

Helicobacter pylori

Lansoprazole

Omeprazole

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**Comparison of Lansoprazole and Omeprazole in
Therapy for *Helicobacter pylori* Infection**

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Background/Aims: The effectiveness of curative therapy for *Helicobacter pylori* (*H. pylori*) infection may vary according to the eradication rate, side effects, and compliance of regimen. Lansoprazole, one of proton-pump inhibitor, has been claimed to have greater anti-*H. pylori* activity than that of omeprazole *in vitro*. However, there is no literature concerning the comparison of therapeutic efficacy of these two drugs in Korea. Thus, we investigated the efficacy of combination therapy with amoxicillin, metronidazole, and either lansoprazole or omeprazole. **Methods:** Eighty Patients with *H. pylori* infection were treated with one of four regimens: lansoprazole 30 mg UID, amoxicillin 1.0 g BID (LA); lansoprazole 30 mg UID, amoxicillin 1.0 g BID, metronidazole 250 mg TID (LAM); omeprazole 20 mg BID, amoxicillin 1.0 g BID (OA); omeprazole 20 mg BID, amoxicillin 1.0 g BID, metronidazole 250 mg TID (OAM), for 14 days. **Results:** The eradication rates were 33.3% in LA, 50.0% in OA, 76.5% in LAM and 83.3% in OAM. The most frequently observed side effect was diarrhea or loose stool. **Conclusions:** Low dose lansoprazole-based regimen showed comparable eradication rate, side effects and compliance, as compared with omeprazole-based regimen. Further study using lansoprazole at various doses may be needed to evaluate the efficacy of anti-*H. pylori* eradication regimens in Korea. (**Kor J Gastroenterol 2000;35:716 - 723**)

Key Words: *Helicobacter pylori*, Lansoprazole, Omeprazole

1.

1997 10 1998 6

가
 . 1984 Marshall Warren
Helicobacter pylori(*H. pylori*)
 , .1
 , 가
 , 60-80%,
 90-95% .23 *H. pylori*
 , *H. pylori*
 .46
H. pylori
 ,
 .7 *H. pylori* proton-pump
 가 가 가
 . Lansoprazole
 proton-pump (in vitro)
 omeprazole *H. pylori* 가
 .810 lansoprazole
 omeprazole
 ,11-13
 가 . ,
 clarithromycin 가 ,
 1
 clarithromycin metronidazole
H. pylori proton-pump 가
 omeprazole lansoprazole
 zole .

rapid urease *H. pylori*
 80 .
 18 75 ,
 , 3
 ,
 . *H.*
pylori
 hematoxylin & eosin, Giemsa
 , rapid urease
 , 가
H. pylori .
 80 lansoprazole 40
 , omeprazole 40 . Lansoprazole
 40 28 , 12
 43.9 ± 10.5 , 3
 (7.5%), 19 (47.5%),
 10 (10%), 9 (22.5%) . Ome-
 prazole 40 24 , 16
 49.1 ± 13.6 ,
 5 (12.5%), 14 (35%),
 1 (2.5%), 17 (42.5%) .
 80 9 (11.3%) 가
 lansoprazole 5 (LAM
 3 , LA 2), omeprazole 2
 (OAM)
 , 2 (OA)
 .
 , ,
 가 (Table 1). *H.*
pylori .

Table 1. Demographic Data and Endoscopic Findings

	Lansoprazole group	Omeprazole group	P-value
No of patients	40	40	
Age (years)*	43.9±10.5	49.1±13.6	0.063
Sex (M/F)	28/12	24/16	0.456
Smoke/non smoke	15/25	17/23	0.648
GU	3	5	0.456
DU	19	14	0.256
GU+DU	4	1	0.166
NUD	9	17	0.056
Withdrawal from study	5	4	0.728

* mean ±SD.

GU, gastric ulcer; DU, duodenal ulcer; NUD, non ulcer dyspepsia.

Table 2. Eradication Rate according to Drug Regimen

Regimens	Eradication rate (%)	P value
PPI dual		
LA group (n=18)	6 (33.3)	0.5
OA group (n=18)	9 (50.0)	
PPI triple		
LAM group (n=17)	13 (76.5)	0.691
OAM group (n=18)	15 (83.3)	

PPI, proton pump inhibitor; LA, lansoprazole+amoxicillin; OA, omeprazole+amoxicillin; LAM, lansoprazole+amoxicillin+metronidazole; OAM, omeprazole+amoxicillin+metronidazole.

