

Supplementary Table 1. Patient characteristics before and after matching. SMD stands for standardised mean difference. PPI stands for proton-pump inhibitor. IPTW, inverse probability treatment weighting; SMD, standardised mean difference; SD, standard deviation; BP, blood pressure; GBS, Glasgow-Blatchford score; PPI, proton pump inhibitor; H2RA, histamine-2 receptor antagonist.

	Before IPTW				After IPTW			
	Early	Urgent	Late	SMD	Early	Urgent	Late	SMD
n	3865	1008	1601		3865	1008	1601	
Male (%)	2700 (69.9)	729 (72.3)	1076 (67.2)	0.074	2698 (69.8)	719 (71.3)	1093 (68.3)	0.044
Age (mean (SD))	67.11 (17.04)	66.37 (16.93)	70.15 (15.76)	0.153	67.66 (16.76)	67.36 (16.77)	68.13 (16.46)	0.031
Antithrombotic use (%)	463 (12.0)	127 (12.6)	229 (14.3)	0.046	475 (12.3)	128 (12.7)	202 (12.6)	0.008
PPI or H2RA use (%)	3602 (93.2)	815 (80.9)	1485 (92.8)	0.249	3544 (91.7)	910 (90.3)	1478 (92.3)	0.049
Bleeding severity								
Modified GBS (mean (SD))	8.30 (3.21)	9.37 (2.81)	7.91 (3.33)	0.316	8.36 (3.21)	8.54 (3.18)	8.26 (3.16)	0.059
Pulse (mean (SD))	88.95 (17.14)	89.94 (17.95)	87.91 (17.58)	0.077	88.84 (17.17)	88.88 (17.60)	88.56 (17.06)	0.012
Systolic BP (mean (SD))	127.75 (22.63)	122.71 (22.77)	129.05 (23.33)	0.184	127.42 (22.72)	126.3 (21.99)	127.71 (22.53)	0.042
Laboratory values								
Haemoglobin (g/dL) (mean (SD))	8.97 (2.79)	8.18 (2.64)	9.28 (2.76)	0.270	8.93 (2.77)	8.81 (2.73)	9.02 (2.73)	0.050
Platelets (x10 ⁹ /L) (mean (SD))	231.13 (106.06)	224.34 (103.76)	228.05 (100.01)	0.044	229.88 (106.99)	227.37 (97.50)	227.48 (98.83)	0.016
Urea (mmol/L) (mean (SD))	13.83 (8.49)	15.50 (8.63)	13.72 (9.13)	0.136	14.02 (8.63)	14.24 (8.18)	13.9 (8.57)	0.027
Creatinine (μmol/L) (mean (SD))	108.80 (110.31)	118.03 (109.93)	119.00 (137.80)	0.058	110.27 (111.87)	109.48 (94.82)	117.08 (135.36)	0.043
Urea-creatinine ratio (mean (SD))	143.64 (64.36)	150.41 (65.17)	133.59 (62.71)	0.175	143.94 (64.68)	145.88 (65.90)	139.1 (62.48)	0.070
Prothrombin time (secs) (mean (SD))	13.87 (8.17)	14.27 (8.47)	14.53 (10.46)	0.049	14.03 (8.66)	13.72 (7.34)	13.9 (7.90)	0.027
Charlson Comorbidity Index								
Cancer (%)	299 (7.7)	87 (8.6)	158 (9.9)	0.050	309 (8.0)	79 (7.8)	141 (8.8)	0.025
Metastatic disease (%)	104 (2.7)	27 (2.7)	50 (3.1)	0.018	108 (2.8)	22 (2.2)	46 (2.9)	0.032
Congestive heart failure (%)	135 (3.5)	34 (3.4)	79 (4.9)	0.052	143 (3.7)	34 (3.4)	62 (3.9)	0.019
Myocardial infarction (%)	53 (1.4)	21 (2.1)	25 (1.6)	0.037	54 (1.4)	16 (1.6)	26 (1.6)	0.007
Stroke (%)	176 (4.6)	50 (5.0)	91 (5.7)	0.034	182 (4.7)	49 (4.9)	83 (5.2)	0.013
Peripheral vascular disease (%)	30 (0.8)	13 (1.3)	14 (0.9)	0.034	31 (0.8)	12 (1.2)	13 (0.8)	0.030
Mild liver disease (%)	76 (2.0)	41 (4.1)	26 (1.6)	0.099	81 (2.1)	22 (2.2)	27 (1.7)	0.023
Severe liver disease (%)	71 (1.8)	43 (4.3)	24 (1.5)	0.111	77 (2.0)	21 (2.1)	24 (1.5)	0.029
Pulmonary diseases (%)	123 (3.2)	34 (3.4)	74 (4.6)	0.050	131 (3.4)	37 (3.7)	56 (3.5)	0.011
Moderate-severe kidney disease (%)	119 (3.1)	37 (3.7)	61 (3.8)	0.027	124 (3.2)	32 (3.2)	56 (3.5)	0.010
Diabetes mellitus (%)	273 (7.1)	107 (10.6)	158 (9.9)	0.084	305 (7.9)	88 (8.7)	136 (8.5)	0.021
Diabetes complications (%)	75 (1.9)	26 (2.6)	38 (2.4)	0.029	77 (2.0)	20 (2.0)	34 (2.1)	0.006
Dementia (%)	30 (0.8)	14 (1.4)	23 (1.4)	0.042	35 (0.9)	10 (1.0)	18 (1.1)	0.013
Connective tissue disease (%)	6 (0.2)	4 (0.4)	3 (0.2)	0.031	8 (0.2)	2 (0.2)	3 (0.2)	0.008
Paraplegia (%)	15 (0.4)	3 (0.3)	7 (0.4)	0.015	15 (0.4)	4 (0.4)	6 (0.4)	0.003
Bleeding aetiologies								
Neoplasm (%)	107 (2.8)	29 (2.9)	65 (4.1)	0.047	108 (2.8)	29 (2.9)	62 (3.9)	0.040
Peptic ulcers (%)	3518 (91.0)	889 (88.2)	1432 (89.4)	0.062	3509 (90.8)	898 (89.1)	1441 (90.0)	0.037

