Supplementary Table 1. Baseline demographics in ultra-early vs 24-72h group			
	Ultra-early anticoagulation (n=111)	24-72h anticoagulation (n=30)	*P* value
Common patient characteristics			
Age, y	72 (63-78)	67 (60-77)	0.33
Male	44 (39.6%)	8 (26.7%)	0.19
Admission NIHSS	17 (12-22)	14 (12-19)	0.22
Ischemia in left hemisphere	58 (52.3%)	16 (53.3%)	0.92
Treatment with intravenous thrombolysis	52 (46.8%)	14 (46.7%)	0.99
Premorbid oral anti-thrombotic use	44 (39.6%)	6 (20.0%)	0.05*
Smoke	24 (21.6%)	4 (13.3%)	0.31
Hypertension	51 (45.9%)	13 (43.3%)	0.80
Diabetes mellitus	24 (21.6%)	8 (26.7%)	0.56
Previous stroke	12 (10.8%)	4 (13.3%)	0.70
Systolic blood pressure	143.72±23.84	138.27±22.09	0.26
Diastolic blood pressure	83.39±16.80	84.50±14.31	0.74
INR	1.04 (0.99-1.12)	1.06 (0.99-1.16)	0.41
Trombocyte count	165 (128-220)	196 (167-222)	0.06
Glucose level	7.35 (6.12-9.17)	8.50 (6.64-9.47)	0.10
CHA2DS2-VASc score	5 (3-5)	4 (3-5)	0.39
HASBLED score	3 (3-4)	4 (3-4)	0.36
Heparin during procedure	51 (45.9%)	13 (43.3%)	0.80
Tirofiban during procedure	31 (27.9%)	5 (16.7%)	0.21
Imaging			
ASPECTS	9 (8-10)	9 (8-9)	0.17
Occlusion site			0.55
ICA	32 (28.8%)	7 (23.3%)	
M1	58 (52.3%)	19 (63.3%)	
M2	21 (18.9%)	4 (13.4%)	
Reperfusion before intervention (mTICI)			0.09
0	97 (87.4%)	22 (73.3%)	
1	3 (2.7%)	5 (16.7%)	
2a	4 (3.6%)	1 (3.3%)	
2b	7 (6.3%)	2 (6.7%)	
Workflow (in minutes)			
Symptom onset to admission ER	201 (111-330)	225 (72-368)	0.79
Admission ER to groin puncture	118 (95-157)	130 (105-177)	0.21
Duration procedure	60 (40-96)	66 (40-129)	0.62
Symptom onset to reperfusion	410 (290-615)	449 (353-572)	0.30

Baseline variables with ultra-early and 24-72h anticoagulation group. ****P*<0.05. ASPECTS indicates Alberta Stroke Program Early Computed Tomography Score; ER, emergency room; ICA, internal carotid artery; INR, international normalized ratio; MCA-M1/M2, the first/second segment of middle cerebral artery; mTICI, modified thrombolysis in cerebral infarction; NIHSS, National Institutes of Health Stroke Scale.

Supplementary Table 2. Baseline demographics in UFH vs LMWH group			
	UFH group (n=69)	LMWH group (n=72)	*P* Value
Common patient characteristics			
Age, y	71 (61-78)	71 (62-78)	0.33
Male	27 (39.1%)	25 (34.7%)	0.59
Admission NIHSS	17 (13-22)	15 (12-20)	0.22
Ischemia in left hemisphere	37 (53.6%)	37 (51.4%)	0.79
Treatment with intravenous thrombolysis	33 (47.8%)	33 (45.8%)	0.81
Premorbid oral anti-thrombotic use	28 (40.6%)	22 (30.6%)	0.21
Smoke	10 (14.5%)	18 (25.0%)	0.12
Hypertension	35 (50.7%)	29 (40.3%)	0.21
Diabetes mellitus	15 (21.7%)	17 (23.6%)	0.79
Previous stroke	4 (5.8%)	12 (16.7%)	0.04*
Systolic blood pressure	144.99±24.88	140.24±22.03	0.23
Diastolic blood pressure	82.94±17.79	84.28±14.74	0.63
INR	1.04 (0.98-1.11)	1.05 (1.00-1.13)	0.41
Trombocyte count	171 (132-225)	182 (143-220)	0.06
Glucose level	7.30 (6.17-9.50)	8.00 (6.10-9.20)	0.10
CHA2DS2-VASc score	4 (3-5)	5 (3-5)	0.39
HASBLED score	3 (3-4)	3 (3-4)	0.36
Heparin during procedure	35 (50.7%)	29 (40.3%)	0.21
Tirofiban during procedure	21 (30.4%)	15 (20.8%)	0.19
Imaging			
ASPECTS	9 (8-10)	9 (8-10)	0.17
Occlusion site			0.07
ICA	24 (34.8%)	15 (20.8%)	
MCA-M1	31 (44.9%)	46 (63.9%)	
MCA-M2	14 (20.3%)	11 (15.3%)	
Reperfusion before intervention (mTICI)			0.68
0	59 (85.5%)	60 (83.3%)	
1	4 (5.8%)	4 (5.6%)	
2a	3 (4.3%)	2 (2.8%)	
2b	3 (4.3%)	6 (8.3%)	
Workflow (in minutes)			
Symptom onset to admission ER	204 (127-323)	207 (84-384)	0.84
Admission ER to groin puncture	120 (96-156)	126 (100-165)	0.84
Duration procedure	57 (40-93)	70 (40-100)	0.26
Symptom onset to reperfusion	390 (314-604)	439 (315-581)	0.69

