**SUPPLEMENTAL INFORMATION ONLINE-ONLY CONTENT**

**Effects of white matter hyperintensities on 90-day functional outcome after large vessel and non-large vessel stroke**

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**Supplemental Tables**

Table 1. Variables used in Multiple Imputation Process

|  |  |
| --- | --- |
| Variable Name | Missing %(Out of n = 1601) |
| ReStroked\_within\_1year | 0.0% |
| TOAST\_Stroke\_Subtype | 0.0% |
| Year\_admitted (year) | 0.0% |
| Age | 0.0% |
| Female | 0.0% |
| BMI\_30above | 0.0% |
| Intracranial\_Arterio | 0.0% |
| MoyaMoya | 0.0% |
| Dementia | 0.0% |
| Parkinsons | 0.0% |
| Peripheral\_Vasc\_Disease | 0.0% |
| Anema | 0.0% |
| Procoagulant | 0.0% |
| COPD | 0.0% |
| Sleep\_Apnea | 0.0% |
| Hypertension | 0.0% |
| Diabetes\_mellitus2 | 0.0% |
| Carotid\_Stenosis | 0.0% |
| Dyslipidemia | 0.0% |
| Coronary\_artery\_disease | 0.0% |
| Atrial\_Fib | 0.0% |
| prior\_TIA | 0.0% |
| prior\_IS\_HS\_CVA | 0.0% |
| Family\_History | 0.0% |
| Smoking\_Status | 1.8% |
| Drinking | 5.6% |
| NIHS\_Admission (nihss\_at\_admission) | 4.6% |
| LVO | 0.0% |
| LVO\_prox\_Circ\_IM1M2 (anterior\_lvo) | 0.0% |
| Stroke\_Therapy\_ivTPA\_Embolectomy | 0.0% |
| secondary\_ICH | 0.0% |
| discharge\_ASPIRIN | 0.0% |
| discharge\_CLOPIDOGREL | 0.0% |
| discharge\_Antiocoagulation | 0.0% |
| discharge\_Brillinta | 0.0% |
| discharge\_Prasugrel | 0.0% |
| Outcome\_90d\_mRS02 | 0.0% |
| Outcome\_90d\_mRS6 | 0.0% |
| HOME\_Platelets\_None\_Mono\_Duo | 0.0% |
| HOME\_Anticoag | 0.0% |
| HOME\_Statins | 0.0% |
| HOME\_AT1\_ACEinhib | 0.0% |
| HOME\_Beta\_Blocker | 0.0% |
| HOme\_Metformin | 0.0% |
| Home\_Oral\_Antidiabetics | 0.0% |
| WMH\_volume | 19.7% |
| Stroke sequence | 0.0% |

Table 2: Comparison of the characteristics of strokes with and without WMH volumes