Varices (%)	160 (4.1)	66 (6.5)	56 (3.5)	0.094	166 (4.3)	47 (4.7)	59 (3.7)	0.033
Other (%)	504 (13.0)	99 (9.8)	259 (16.2)	0.127	506 (13.1)	106 (10.5)	247 (15.4)	0.098
Endoscopic therapies								
Injection (%)	3405 (88.1)	903 (89.6)	1373 (85.8)	0.078	3401 (88.0)	914 (90.7)	1377 (86.0)	0.098
Clipping (%)	890 (23.0)	267 (26.5)	401 (25.0)	0.053	901 (23.3)	265 (26.3)	403 (25.2)	0.047
Thermocoagulation (%)	2746 (71.0)	680 (67.5)	1094 (68.3)	0.052	2736 (70.8)	698 (69.2)	1101 (68.8)	0.029
Banding (%)	92 (2.4)	44 (4.4)	33 (2.1)	0.088	97 (2.5)	31 (3.1)	34 (2.1)	0.044
Others (%)	245 (6.3)	59 (5.9)	111 (6.9)	0.029	247 (6.4)	59 (5.9)	104 (6.5)	0.016

Supplementary Table 2. Chi-square test on outcomes. SD, standard deviation .

	Early	Urgent	<i>P</i> -value	Late	<i>P</i> -value
n	3865	1008		1601	
Length of Stay (mean (SD))	6.49 (9.01)	7.28 (12.07)	0.058	6.96 (11.75)	0.148
In-hospital Mortality Rate (%)	166 (4.3)	62 (6.2)	0.017	93 (5.8)	0.022
Average Units of Blood Transfused in 30 Days (mean (SD))	2.91 (3.95)	3.01 (3.64)	0.421	3.21 (4.11)	0.018

Supplementary Table 3. Cox regression on subgroups based on comorbidity burden. HR, hazard ratio. * Hazard ratios for mortality and OGD outcomes are given as average hazard ratios, calculated using weighted Cox regression for nonproportional hazards.

Outcome	Subgroup	Timing	HR (95% CI)*	P-value
30-Day All-Cause Mortality	With Significant Comorbidity	Early	Reference	NA
		Urgent	1.033 (0.780 - 1.368)	0.819
		Late	1.242 (0.957 - 1.611)	0.103
	Without Significant Comorbidity	Early	Reference	NA
		Urgent	1.694 (1.384 - 2.074)	<0.001
		Late	1.310 (1.058 - 1.622)	0.013
30-Day Repeat Therapeutic Endoscopy	With Significant Comorbidity	Early	Reference	NA
		Urgent	1.039 (0.789 - 1.368)	0.786
		Late	1.109 (0.855 - 1.438)	0.436
	Without Significant Comorbidity	Early	Reference	NA
		Urgent	1.294 (1.165 - 1.437)	<0.001
		Late	1.057 (0.947 - 1.180)	0.323
30-Day ICU Admission after Index Endoscopy	With Significant Comorbidity	Early	Reference	NA
		Urgent	0.829 (0.455 - 1.509)	0.539
		Late	0.701 (0.363 - 1.355)	0.291
	Without Significant Comorbidity	Early	Reference	NA
		Urgent	1.549 (1.282 - 1.873)	<0.001
		Late	0.769 (0.614 - 0.964)	0.023

Supplementary Table 4. Cox regression on subgroups based on variceal versus nonvariceal bleeding. HR, hazard ratio. * Hazard ratios for mortality and OGD outcomes are given as average hazard ratios, calculated using weighted Cox regression for nonproportional hazards.

