

**Supplementary material**

Supplementary table 1: Univariate analysis for anterior circulation stroke patients (MR CLEAN-MED major inclusion criteria) after propensity score matching.

Variable	UFH+; n=395 (61.4%)	UFH-; n=248 (38.6%)	P-value	Included patients, n (%)
<b>Baseline characteristics</b>				
Age, median (IQR)	75 (65-82)	76 (63-82)	0.76	643 (100)
Female sex, n (%)	187 (47.3)	120 (48.4)	0.83	643 (100)
pmRS, median (IQR)	0 (0-0)	0 (0-0)	0.07	643 (100)
APT, n (%)	123 (31.3)	77 (31.0)	0.95	641 (99.7)
OAC, n (%)	48 (12.2)	39 (15.7)	0.24	641 (99.7)
BP systolic, median (IQR)	155 (138-170)	150 (135-162)	0.07	625 (97.2)
BP diastolic, median (IQR)	80 (70-90)	79 (76-87)	<0.05	624 (97.0)
Heartrate, median (IQR)	80 (70-92)	76 (67-88)	<0.05	622 (96.7)
Hypertension, n (%)	325 (83.1)	179 (72.2)	<0.05	639 (99.4)
Diabetes, n (%)	102 (26.0)	53 (21.4)	0.22	641 (99.7)
AF, n (%)	158 (40.1)	122 (49.2)	<0.05	642 (99.8)
Dyslipidemia, n (%)	131 (33.3)	137 (55.2)	<0.05	641 (99.7)
Active smoking, n (%)	63 (17.4)	46 (18.5)	0.75	610 (94.9)
<b>Time intervals (minutes)</b>				
SO to door (min), median (IQR)	95 (60-185)	80 (48-155)	<0.05	643 (100)
Door to groin (min), median (IQR)	68 (46-94)	64 (37-90)	0.08	643 (100)
Groin to reperfusion (min), median (IQR)	40 (27-70)	34 (25-58)	<0.05	616 (95.8)
SO to groin (min), median (IQR)	193 (145-245)	169 (130-230)	<0.05	643 (100)
Door to reperfusion (min), median (IQR)	110 (78-140)	100 (75-139)	0.19	599 (93.2)
SO to IVT (min), median (IQR)	107 (75-165)	91 (69-140)	<0.05	642 (99.8)
<b>Stroke, imaging and treatment characteristics</b>				
NIHSS, median (IQR)	15 (10-19)	14 (9-17)	0.06	643 (100)
Extracranial Carotis, n (%)	30 (7.6)	11 (4.4)	0.14	
Intracranial Carotis (excluding T), n (%)	22 (5.6)	28 (11.3)	<0.05	
Carotis-T, n (%)	87 (22.0)	26 (10.5)	<0.05	
M1 proximal, n (%)	146 (37.0)	105 (42.3)	0.18	
M1 distal, n (%)	79 (20.0)	52 (21.0)	0.76	
M2, n (%)	109 (27.6)	71 (28.6)	0.79	
Left sided LVO, n (%)	205 (52.4)	130 (52.4)	1.00	639 (99.4)
ASPECTS, median (IQR)	10 (8-10)	9 (7-10)	<0.05	609 (94.7)
IVT, n (%)	240 (60.8)	162 (65.3)	0.28	643 (100)
Heparin IU, median (IQR)	4360 (3000-5000)	NA	NA	389 (98.5)

Retrieval attempts, median (IQR)	1 (1-2)	1 (1-3)	<0.05	629 (97.8)
Extracranial stenting, n (%)	68 (17.2)	14 (5.6)	<0.05	643 (100)
TICI 3 reperfusion, n (%)	230 (59.1)	156 (63.4)	0.32	635 (98.8)
TICI 2b-3 reperfusion, n (%)	353 (90.7)	233 (94.7)	0.09	635 (98.8)
<b>Complications, n (%)</b>				
Overall	76 (19.2)	41 (16.5)	0.40	
Vasospasm	8 (2.0)	1 (0.4)	0.16	
Clot migration/embolization	12 (3.0)	6 (2.4)	0.81	
ICH 24 hrs	48 (12.2)	27 (10.9)	0.71	
Dissection/perforation	9 (2.3)	0 (0.0)	<0.05	
Malignant MCA infarction	10 (2.5)	6 (2.4)	1.00	
<b>Follow-up</b>				
NIHSS at 24 hrs, median (IQR)	12 (5-19)	6 (2-14)	<0.05	616 (95.8)
NIHSS at discharge	6 (2-14)	2 (1-8)	<0.05	588 (91.4)
mRS at 3 months, median (IQR)	3 (1-5)	2 (1-4)	<0.05	551 (85.7)
Mortality at 3 months, n (%)	75 (23.7)	42 (17.9)	0.12	551 (85.7)

UFH+: Patients who received additional heparin bolus during ET. UFH-: Patients who received no heparin bolus during ET. IQR interquartile range; pmRS premodified Rankin Scale; APT antiplatelet therapy; OAC oral anticoagulation; BP blood pressure; AF atrial fibrillation; SO stroke onset; NA not available; IVT intravenous thrombolysis; NIHSS National Institute of Health Stroke Scale; LVO large vessel occlusion; ASPECTS Alberta Stroke Program Early CT Score; TICI Thrombolysis In Cerebral Infarction; ICH intracranial hemorrhage; MCA middle cerebral artery.