|  |  |  |  |
| --- | --- | --- | --- |
|   | **WMH Volume Missing(n = 316)** | **WMH Volume Present(n = 1285)** | **P-value\*** |
| Age, Mean (SD)/Median (IQR) | 70.1 (14.0)/ 72 (60, 81) | 67.1 (13.2)/ 68 (58, 77) | 0.0003 |
| Male, n (%) | 169 (53.5) | 644 (50.1) | 0.2865 |
| History of Hypertension, n (%) | 254 (80.4) | 1010 (78.6) | 0.5379 |
| History of Type II Diabetes, n (%) | 129 (40.8) | 492 (38.3) | 0.4394 |
| Dyslipidemia, n (%) | 221 (69.9) | 927 (72.1) | 0.4437 |
| Current or Former Smoker, n (%) *Missing, n* | 202 (66.2)*11* | 752 (59.4)*18* | 0.0311 |
| Alcohol Consumption, n (%)*Missing, n* | 103 (35.0)*22* | 449 (36.9)*67* | 0.5895 |
| BMI ≥ 30, n (%) | 163 (51.6) | 592 (46.1) | 0.0894 |
| Peripheral Vascular Disease, n (%) | 34 (10.8) | 127 (9.9) | 0.6762 |
| Coronary Artery Disease, n (%) | 125 (39.6) | 352 (27.4) | < 0.0001 |
| Atrial Fibrillation, n (%) | 113 (35.8) | 242 (18.8) | < 0.0001 |
| Carotid Stenosis, n (%) | 121 (38.3) | 486 (37.8) | 0.8971 |
| Intracranial Atherosclerotic Stenosis, n (%) | 89 (28.2) | 394 (30.7) | 0.4120 |
| Anemia, n (%) | 55 (17.4) | 188 (14.6) | 0.2211 |
| Pro-Coagulant Coagulation Disorder, n (%) | 15 (4.7) | 56 (4.4) | 0.7607 |
| COPD, n (%) | 53 (16.8) | 135 (10.5) | 0.0033 |
| Sleep Apnea, n (%) | 38 (12.0) | 132 (10.3) | 0.3601 |
| Family History of Stroke, n (%) | 68 (21.5) | 290 (22.6) | 0.7072 |
| Prior TIA, n (%) | 47 (14.9) | 144 (11.2) | 0.0809 |
| Prior Stroke (hemorrhagic or ischemic), n (%) | 75 (23.7) | 267 (20.8) | 0.2513 |
| mRS 0-2 (Favorable) | 167 (52.8) | 907 (70.6) | < 0.0001 |

\*P-value: Continuous variables were compared using Wilcoxon rank-sum tests and categorical variables were compared using Fisher’s exact tests.

Table 3. Baseline demographic and stroke risk factor characteristics among encounters with values of WMH (n=1,285)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Entire Cohort(n = 1285)** | **mRS 0-2Favorable(n = 907)** | **mRS 3-6 Unfavorable(n = 378)** | **P-value\*** |
| Age (years) (median [IQR], mean ± SD) | 68 [58 – 77], 67.1 ± 13.2 | 66 [57 – 75], 65.4 ± 13.2 | 73 [63 – 81], 71.4 ± 12.4 | < 0.0001 |
| Females, n (%) | 641 (49.9%) | 430 (47.4%) | 211 (55.8%) | 0.0070 |
| History of hypertension, n (%) | 1010 (78.6%) | 684 (75.4%) | 326 (86.2%) | < 0.0001 |
| Diabetes mellitus type 2, n (%) | 492 (38.3%) | 311 (34.3%) | 181 (47.9%) | < 0.0001 |
| Dyslipidemia, n (%) | 927 (72.1%) | 640 (70.6%) | 287 (75.9%) | 0.0558 |
| Current or former smoker, n (%)*Missing, n* | 752 (58.5%)*18* | 540 (60.1%)*8* | 212 (57.6%)*10* | 0.4497 |
| Alcohol consumption, n (%)*Missing, n* | 449 (36.9%)*67* | 341 (39.5%)*44* | 108 (30.4%)*23* | 0.0032 |
| BMI ≥ 30, n (%) | 592 (46.1%) | 419 (46.2%) | 173 (45.8%) | 0.9024 |
| Peripheral vascular disease, n (%) | 127 (9.9%) | 74 (8.2%) | 53 (14.0%) | 0.0020 |
| Coronary artery disease, n (%) | 352 (27.4%) | 223 (24.6%) | 129 (34.1%) | 0.0006 |
| Atrial fibrillation, n (%) | 242 (18.8%) | 147 (16.2%) | 95 (25.1%) | 0.0003 |
| Carotid stenosis, n (%) | 486 (37.8%) | 344 (37.9%) | 142 (37.6%) | 0.9497 |
| Intracranial atherosclerotic stenosis, n (%) | 394 (30.7%) | 273 (30.1%) | 121 (32.0%) | 0.5072 |
| Anemia, n (%) | 188 (14.6%) | 100 (11.0%) | 88 (23.3%) | < 0.0001 |
| Pro-coagulant coagulation disorder, n (%) | 56 (4.4%) | 34 (3.8%) | 22 (5.8%) | 0.1009 |
| COPD, n (%) | 135 (10.5%) | 80 (8.8%) | 55 (14.6%) | 0.0036 |
| Sleep apnea, n (%) | 132 (10.3%) | 84 (9.3%) | 48 (12.7%) | 0.0697 |
| Family history of stroke, n (%) | 290 (22.6%) | 193 (21.3%) | 97 (25.7%) | 0.0923 |
| Prior TIA, n (%) | 144 (11.2%) | 95 (10.5%) | 49 (13.0%) | 0.2075 |
| Prior stroke (hemorrhagic or ischemic), n (%) | 267 (20.8%) | 164 (18.1%) | 103 (27.3%) | 0.0003 |

