

Supplementary Table 1. Demographic and Baseline Characteristics (Per-Protocol Set)

Characteristics	TPZ (n=150)	LPZ (n=150)	p-value
Age, yr	54.08±11.37	53.17±10.61	0.476 [‡]
Sex			0.564 [§]
Male	75 (50.00)	70 (46.67)	
Female	75 (50.00)	80 (53.33)	
Height, cm	164.63±9.17	163.01±8.88	0.121 [‡]
Weight, kg	66.19±11.60	63.91±12.34	0.100 [‡]
Smoking			0.514 [§]
Yes	24 (16.00)	20 (13.33)	
No	126 (84.00)	130 (86.67)	
Alcohol drinking			0.032 [§]
Yes	48 (32.00)	66 (44.00)	
No	102 (68.00)	84 (56.00)	
Underlying gastric diseases			0.703 [§]
Peptic ulcer disease	42 (28.00)	45 (30.00)	
Chronic atrophic gastritis	108 (72.00)	105 (70.00)	
CYP2C19 genotype test*			0.248 [§]
Extensive metabolizer	54 (42.52)	47 (34.06)	
Intermediate metabolizer	61 (48.03)	71 (51.45)	
Poor metabolizer	12 (9.45)	20 (14.49)	
Amoxicillin susceptibility [†]			0.272 [§]
Susceptible or intermediate (MIC ≤0.125 µg/mL)	27 (79.41)	23 (67.65)	
Resistant (MIC >0.125 µg/mL)	7 (20.59)	11 (32.35)	
Clarithromycin susceptibility [†]			0.787 [§]
Susceptible or Intermediate (MIC ≤0.5 µg/mL)	25 (73.53)	24 (70.59)	
Resistant (MIC >0.5 µg/mL)	9 (26.47)	10 (29.41)	

Data are presented as mean±SD or number (%).

TPZ, tegoprazan-based triple therapy; LPZ, lansoprazole-based triple therapy; CYP, cytochrome P450; AMX, amoxicillin; MIC, minimum inhibitory concentration.

*Only the participants who consented to the genetic test were tested; [†]Only those samples for whom MIC results are available have been presented; [‡]Two-sample t-test; [§]Chi-square test.

Supplementary Table 2. *Helicobacter pylori* Eradication Rates and Clarithromycin and Amoxicillin Susceptibility (Per-Protocol Set)

Variable	AMX-susceptible (MIC ≤0.125 mg/mL)			AMX-resistant (MIC >0.125 mg/mL)			AMX total		
	HP eradication	95% CI	p-value*	HP eradication	95% CI	p-value*	HP eradication	95% CI	p-value*
CLR-susceptible or CLR-intermediate (MIC ≤0.5 µg/mL)									
TPZ	21/21 (100)	-0.05 to 0.16	0.462	2/4 (50.0)	-0.63 to 0.63	1.000	23/25 (92.0)	-0.10 to 0.27	0.417
LPZ	17/18 (94.4)			3/6 (50.0)			20/24 (83.3)		
CLR-resistant (MIC >0.5 µg/mL)									
TPZ	1/6 (16.7)	-0.76 to 0.29	0.546	0/3 (0.0)	-0.55 to 0.15	1.000	1/9 (11.1)	-0.54 to 0.16	0.582
LPZ	2/5 (40.0)			1/5 (20.0)			3/10 (30.0)		
CLR total									
TPZ	22/27 (81.5)	-0.22 to 0.20	1.000	2/7 (28.6)	-0.52 to 0.36	1.000			
LPZ	19/23 (82.6)			4/11 (36.5)					

Data have been expressed in terms of number of events or as the number of subjects with the percentage in parentheses.

AMX, amoxicillin; MIC, minimum inhibitory concentration; HP, *Helicobacter pylori*; CI, confidence interval; CLR, clarithromycin; TPZ, tegoprazan-based triple therapy; LPZ, lansoprazole-based triple therapy.

apx.

*Chi-square test or Fisher exact test

Supplementary Table 3. *Helicobacter pylori* Eradication Rates According to CYP2C19 Polymorphism (Per-Protocol Set)

	Extensive metabolizer		Intermediate metabolizer		Poor metabolizer	
	TPZ (n=54)	LPZ (n=47)	TPZ (n=61)	LPZ (n=71)	TPZ (n=12)	LPZ (n=20)
<i>H. pylori</i> eradicated patients, No. (%)	37 (68.52)	35 (74.47)	40 (65.57)	48 (67.61)	10 (83.33)	12 (60.00)
95% CI for difference from lansoprazole group	-0.24 to 0.12		-0.18 to 0.14		-0.07 to 0.53	
p-value*	0.510		0.805		0.248	