Supplementary table 2: Univariate analysis of all anterior circulation stroke patients after propensity score matching.

Variable	UFH+; n=1190 (74.7%)	UFH-; n=402 (25.3%)	P-value	Included patients, n (%)
<b>Baseline characteristics</b>				
Age, median (IQR)	76 (65-83)	77 (67-82)	0.48	1592 (100)
Female sex, n (%)	639 (53.8)	236 (58.7)	0.09	1590 (99.9)
pmRS, median (IQR)	0 (0-1)	0 (0-1)	0.89	1385 (87.0)
APT, n (%)	297 (29.1)	111 (27.8)	0.65	1422 (89.3)
OAC, n (%)	139 (13.6)	66 (16.5)	0.18	1422 (89.3)
BP systolic, median (IQR)	155 (135-170)	152 (135-170)	0.73	1315 (82.6)
BP diastolic, median (IQR)	80 (70-93)	82 (74-92)	0.56	1308 (82.2)
Heartrate, median (IQR)	80 (70-92)	80 (70-90)	0.55	1303 (81.8)
Hypertension, n (%)	816 (81.8)	303 (75.4)	<0.05	1400 (87.9)
Diabetes, n (%)	286 (28.6)	82 (20.4)	<0.05	1401 (88.0)
AF, n (%)	395 (39.3)	183 (45.6)	<0.05	1405 (88.3)
Dyslipidemia, n (%)	357 (35.7)	183 (45.6)	<0.05	1401 (88.0)
Active smoking, n (%)	163 (17.5)	56 (14.9)	0.29	1306 (82.0)
<b>Time intervals (minutes)</b>				

SO to door (min), median (IQR)	180 (78-336)	167 (80-272)	0.07	1329 (83.5)
Door to groin (min), median (IQR)	76 (51-110)	65 (44-91)	<0.05	1441 (90.5)
Groin to reperfusion (min), median (IQR)	47 (29-73)	38 (25-57)	<0.05	1439 (90.4)
SO to groin (min), median (IQR)	239 (155-425)	220 (150-345)	0.06	1441 (90.5)
Door to reperfusion (min), median (IQR)	128 (97-173)	113 (84-155)	<0.05	1316 (82.7)
SO to IVT (min), median (IQR)	105 (75-135)	84 (61-114)	<0.05	1587 (99.7)
<b>Stroke, imaging and treatment characteristics</b>				
NIHSS, median (IQR)	15 (9-19)	14 (10-18)	0.14	1402 (88.1)
Extracranial Carotis, n (%)	104 (8.7)	30 (7.5)	0.47	
Intracranial Carotis (excluding T), n (%)	97 (8.2)	28 (7.0)	0.52	
Carotis-T, n (%)	214 (18.0)	76 (18.9)	0.71	
M1 proximal, n (%)	456 (38.3)	149 (37.1)	0.68	
M1 distal, n (%)	271 (22.8)	75 (18.7)	0.1	
M2, n (%)	273 (22.9)	100 (24.9)	0.45	
Left sided LVO, n (%)	614 (52.1)	200 (49.9)	0.45	1579 (99.2)
ASPECTS, median (IQR)	9 (7-10)	9 (7-10)	0.22	1444 (90.7)
IVT, n (%)	465 (39.2)	170 (42.3)	0.29	1589 (99.8)
Heparin IU, median (IQR)	5000 (3000-5000)	NA	NA	1156 (97.1)
Retrieval attempts, median (IQR)	2 (1-3)	2 (1-3)	0.27	1496 (94.0)
Extracranial stenting, n (%)	143 (12.0)	38 (9.5)	0.17	1592 (100)
TICI 3 reperfusion, n (%)	600 (51.1)	222 (55.5)	0.13	1574 (98.9)
TICI 2b-3 reperfusion, n (%)	1033 (88.0)	350 (87.5)	0.79	1574 (98.9)
<b>Complications, n (%)</b>				
Overall	213 (17.9)	95 (23.6)	<0.05	
Vasospasm	22 (1.8)	7 (1.7)	1.00	
Clot migration/embolization	35 (2.9)	18 (4.5)	0.15	
ICH 24 hrs	136 (11.4)	59 (14.7)	0.09	
Dissection/perforation	34 (2.9)	11 (2.7)	1.00	
Malignant MCA infarction	42 (3.5)	12 (3.0)	0.75	
<b>Follow-up</b>				
NIHSS at 24 hrs, median (IQR)	12 (5-20)	9 (4-17)	<0.05	1307 (82.1)
NIHSS at discharge	7 (3-16)	5 (1-11)	<0.05	1249 (78.5)
mRS at 3 months, median (IQR)	3 (2-6)	3 (1-6)	0.11	1182 (74.2)
Mortality at 3 months,	229 (27.8)	90 (25.1)	0.35	1182 (74.2)

n (%)				
<i>UFH+</i> : Patients who received additional heparin bolus during ET. <i>UFH-</i> : Patients who received no heparin bolus during ET. IQR interquartile range; pmRS premodified Rankin Scale; APT antiplatelet therapy; OAC oral anticoagulation; BP blood pressure; AF atrial fibrillation; SO stroke onset; NA not available; IVT intravenous thrombolysis; NIHSS National Institute of Health Stroke Scale; LVO large vessel occlusion; ASPECTS Alberta Stroke Program Early CT Score; TIC1 Thrombolysis In Cerebral Infarction; ICH intracranial hemorrhage; MCA middle cerebral artery.				