\*P-value: Continuous variables were compared using Wilcoxon rank-sum tests and categorical variables were compared using Fisher’s exact tests.

Table 4. Imaging, stroke, and treatment characteristics among encounters with values of WMH (n=1,285)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Entire Cohort(n = 1285)** | **mRS 0-2Favorable(n = 907)** | **mRS 3-6 Unfavorable(n = 378)** | **P-value\*** |
| White matter hyperintensity volume (median [IQR]) | 3.13 [1.02 – 7.50] | 2.50 [0.77 – 6.44] | 4.44 [1.93 – 9.53] | < 0.0001 |
| LVO, n (%) | 280 (21.8%) | 168 (18.5%) | 112 (29.6%) | < 0.0001 |
| Anterior (IM1M2) LVO, n (%) | 183 (14.2%) | 108 (11.9%) | 75 (19.8%) | 0.0003 |
| TOAST Subtype, n (%) |   |   |   | 0.4197 |
|  Cardioembolism | 366 (28.5%) | 252 (27.8%) | 114 (30.2%) |
|  Large-artery atherosclerosis | 318 (24.8%) | 224 (24.7%) | 94 (24.9%) |
|  Small vessel occlusion | 234 (18.2%) | 176 (19.4%) | 58 (15.3%) |
|  Stroke of undetermined etiology | 319 (24.8%) | 224 (24.7%) | 95 (25.1%) |
|  Stroke of other determined etiology | 48 (3.7%) | 31 (3.4%) | 17 (4.5%) |
| NIHSS at admission (median [IQR], mean ± SD)*Missing, n* | 2 [1 – 5],4.1 ± 5.2*49* | 2 [1 – 4],3.2 ± 4.2*29* | 4 [2 – 9],6.3 ± 6.6*20* | < 0.0001 |
| NIHSS at admission, n (%) |   |   |   | < 0.0001 |
|  No stroke symptoms (0) | 259 (21.0%) | 209 (23.8%) | 50 (14.0%) |
|  Minor stroke (1-4) | 612 (49.5%) | 470 (53.5%) | 142 (40.0%) |
|  Moderate stroke (5-15) | 299 (24.2%) | 173 (19.7%) | 126 (35.2%) |
|  Moderate/severe stroke (16-20) | 38 (3.1%) | 17 (1.9%) | 21 (5.9%) |
|  Severe stroke (21-42) | 28 (2.3%) | 9 (1.0%) | 19 (5.3%) |
|  *Missing* | *49 (3.8%)* | *29 (3.2%)* | *20 (5.3%)* |
| Treatment, n (%) |   |   |   | 0.5968 |
|  IV tPA | 116 (9.0%) | 84 (9.3%) | 32 (8.5%) |
|  Mechanical thrombectomy | 11 (0.9%) | 9 (1.0%) | 2 (0.5%) |
|  IV tPA and mechanical thrombectomy | 17 (1.3%) | 10 (1.1%) | 7 (1.9%) |
|  None | 1141 (88.8%) | 804 (88.6%) | 337 (89.2%) |
| IV tPA Treatment, n (%) | 133 (10.4%) | 94 (10.4%) | 39 (10.3%) | 1.0000 |
| TICI reperfusion score among thrombectomy treatments, n (%) |   |   |   | 0.0042 |
|  mTCI 0 | 2 (7.1%) | 0 (0.00%) | 2 (22.2%) |
|  mTICI 1 | 0 (0.00%) | 0 (0.00%) | 0 (0.00%) |
|  mTICI 2A | 2 (7.1%) | 0 (0.00%) | 2 (22.2%) |
|  mTICI 2B | 11 (39.3%) | 7 (36.8%) | 4 (44.4%) |
|  mTICI 3 | 13 (46.4%) | 12 (63.2%) | 1 (11.1%) |
| Secondary intracerebral hemorrhage, n (%) | 112 (8.7%) | 71 (7.8%) | 41 (10.9%) | 0.0833 |

