

¹⁴C- *Helicobacter pylori*
3 2

**Analysis of Eradication Rate of *Helicobacter Pylori* by
Treatment Regimen of Triple Therapy and Dual Therapy
Using ¹⁴C-Urea Breath Test**

Seung Hyun Lee, M.D., Sang Hoon Jeon, M.D., Chang Gyun Seo, M.D., Sang Hyon Kim, M.D.,
Yoong Seog Lee, M.D., Jae Woong Hur, M.D.*, Seok Kil Zeon, M.D. †, Sung Hoon Ahn, M.D.

*Departments of Internal Medicine and Nuclear Medicine †, Keimyung University School of Medicine,
Taegu; Department of Internal Medicine*, Saint Mary's Hospital, Pohang, Korea*

Abstract : *Helicobacter pylori* (*H. pylori*) infection is associated with chronic active gastritis, duodenal and gastric ulcers, gastric adenocarcinoma, and gastric lymphoma. The eradication of *H. pylori* not only results in the healing of ulcer but also reduces recurrence of peptic ulcer. Using ¹⁴C-urea breath test, we compared the efficacy of omeprazole-based triple therapy and dual therapy in patients with *H. pylori*-positive peptic ulcer. Seventy nine *H. pylori*-positive patients with peptic ulcer were enrolled and randomly divided into two groups. Fifty nine patients received triple therapy (omeprazole, clarithromycin and amoxicillin) for 7 days and twenty patients received dual therapy (omeprazole and clarithromycin) for 14 days. The eradication of *H. pylori* was assessed by ¹⁴C-urea breath test 4-8 weeks after the completion of each therapy. The overall eradication rate of *H. pylori*, using ¹⁴C-urea breath test, was 88.1% in the triple therapy group and 35% in the dual therapy group, therefore the eradication rate of triple therapy was higher than that of dual therapy.

Key Words : *Helicobacter pylori*, ¹⁴C-urea breath test, Gastric ulcer, Duodenal ulcer

1982 Marshall Warren
 (H. pylori)가 *Helicobacter pylori*
H. pylori
 [1],
 50% ,
 [2,3], ,

1990
 pylori가 ,
 [3], 1994

*H. pylori*가
 , *H. pylori*
H. pylori

[4].
H. pylori 가
¹⁴C- (urea breath test)
 가 ,
H. pylori
 [5-7], *H. pylori*
 가
 [8,9]. *H. pylori*

omeprazole, clarithromycin, amoxicillin 3
 omeprazole, clarithromycin 2
H. pylori

¹⁴C- .
 1.
 2000 1 2001 6

(Pronto Dry ,
 Solothurn, Switzerland) *H. pylori*가
 3
 2 4-8 ¹⁴C-
 (PY test , Ballard, USA)
 가 79 .

2. *H. pylori*
 (rapid urase, CLOtest) ,
 modi-

fied Giemsa hematoxylin and eosin
 (H&E) *H. pylori*
 .

3. *H. pylori*
 omepra-
 zole 20 mg/ , clarithromycin 1.0 g/ ,
 amoxicillin 2.0 g/ 1
 omeprazole 20 mg/ 4
 3 (A) 59 omeprazole
 20 mg/ clarithromycin 1.0 g/ 2
 2 (B) 20
 .

4. *H. pylori*
 3 2 4-8
¹⁴C- *H. pylori*
 가 .

5. ¹⁴C-
 30 mL 2 ¹⁴C-urea capsule
 20 mL

10, ¹⁴C-urea capsule 20 mL 가 5 1.

가

가 58 , 가 21

, *H. pylori* 49.3 . 3 A

. *H. pylori*가 가 44 , 가 15 B 가 14

¹⁴C/¹²C [9] 가 50 dpm 49.3 . 2 49.0

(Table 1).

가 200 dpm 2. *H. pylori*

가 50-200 dpm

1 가 50-200 dpm 4-8 ¹⁴C-

. A 59 52 *H. pylori*

88.1%

6. , B 20 7 ¹⁴C-

35% , A (Table 2).

± (p<0.05)

SPSS 10.0 (Statistical package for social science, SPSS CO, USA)

Student-test Chi-square

test 가

P 0.05 . 74.1%

76.2%

Table 1. Clinical characteristics of patients

	Group A	Group B	Total
Age (years)	49.3 ± 11.59	49 ± 10.21	49.3 ± 11.20
Sex (M:F)	44 : 15	14 : 6	58 : 21
GU (n)	23	5	28
DU (n)	33	15	48
GU+DU (n)	3	0	3
Total (n)	59	20	

GU, Gastric ulcer; DU, Duodenal ulcer; GU + DU, Gastric ulcer + Duodenal ulcer;

Group A: triple therapy group (omeprazole + amoxicillin + clarithromycin);

Group B: dual therapy group (omeprazole + clarithromycin).

Table 2. Eradication rate of *H. pylori* in each treatment group

Group	Negative value of UBT (n)*	Eradication rate (%)
Group A (n=59)	52	88.1 [†]
Group B (n=20)	7	35
Total (n=79)	59	74.3

Group A: triple therapy group; Group B: dual therapy group; UBT: urea breath test.

* Negative value of UBT: 0-50 dpm.

[†] p < 0.05 group A Vs group B.

Table 3. Comparison eradication rate of *H. pylori* according to sex difference

Group	Total (n)	Negative value of UBT (n)*	Eradication rate (%)
Male	58	43	74.1
Female	21	16	76.2
Total	79	59	74.7

UBT, urea breath test; * Negative value of UBT: 0-50 dpm.

(Table 3).
 zole, clarithromycin, 3, omeprazole, 90%
 [12].
H. pylori
H. pylori,
 [4]. *H. pylori*,
 bismuth, metronidazole, (PCR)
 amoxicillin, tetracycline,
 3, 가 [13],
 80-95%, Quick saliva test, ,
 , 30-50%, [14]. ¹³C
 가, metronidazole, ¹⁴C, *H. pylori*
 가가, [10]. omeprazole,
 amoxicillin, clarithromycin, 2,
 , 2,
H. pylori, 54-80%
 [11]. 가

가 [15,16]. ¹⁴C- 91.7% omeprazole, amoxicillin, clarithromycin 3
 91.4% . H. pylori 79 3
¹³C- 가 , 2 ,
 4-8 ¹⁴C- H. pylori . 3
 가 가 59 52
 [17]. 88.1% ,
 가 2 35%
 가 가 H. pylori ¹⁴C-
 [8,9]. [9] . , 3 omeprazole 4
 [18] 가 H. pylori 가 .
 H. pylori H. pylori 2 가
 pylori 60-70% 3
 81.8%-91.2%
 [23]. [24]
 가 95% clarithromycin H. pylori
 3%[25], 23.4%[26] ,
 가 [8]. amoxicillin 8.5%[26]
 4 가
 proton pump inhibitor proton pump inhibitor rabeprazole
 [19]. pantoprazole 3 omepra-
¹⁴C- zole 3
 H. pylori 가 .
 H. pylori metronidazole
 proton pump inhibitor clarithromycin,
 amoxicillin 3 가
 [20,21], [22] omepra-
 zole amoxicillin 2 가 ,
 57.1% colloidal bismuth subcitrate, H. pylori가
 amoxicillin, metronidazole 3 가 .

H. pylori ¹⁴C-
H. pylori
 79
H. pylori 3 (omeprazole, clarithromycin, amoxicillin) 2 (omeprazole, clarithromycin) 4-8 ¹⁴C-
H. pylori 3 59
 52 88.1%
 2 20 7
 35% 3 2

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