Supplementary table 3: Univariate analysis of all posterior circulation stroke patient after propensity score matching.

Variable	UFH+; n=137 (57.3 %)	UFH-; n=102 (42.7%)	P-value	Included patients, n (%)
<b>Baseline characteristics</b>				
Age, median (IQR)	72 (59-81)	77 (68-83)	0.26	239 (100)
Female sex, n (%)	53 (38.7)	45 (44.1)	0.43	239 (100)
pmRS, median (IQR)	0 (0-1)	0 (0-1)	0.53	208 (87.0)
APT, n (%)	35 (32.7)	37 (37.8)	0.47	205 (85.8)
OAC, n (%)	12 (11.2)	13 (13.3)	0.68	205 (85.8)
BP systolic, median (IQR)	150 (130-179)	150 (130-170)	0.52	198 (82.8)
BP diastolic, median (IQR)	80 (68-90)	78 (70-90)	0.23	196 (82.0)
Heartrate, median (IQR)	80 (68-93)	80 (67-90)	0.89	199 (83.3)
Hypertension, n (%)	89 (84.0)	70 (68.6)	<0.05	208 (87.0)
Diabetes, n (%)	32 (30.2)	18 (17.6)	<0.05	208 (87.0)
AF, n (%)	39 (36.8)	39 (36.8)	0.07	208 (87.0)
Dyslipidemia, n (%)	30 (28.3)	30 (28.3)	<0.05	208 (87.0)
Active smoking, n (%)	14 (14.6)	9 (10.8)	0.51	179 (74.9)
<b>Time intervals (minutes)</b>				
SO to door (min), median (IQR)	286 (183-449)	435 (188-570)	0.13	61 (25.5)
Door to groin (min), median (IQR)	83 (54-134)	75 (55-135)	0.56	213 (89.1)
Groin to reperfusion (min), median (IQR)	45 (28-73)	25 (16-38)	<0.05	215 (90.0)
SO to groin (min), median (IQR)	250 (164-459)	275 (178-468)	0.52	185 (77.4)
Door to reperfusion (min), median (IQR)	149 (97-208)	113 (82-199)	<0.05	195 (81.6)
SO to IVT, median (IQR)	130 (92-219)	120 (199-165)	0.39	191 (79.9)
<b>Stroke, imaging and treatment characteristics</b>				
NIHSS, median (IQR)	14 (8-28)	12 (5-28)	0.20	206 (86.2)
IVT, n (%)	46 (33.8)	39 (38.2)	0.50	238 (99.6)
Heparin IU, median (IQR)	5000 (3000-5000)	NA	NA	132 (96.4)
Retrieval attempts, median (IQR)	2 (1-3)	1 (1-2)	<0.05	239 (96.2)
Extracranial stenting, n (%)	2 (1.5)	0 (0.0)	0.51	239 (100)
TICI 3 reperfusion, n (%)	96 (71.6)	75 (75.0)	0.66	234 (97.9)
TICI 2b-3 reperfusion, n (%)	121 (90.3)	86 (86.0)	0.41	234 (97.9)

<b>Complications, n (%)</b>				
Overall	22 (16.1)	5 (4.9)	<0.05	
Vasospasm	3 (2.2)	0 (0.0)	0.26	
Clot migration/embolization	3 (2.2)	1 (1.0)	0.64	
ICH 24 hrs	12 (8.8)	2 (2.0)	<0.05	
Dissection/perforation	6 (4.4)	2 (2.0)	0.47	
<b>Follow-up</b>				
NIHSS at 24 hrs, median (IQR)	15 (5-28)	6 (2-22)	<0.05	188 (78.7)
NIHSS at discharge	7 (3-17)	4 (1-12)	<0.05	169 (70.7)
mRS at 3 months, median (IQR)	4 (2-6)	4 (2-6)	0.51	185 (77.4)
Mortality at 3 months, n (%)	37 (40.2)	34 (37.6)	0.76	185 (77.4)

UFH+: Patients who received additional heparin bolus during ET. UFH-: Patients who received no heparin bolus during ET. IQR interquartile range; pmRS premodified Rankin Scale; APT antiplatelet therapy; OAC oral anticoagulation; BP blood pressure; AF atrial fibrillation; SO stroke onset; NA not available; IVT intravenous thrombolysis; NIHSS National Institute of Health Stroke Scale; LVO large vessel occlusion; ASPECTS Alberta Stroke Program Early CT Score; TICI Thrombolysis In Cerebral Infarction; ICH intracranial hemorrhage; MCA middle cerebral artery.