\*P-value: Continuous variables were compared using Wilcoxon rank-sum tests and categorical variables were compared using Fisher’s exact tests.

Table 5. Imputed data multivariable model for favorable functional outcome (all p < 0.05)

|  |
| --- |
| **Odds Ratio Estimates (n = 1601)** |
| **Effect** | **OR** | **95% CI** | **P-Value** |
| WMH Volume (1 unit increase for volume ≤ 4) | 0.853 | 0.769 | 0.945 | 0.0005 |
| WMH Volume (1 unit increase for volume > 4) | 0.986 | 0.960 | 1.011 |
| Age | 0.971 | 0.961 | 0.981 | < 0.0001 |
| Female | 0.752 | 0.594 | 0.953 | 0.0181 |
| Diabetes Mellitus Type 2 | 0.632 | 0.497 | 0.804 | 0.0002 |
| Anemia | 0.446 | 0.328 | 0.606 | < 0.0001 |
| COPD | 0.650 | 0.460 | 0.918 | 0.0145 |
| Sleep Apnea | 0.670 | 0.464 | 0.968 | 0.0330 |
| LVO | 0.634 | 0.470 | 0.855 | 0.0029 |
| NIHSS at Admission: Minor vs No Symptoms | 0.745 | 0.534 | 1.041 | < 0.0001 |
| NIHSS at Admission: Moderate vs No Symptoms | 0.302 | 0.208 | 0.437 |
| NIHSS at Admission: Moderate/Severe vs No Symptoms | 0.117 | 0.059 | 0.235 |
| NIHSS at Admission: Severe vs No Symptoms | 0.075 | 0.032 | 0.175 |
| Treatment: Mechanical Thrombectomy vs None | 3.703 | 1.059 | 12.945 | 0.0050 |
| Treatment: IV tPA vs None | 1.942 | 1.255 | 3.006 |
| Treatment: IV tPA/Mechanical Thrombectomy vs None | 1.820 | 0.660 | 5.015 |

Table 6. Baseline demographic and stroke risk factor characteristics among all encounters without large vessel occlusion