**Baseline variables with UFH and LMWH group. ****P*<0.05. ASPECTS indicates Alberta Stroke Program Early Computed Tomography Score; ER, emergency room; ICA, internal carotid artery; INR, international normalized ratio; LMWH, low-molecular-weight heparin; MCA-M1/M2, the first/second segment of middle cerebral artery; mTICI, modified thrombolysis in cerebral infarction; NIHSS, National Institutes of Health Stroke Scale; UFH, unfractionated heparin.

Supplementary Table 3. Baseline demographics in minimal-dose vs low-dose group			
	Minimal-dose group (n=76)	Low-dose group (n=65)	*P* Value
Common patient characteristics			
Age, y	71 (63-78)	70 (60-78)	0.56
Male	27 (35.5%)	25 (38.5%)	0.72
Admission NIHSS	17 (13-22)	16 (12-21)	0.14
Ischemia in left hemisphere	44 (57.9%)	30 (46.2%)	0.16
Treatment with intravenous thrombolysis	34 (44.7%)	32 (49.2%)	0.59
Premorbid oral anti-thrombotic use	24 (31.6%)	26 (40.0%)	0.30
Smoke	9 (11.8%)	19 (29.2%)	0.01*
Hypertension	36 (47.4%)	28 (43.1%)	0.61
Diabetes mellitus	16 (21.1%)	16 (24.6%)	0.62
Previous stroke	6 (6.6%)	11 (16.9%)	0.05
Systolic blood pressure	142.55±23.04	142.57±24.23	0.99
Diastolic blood pressure	83.68±17.04	83.55±15.43	0.96
INR	1.03(0.98-1.12)	1.07 (0.99-1.14)	0.09
Trombocyte count	183 (144-220)	165 (125-221)	0.25
Glucose level	7.30 (6.03-9.20)	7.70 (6.75-9.28)	0.36
CHA2DS2-VASc	5 (3-5)	4 (3-5)	0.83
HASBLED	3 (2-4)	3 (3-4)	0.74
Heparin during procedure	35 (46.1%)	29 (44.6%)	0.86
Tirofiban during procedure	23 (30.3%)	13 (20.0%)	0.16
Imaging			
ASPECTS	9 (8-10)	9 (8-10)	0.12
Occlusion site			0.98
ICA	21 (27.6%)	18 (27.7%)	
MCA-M1	42 (55.3%)	35 (53.8%)	
MCA-M2	13 (17.1%)	12 (18.5%)	
Reperfusion before intervention (mTICI)			0.01*
0	58 (76.3%)	61 (93.8%)	
1	6 (7.9%)	2 (3.1%)	
2a	5 (6.6%)	0 (0.0%)	
2b	7 (9.2%)	2 (3.1%)	
Workflow (in minutes)			
Symptom onset to admission ER	220 (93-417)	198 (115-303)	0.36
Admission ER to groin puncture	113(96-151)	127 (99-185)	0.24
Duration procedure	61 (37-95)	60 (41-99)	0.48
Symptom onset to reperfusion	441 (295-624)	429 (324-558)	0.86

Baseline variables with low-dose and moderate-dose group. ****P*<0.05. ASPECTS indicates Alberta Stroke Program Early Computed Tomography Score; ER, emergency room; ICA, internal carotid artery; INR, international normalized ratio; MCA-M1/M2, the first/second segment of middle cerebral artery; mTICI, modified thrombolysis in cerebral infarction; NIHSS, National Institutes of Health Stroke Scale.