2. . lansoprazole omepra-
zole , , LA OA , LAM
LA (lansoprazole 30 mg u.i.d.,
amoxicillin 1.0 g b.i.d.), LAM (lansoprazole 30 mg
u.i.d., amoxicillin 1.0 g b.i.d., metronidazole 250 mg
t.i.d.), OA (omeprazole 20 mg b.i.d., amoxicillin
1.0 g b.i.d.) OAM (omeprazole 20 mg b.i.d.,
amoxicillin 1.0 g b.i.d., metronidazole 250 mg t.i.d.)
4가 20
2
proton-pump 4 가
80%
4
rapid urease 18
1. *H. pylori*
80 가 가 71
LA 18 6 (33.3%), OA
9 (50%)
가 (p=0.500). LAM 17

Student's t-test, 2-test Fisher's exact test

Table 3. The Cost of *H. pylori* Eradication Regimens according to the Price Referred by Health Insurance System in Korea

Regimens	Duration (days)	Cost (won)
LA	14	24,752
OA	14	46,116
LAM	14	25,634
OAM	14	46,998

LA, lansoprazole+amoxicillin; OA, omeprazole+amoxicillin; LAM, lansoprazole+amoxicillin+metronidazole; OAM, omeprazole+amoxicillin+metronidazole.

13 (76.5%), OAM 18 15 (83.3%)

*H. pylori*가

(p=0.691)(Table 2).

2.

7 (9.6%), 5 (6.8%),
3 (4.1%), (,) 2
(2.7%)
().

80%
lansoprazole 40 35 (87.5%), omeprazole
40 36 (90%)
(p=0.728)(Table 1).

H. pylori

H. pylori

bismuth
proton-pump 가 ,
가 가
80% .1415

.7,1617 proton-pump
omeprazole 가 가

가 ,

가 .1819
proton-pump 가

.20 Proton-pump pH
가

.21 가
가 , 가
가 가 .22 proton-pump
가 urease
.2324

Lansoprazole (in vitro) *H.*
pylori 가 1.56-25 µg/ml ,
omeprazole *H. pylori* 가 4
.810 proton-pump

. Lansoprazole
, lansoprazole 30 mg, amoxicillin 2 g 4
44.4% .25 lan-

soprazole 60 mg, amoxicillin 2 g 14
33% .26
lansoprazole 30 mg 6-8 , amoxicillin 2 g
2 , 53.6%,

73.3%
.27 LA 33.3%
50% OA

, 1
80%
H. pylori

Lansoprazole , lansoprazole 60 mg, amoxicillin 2.0 g, clarithromycin 1.0 g 14 72%,11 lansoprazole 30 mg, amoxicillin 1.5 g, clarithromycin 400 mg 7 83.3% ,12 clarithromycin metronidazole , lansoprazole 60 mg, amoxicillin 2.0 g, metronidazole 1.0 g 87% .28

lansoprazole omeprazole meta-analysis lansoprazole 61.5-97.1%, omeprazole 66.7-98.6% 가 ,29 lansoprazole 76.5%, omeprazole 83.3%

lansoprazole . *H. pylori* 80%

가 .

pylori . *H. pylori* 가 . Urea , rapid urease , 5-15% 가 ,30 , (polymerase chain reaction) , urease 가 96.6% ,31 100% rapid urease

가

. *H. pylori* , 가 , 가 . *H. pylori*

.32 *H. pylori* penicillin, erythromycin, tetracyclin, norfloxacin trimethoprim-sulfamethoxazole , tinidazole tripotassium dicitrate bismuthate 70% .33 Metronidazole zole

. *H. pylori* metronidazole 7.0-87.5% , metronidazole bismuth, amoxicillin, metronidazole

,32,34 metronidazole

. Proton-pump metronidazole 가 35

H. pylori lansoprazole omeprazole (Table 3).

H. pylori , , , , ,

가 가 .43,48 lansoprazole 87.5%, omeprazole 90%

proton-pump omeprazole 가

H. pylori lansoprazole 가

가
 proton-pump
 lansoprazole
 omeprazole
 : 1997 10 1998 8
 rapid urease *H. pylori*
 80 4 lansoprazole,
 amoxicillin (LA), lansoprazole, amoxicillin, metro-
 nidazole (LAM), omeprazole, amoxicillin (OA),
 omeprazole, amoxicillin, metronidazole (OAM)
 4
 80
 54 , 26 46.4
 ± 12.3 , 10 ,
 35 , 5 , 30
 : *H. pylori* LA 33.3%, OA
 50%, LAM 76.5%, OAM 83.3% , lansoprazole
 omeprazole
 가 (p=0.500, p=0.691). 가
 : Lansoprazole
 omeprazole

: *Helicobacter pylori*, Lansoprazole, Ome-
 prazole

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