Outcome	Subgroup	Timing	HR (95% CI)*	P-value	
30-Day All-Cause Mortality	Nonvariceal	Early	Reference	NA	
		Urgent	1.432 (1.232 - 1.666)	<0.001	
		Late	1.270 (1.089 - 1.482)	0.002	
	Variceal	Early	Reference	NA	
		Urgent	1.425 (0.818 - 2.481)	0.211	
		Late	1.376 (0.784 - 2.415)	0.266	
	30-Day Repeat Therapeutic Endoscopy	Nonvariceal	Early	Reference	NA
			Urgent	1.250 (1.135 - 1.377)	<0.001
			Late	0.994 (0.899 - 1.100)	0.912
Variceal		Early	Reference	NA	
		Urgent	0.877 (0.614 - 1.252)	0.470	
		Late	1.732 (1.254 - 2.391)	0.001	
30-Day ICU Admission after Index Endoscopy		Nonvariceal	Early	Reference	NA
			Urgent	1.417 (1.190 - 1.687)	<0.001
			Late	0.634 (0.511 - 0.787)	<0.001
	Variceal	Early	Reference	NA	
		Urgent	1.359 (0.333 - 5.542)	0.669	
		Late	6.607 (1.948 - 22.404)	0.002	

Supplementary Table 5. Sensitivity analysis with univariate Cox regression. HR, hazard ratio. * Hazard ratios for mortality and OGD outcomes are given as average hazard ratios, calculated using weighted Cox regression for nonproportional hazards.

Outcomes	Timing	HR (95% CI)	P-value
Complete Case Analysis			
30-Day All-Cause Mortality			
	Early	Reference	NA
	Urgent	1.603 (1.287 - 1.998)	<0.001
	Late	1.251 (0.994 - 1.575)	0.057
30-Day Repeat Therapeutic Endoscopy			
	Early	Reference	NA
	Urgent	1.294 (1.133 - 1.477)	<0.001
	Late	0.971 (0.842 - 1.121)	0.691
30-Day ICU Admission after Index Endoscopy			
	Early	Reference	NA
	Urgent	1.198 (0.880 - 1.633)	0.251
	Late	0.824 (0.584 - 1.163)	0.272
No Baseline Characteristics Balancing			
30-Day All-Cause Mortality			
	Early	Reference	NA
	Urgent	1.694 (1.306 - 2.197)	<0.001
	Late	1.407 (1.112 - 1.781)	0.004
30-Day Repeat Therapeutic Endoscopy			
	Early	Reference	NA
	Urgent	1.411 (1.192 - 1.670)	<0.001
	Late	1.016 (0.867 - 1.190)	0.846
30-Day ICU Admission after Index Endoscopy			
	Early	Reference	NA
	Urgent	1.699 (1.251 - 2.307)	0.001
	Late	0.711 (0.500 - 1.012)	0.058
Effect of Weekend (versus Weekday)			
30-Day All-Cause Mortality			
	Early	Reference	NA
	Urgent	1.412 (1.222 - 1.632)	<0.001
	Late	1.252 (1.079 - 1.453)	0.003
	Weekend	1.064 (0.931 - 1.216)	0.361
30-Day Repeat Therapeutic OGD			
	Early	Reference	NA
	Urgent	1.410 (1.191 - 1.669)	<0.001
	Late	1.001 (0.854 - 1.175)	0.986
	Weekend	1.113 (0.960 - 1.292)	0.157
30-Day ICU Admission after Index Endoscopy			
	Early	Reference	NA
	Urgent	1.428 (1.201 - 1.699)	<0.001
	Late	0.709 (0.575 - 0.873)	0.001
	Weekend	0.970 (0.810 - 1.162)	0.742
Alternative Timing: 4-24-48			
30-Day All-Cause Mortality			
	Early	Reference	NA

	Urgent	1.427 (1.228 - 1.658)	<0.001
	Late	1.241 (1.072 - 1.438)	0.004
30-Day Repeat Therapeutic Endoscopy			
	Early	Reference	NA
	Urgent	1.294 (1.176 - 1.423)	<0.001
	Late	1.006 (0.914 - 1.107)	0.904
30-Day ICU Admission after Index Endoscopy			
	Early	Reference	NA
	Urgent	1.460 (1.224 - 1.740)	<0.001
	Late	0.667 (0.544 - 0.819)	<0.001
Alternative Timing: 8-24-48			
30-Day All-Cause Mortality			
	Early	Reference	NA
	Urgent	1.601 (1.368 - 1.875)	<0.001
	Late	1.396 (1.186 - 1.642)	<0.001
30-Day Repeat Therapeutic Endoscopy			
	Early	Reference	NA
	Urgent	1.300 (1.179 - 1.433)	<0.001
	Late	1.041 (0.940 - 1.153)	0.443
30-Day ICU Admission after Index Endoscopy			
	Early	Reference	NA
	Urgent	1.582 (1.315 - 1.903)	<0.001
	Late	0.736 (0.591 - 0.917)	0.006