Supplementary Table 4. Univariate analyses for the outcomes between ultra-early and 24-72h groups

Variable	Ultra-early anticoagulation (n=111)	24-72h anticoagulation (n=30)	*P* value	OR (95% CI)
Primary outcomes				
mRS	2 (1-4)	3 (1-4)	0.43	1.33 (0.65-2.70)
sICH	1 (0.9%)	1 (3.3%)	0.38	0.26 (0.02-4.34)
Secondary outcomes				
mRS≤2	68 (61.3%)	14 (46.7%)	0.15	1.81 (0.80-4.07)
Mortality	7 (6.3%)	0 (0.0%)	0.35	NA
aICH	15 (13.5%)	9 (30.0%)	0.03	0.37 (0.14-0.94)
New ischemic stroke	7 (6.3%)	2 (6.7%)	1.00	0.94 (0.19-4.79)

aICH indicates asymptomatic intracranial hemorrhage; mRS, modified Rankin Scale; NA, not available; OR, odds ratio; sICH, symptomatic intracranial hemorrhage.

Supplementary Table 5. Univariate analyses for the outcomes between UFH and LMWH groups

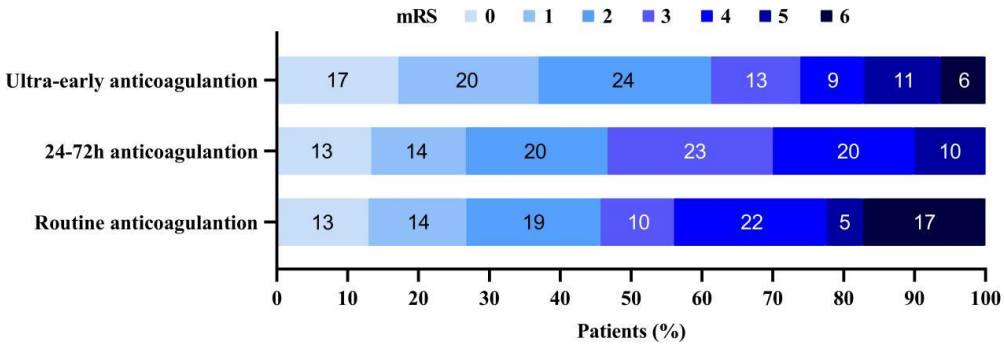
Variable	UFH group (n=69)	LMWH group (n=72)	*P* value	OR (95% CI)
Primary outcomes				
mRS	2 (1-4)	2 (1-4)	0.84	0.94 (0.53-1.68)
sICH	1 (1.4%)	1 (1.4%)	1.00	1.04 (0.06-17.03)
Secondary outcomes				
mRS≤2	41 (59.4%)	41 (56.9%)	0.77	1.11 (0.57-2.16)
Mortality	2 (2.9%)	5 (6.9%)	0.47	0.40 (0.08-2.13)
aICH	9 (13.0%)	15 (20.8%)	0.22	0.57 (0.23-1.41)
New ischemic stroke	4 (5.8%)	5 (6.9%)	1.00	0.83 (0.21-3.21)

aICH indicates asymptomatic intracranial hemorrhage; LMWH, low-molecular-weight heparin; mRS, modified Rankin Scale; OR, odds ratio; sICH, symptomatic intracranial hemorrhage; UFH, unfractionated heparin.

Supplementary Table 6. Univariate analyses for the outcomes between minimal-dose and low-dose groups

Variable	Minimal-dose group (n=76)	Low-dose group (n=65)	*P* value	OR (95% CI)
Primary outcomes				
mRS	2 (1-4)	2 (1-4)	0.41	0.78 (0.44-1.40)
sICH	1 (1.3%)	1 (1.5%)	1.00	0.85 (0.05-13.92)
Secondary outcomes				
mRS≤2	44 (57.9%)	38 (58.5%)	0.95	0.98 (0.50-1.91)
Mortality	4 (5.3%)	4 (4.6%)	1.00	1.15 (0.25-5.33)
aICH	13 (17.1%)	11 (16.9%)	0.98	1.01 (0.42-2.45)
New ischemic stroke	5 (6.6%)	4 (6.2%)	1.00	1.07 (0.28-4.18)

aICH indicates asymptomatic intracranial hemorrhage; mRS, modified Rankin Scale; OR, odds ratio; sICH, symptomatic intracranial hemorrhage.



Supplementary Figure 1. Distribution of modified Rankin Scale (mRS) scores at 90 days for patients allocated to ultra-early, 24-72h and routine anticoagulation group. There was a significant shift towards better functional outcomes for ultra-early versus routine anticoagulation (adjusted common odds ratio [acOR] 2.03 [95% CI 1.20-3.44]), and a non-significant shift towards better functional outcome for 24-72h versus routine anticoagulation (acOR 1.95 [95% CI 0.89-4.30]).