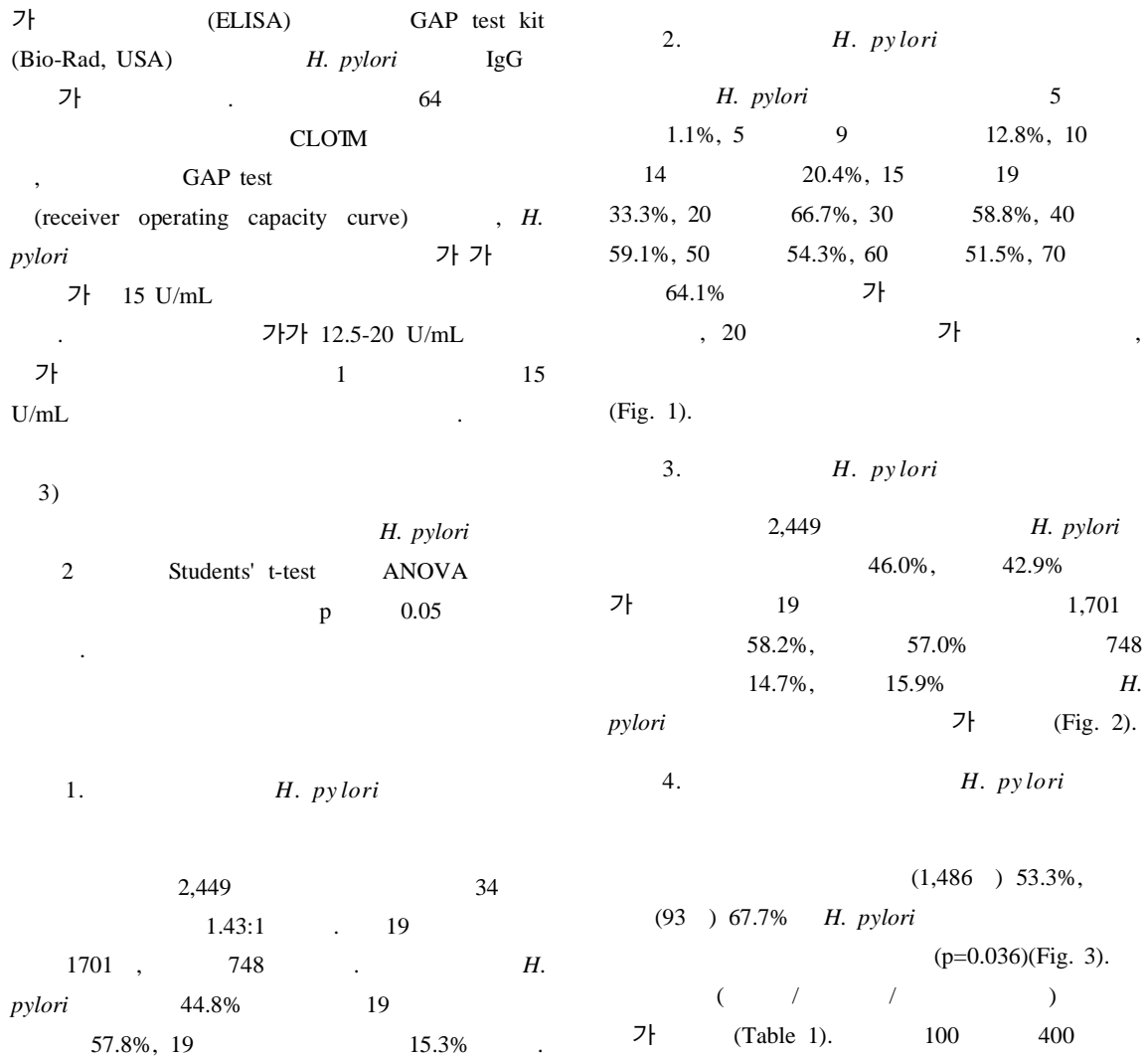


Fig. 1. Seropositivity of *H. pylori* infection according to the age. In relation to age, the seropositivity increased rapidly before the ages of twenty (n=2,449, p<0.01).

