Supplementary Table 1 Post hoc comparison of model-predicted and observed ulcer area at week 8

Measure	Value
Patients included in model assessment, N	107
Model-predicted week-8 ulcer area, median (IQR), mm²	1.80 (0.21–7.22)
Observed week-8 ulcer area, median (IQR), mm²	0.00 (0.00–0.00)
Difference (predicted − observed), median (IQR), mm²	1.31 (0.08–6.43)
Absolute difference, median (IQR), mm²	1.60 (0.21–7.51)

Variables are expressed as median (IQR). Difference is calculated as the model-predicted minus the observed area; positive values indicate over-prediction of residual ulcer area by the model, which occurred in 99 of 107 patients (92.5%; Wilcoxon signed-rank $P<0.001$). Agreement was defined as an absolute difference within a specified proportion of the baseline ulcer area; 102 patients (95.3%) fell within 5% and 105 (98.1%) within 10%. This analysis is exploratory and does not constitute formal validation of the exponential decay model.

Supplementary Table 2. Medication adherence during the treatment period

Visit	Fexuprazan 40mg (n=51)		Esomeprazole 40mg (n=56)		*P*-value
	Adherence rate, %	Adequate adherence*	Adherence rate, %	Adequate adherence*	
Visit 3	100.0±0.0	51 (100.0)	99.4±4.1	55 (98.2)	>0.999
Visit 4	100.0±0.0	51 (100.0)	99.5±3.6	55 (98.2)	>0.999
Visit 5	98.2±7.0	49 (96.1)	98.7±4.9	53 (94.6)	>0.999
Overall	99.4±4.1	151 (98.7)	99.2±4.2	163 (97.0)	0.452

Values are presented as mean ± SD or n (%).
*Adequate adherence was defined as ≥95% of prescribed medication taken.
P-values were calculated using Fisher's exact test for adequate compliance rates between groups

Supplementary Table 3. Subgroup analysis of ulcer healing outcomes stratified by baseline ulcer size

Subgroup	Fexuprazan 40mg (n = 51)	Esomeprazole 40mg (n = 56)	*P*-value
Large ulcer (≥800 mm²)			
N	21	30	
Complete healing (100%), n (%)	19 (90.5%)	19 (63.3%)	0.029
8-week shrinkage rate (%)	100 (100-100)	100 (99.8-100)	0.046
4-week shrinkage rate (%)	96.5 (92-98.83)	93.33 (88.89-96.06)	0.040
Small ulcer (<800 mm²)			
N	30	26	
Complete healing (100%), n (%)	27 (90.0%)	23 (88.5%)	>0.999
8-week shrinkage rate (%)	100 (100-100)	100 (100-100)	0.878
4-week shrinkage rate (%)	95.68 (93.33-98)	94.37 (88.64-98.72)	0.593

Variables are expressed as median (IQR) or n (%).

ESD, endoscopic submucosal dissection

Supplementary Table 4. Treatment-emergent adverse events in the safety population

Events	Fexuprazan 40mg (n=64)	Esomeprazole 40mg (n=64)	*P*-value
TEAEs (%)	4 (6.3)	5 (7.8)	>0.999
Nausea	2 (3.1)	3 (4.7)	>0.999
Diarrhea	2 (3.1)	2 (3.1)	>0.999
Others	0	0	N/A
Severity of TEAEs[1]			
Mild	4 (6.3)	5 (7.8)	> 0.999
Moderate	0 (0)	0 (0)	N/A
Severe	0 (0)	0 (0)	N/A
Causality of TEAEs[2]			
Certain	0 (0)	0 (0)	N/A
Probable	0 (0)	0 (0)	N/A
Possible	0 (0)	0 (0)	N/A
Unlikely	4 (6.3)	5 (7.8)	> 0.999
Unassessable	0 (0)	0 (0)	N/A
TEAEs leading to treatment discontinuation	0	0	N/A
TEAEs leading to death	0	0	N/A
SAEs	0	0	N/A

Data are presented as n (%). *P*-values were calculated using Fisher's exact test.

[1]Severity was graded as mild, moderate or severe according to the definitions in the study protocol. [2]Causality was assessed according to the six categories defined in the study protocol.

TEAE, treatment-emergent adverse event; SAE, serious adverse event; N/A, not applicable

Supplementary Table 5. Procedure-related adverse events

Adverse events	Fexuprazan 40mg (n=64)	Esomeprazole 40mg (n=64)	*P*-value
Immediate bleeding	0 (0)	0 (0)	N/A
Perforation	0 (0)	0 (0)	N/A
Delayed bleeding	0 (0)	1 (1.6)	>0.999

Data are presented as n (%). *P*-values were calculated using Fisher's exact test.
N/A, not applicable.

Supplementary Figure 1