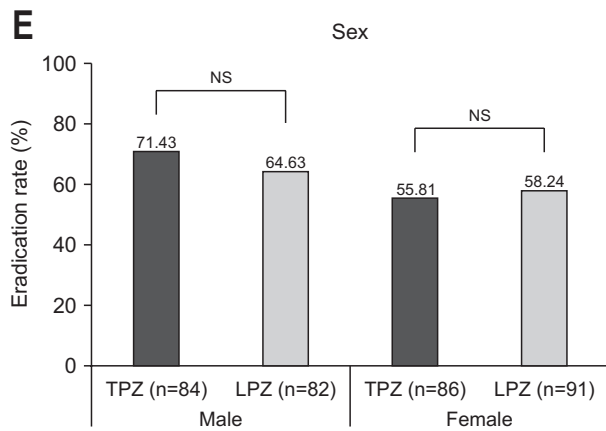
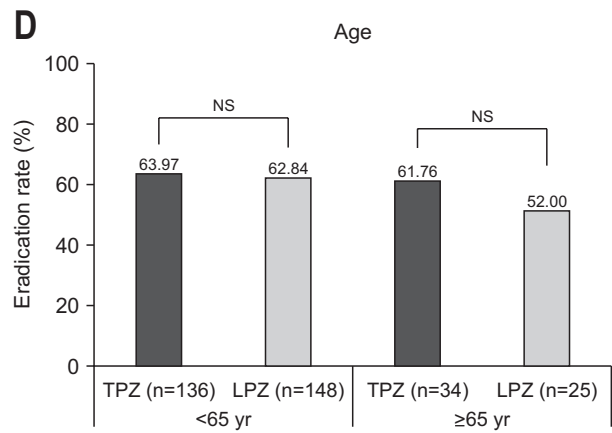
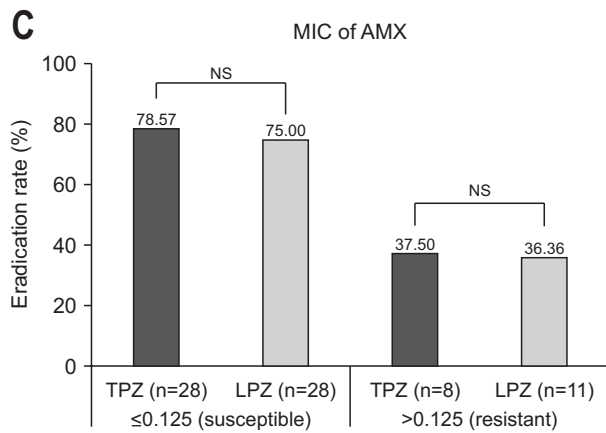
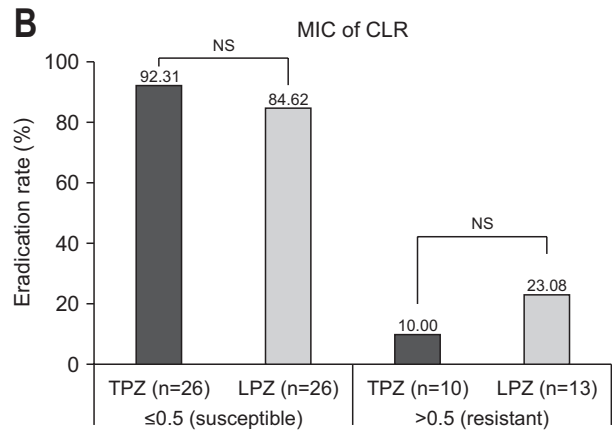
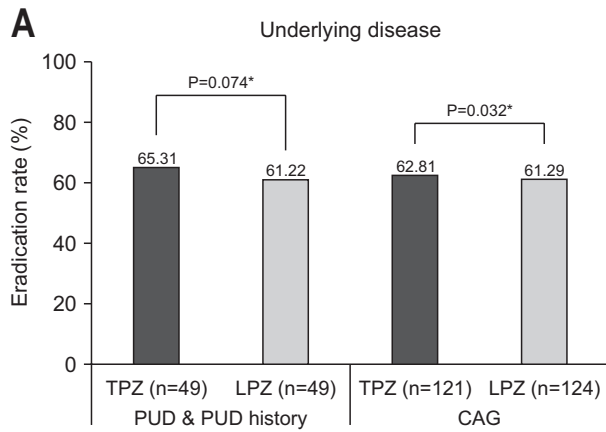
CYP, cytochrome P450; TPZ, tegoprazan-based triple therapy; LPZ, lansoprazole-based triple therapy; CI, confidence interval.

*Chi-square test or Fisher exact test.

Supplementary Table 4. Risk Factors for Unsuccessful *Helicobacter pylori* Eradication, Determined Using Multivariable Analyses

Covariates	Odds ratio	95% CI	p-value
Treatment, TPZ (ref. LPZ)	1.02	0.24–4.34	0.980
Sex, male (ref. female)	0.89	0.18–4.35	0.881
Age (yr)	1.01	0.94–1.09	0.752
Smoking (ref. no smoking)	2.48	0.15–41.83	0.530
CYP2C19, EM & IM (ref. PM)	0.41	0.03–6.15	0.521
Resistance to clarithromycin (ref. sensitive)	0.04	0.01–0.19	<0.001

CI, confidence interval; TPZ, tegoprazan-based triple therapy; LPZ, lansoprazole-based triple therapy; CYP, cytochrome P450; EM, extensive metabolizer; IM, intermediate metabolizer; PM, poor metabolizer; ref. reference.



Supplementary Fig. 1. *Helicobacter pylori* eradication rates according to underlying gastric disease, minimum inhibitory concentrations of antibiotics, age, and sex in the full-analysis set.

TPZ, tegoprazan-based triple therapy group; LPZ, lansoprazole-based triple therapy group; PUD, peptic ulcer disease; CAG, chronic gastritis; NS, not significant; MIC, minimum inhibitory concentration; CLR, clarithromycin; AMX, amoxicillin.