Fig. 2. Seropositivity of *H. pylori* infection according to gender. There was no significant difference in seropositivity according to gender in both adults and children ($p=NS$).

Fig. 3. Seropositivity of *H. pylori* infection according to the location of residence. Seropositivity of *H. pylori* infection in metropolitan area was lower than the other area ($p<0.05$).

Fig. 4. Seropositivity of *H. pylori* infection according to occupation. Significant difference of seropositivity of *H. pylori* infection was noted among the subgroups of occupation ($p<0.05$).

Table 1. Comparison of Seropositivity of *H. pylori* Infection according to Various Socioeconomic Factors

Variables	Valid no.	No. of seropositivity (%)	p-value
Occupation			0.035
White color	524	316 (60.7)	
Blue color	57	25 (43.9)	
Private profession	287	166 (57.8)	
Merchant	108	52 (48.1)	
None	645	372 (57.7)	
Income			0.468
Low	84	53 (63.1)	
Middle	1,118	639 (57.2)	
High	197	118 (59.9)	
Education			0.433
Elimentary	90	52 (57.8)	
Middle	98	51 (52.0)	
High	476	270 (56.7)	
College	883	527 (59.7)	
Types of housing			0.309
Apartment	924	539 (58.3)	
Tenement housing	54	35 (64.8)	
Private housing	426	238 (55.9)	
Water source			0.009
Nonpublic water	1,054	687 (55.7)	
Public water	62	45 (72.6)	
No. of family members			0.008
<5	331	51 (15.4)	
5	153	39 (25.5)	

H. pylori 감염률 (Table 1). *H. pylori* 감염률 60.7%, *H. pylori* 감염률 57.8%, *H. pylori* 감염률 57.7%, *H. pylori* 감염률 43.9%, *H. pylori* 감염률 48.1%, *H. pylori* 감염률 62.9%, *H. pylori* 감염률 49.8% (p=0.035)(Fig. 4). *H. pylori* 감염률 68.9% vs 56.1%, p=0.009(Fig. 7). *H. pylori* 감염률 72.6%, *H. pylori* 감염률 55.7%, p=0.009(Fig. 5). (72.6% vs 55.7%, p=0.009)(Fig. 5).

Fig. 5. Seropositivity of *H. pylori* infection according to the source of drinking water. People using public (tap) water supply as drinking water had higher seropositivity than people with non-public water supply ($p < 0.01$).

Fig. 6. Seropositivity of *H. pylori* infection according to the presence of gastrointestinal (GI) symptoms. Seropositivity of *H. pylori* infection in subjects with positive GI symptoms was significantly higher than asymptomatic subjects ($p < 0.01$).

Fig. 7. Seropositivity of *H. pylori* infection according to the presence of family history of peptic ulcer disease. Positive family history showed significantly higher seropositivity ($p < 0.01$).

Table 2. Comparison of Seropositivity of *H. pylori* Infection according to Various Demographic Factors

Variables	Valid no.	No. of seropositivity (%)	p-value
Height	1,557		0.931
Weight	1,556		0.965
Alcohol	1,621		0.051
Positive	781	469 (60.1)	
Negative	840	464 (55.2)	
Smoking	1,621		0.341
Positive	842	488 (58.0)	
Negative	577	321 (55.6)	
Past smokers	202	124 (61.4)	

Table 3. Comparison of Seropositivity of *H. pylori* Infection according to Previous Symptoms and History of UGI Diseases

Variables	Valid no.	No. of seropositivity (%)	p-value
Gastrointestinal symptom			0.000
Positive	961	604 (62.9)	
Negative	660	329 (49.8)	
Past history of PUD			0.620
Positive	78	47 (60.3)	
Negative	1,543	886 (57.4)	
FH of PUD			0.009
Positive	180	124 (68.9)	
Negative	1,441	808 (56.1)	
FH of stomach cancer			0.117
Positive	292	180 (61.6)	
Negative	1,329	754 (56.7)	

UGI, upper gastrointestinal; PUD, peptic ulcer disease; FH, family history.

Fig. 8. Seropositivity of *H. pylori* infection among children according to the number of family members. Children with larger number of family members (more than five) showed significantly higher seropositivity ($p < 0.01$).

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