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Entire Cohort(n = 1248)** | **mRS 0-2Favorable(n = 874)** | **mRS 3-6 Unfavorable(n = 374)** | **P-value\*** |
| Age (years) (median [IQR], mean ± SD) | 69 [59 – 78], 67.9 ± 13.5 | 67 [58 – 76], 66.1 ± 13.4 | 74 [64 – 82], 72.1 ± 12.9 | < 0.0001 |
| Females, n (%) | 612 (49.0%) | 412 (47.1%) | 200 (53.5%) | 0.0416 |
| History of hypertension, n (%) | 981 (78.6%) | 663 (75.9%) | 318 (85.0%) | 0.0003 |
| Diabetes mellitus type 2, n (%) | 504 (40.4%) | 317 (36.3%) | 187 (50.0%) | < 0.0001 |
| Dyslipidemia, n (%) | 894 (71.6%) | 626 (71.6%) | 268 (71.7%) | 1.0000 |
| Current or former smoker, n (%)*Missing, n* | 738 (59.5%)*8* | 510 (58.7%)*5* | 228 (61.5%)*3* | 0.3769 |
| Alcohol consumption, n (%)*Missing, n* | 430 (36.1%)*56* | 332 (39.7%)*38* | 98 (27.5%)*18* | <0.0001 |
| BMI ≥ 30, n (%) | 599 (48.0%) | 414 (47.4%) | 185 (49.5%) | 0.5363 |
| Peripheral vascular disease, n (%) | 115 (9.2%) | 70 (8.0%) | 45 (12.0%) | 0.0321 |
| Coronary artery disease, n (%) | 379 (30.4%) | 239 (27.4%) | 140 (37.4%) | 0.0005 |
| Atrial fibrillation, n (%) | 273 (21.9%) | 167 (19.1%) | 106 (28.3%) | 0.0004 |
| Carotid stenosis, n (%) | 416 (33.3%) | 305 (34.9%) | 111 (29.7%) | 0.0770 |
| Intracranial atherosclerotic stenosis, n (%) | 327 (26.2%) | 230 (26.3%) | 97 (25.9%) | 0.9440 |
| Anemia, n (%) | 204 (16.4%) | 108 (12.4%) | 96 (25.7%) | < 0.0001 |
| Pro-coagulant coagulation disorder, n (%) | 54 (4.3%) | 33 (3.8%) | 21 (5.6%) | 0.1709 |
| COPD, n (%) | 141 (11.3%) | 84 (9.6%) | 57 (15.2%) | 0.0061 |
| Sleep apnea, n (%) | 141 (11.3%) | 86 (9.8%) | 55 (14.7%) | 0.0147 |
| Family history of stroke, n (%) | 279 (22.4%) | 187 (21.4%) | 92 (24.6%) | 0.2354 |
| Prior TIA, n (%) | 153 (12.3%) | 103 (11.8%) | 50 (13.4%) | 0.4515 |
| Prior stroke (hemorrhagic or ischemic), n (%) | 260 (20.8%) | 157 (18.0%) | 103 (27.5%) | 0.0002 |

\*P-value: Continuous variables were compared using Wilcoxon rank-sum tests and categorical variables were compared using Fisher’s exact tests.

Table 7. Imaging, stroke, and treatment characteristics among all encounters without large vessel occlusion

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Entire Cohort(n = 1248)** | **mRS 0-2Favorable(n = 874)** | **mRS 3-6 Unfavorable(n = 374)** | **P-value\*** |
| White matter hyperintensity volume (median [IQR])*Missing, n* | 3.28 [1.13 – 7.72]*243* | 2.70 [0.91 – 6.68]*135* | 4.83 [2.29 – 10.77]*108* | < 0.0001 |
| TOAST Subtype, n (%) |   |   |   | 0.6037 |
|  Cardioembolism | 392 (31.4%) | 271 (31.0%) | 121 (32.4%) |
|  Large-artery atherosclerosis | 202 (16.2%) | 145 (16.6%) | 57 (15.2%) |
|  Small vessel occlusion | 259 (20.8%) | 189 (21.6%) | 70 (18.7%) |
|  Stroke of undetermined etiology | 351 (28.1%) | 241 (27.6%) | 110 (29.4%) |
|  Stroke of other determined etiology | 44 (3.5%) | 28 (3.2%) | 16 (4.3%) |
| NIHSS at admission (median [IQR])*Missing, n* | 2 [1 – 5]61 | 2 [1 – 4]30 | 4 [1 – 7]31 | < 0.0001 |
| NIHSS at admission, n (%) |   |   |   | < 0.0001 |
|  No stroke symptoms (0) | 262 (22.1%) | 206 (24.4%) | 56 (16.3%) |
|  Minor stroke (1-4) | 610 (51.4%) | 457 (54.1%) | 153 (44.6%) |
|  Moderate stroke (5-15) | 283 (23.8%) | 171 (20.3%) | 112 (32.7%) |
|  Moderate/severe stroke (16-20) | 16 (1.3%) | 5 (0.6%) | 11 (3.2%) |
|  Severe stroke (21-42) | 16 (1.3%) | 5 (0.6%) | 11 (3.2%) |
|  *Missing* | *61* | *30* | *31* |
| Treatment, n (%) |   |   |   | 0.1440 |
|  IV tPA | 121 (9.7%) | 92 (10.5%) | 29 (7.8%) |
|  Mechanical thrombectomy | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |
|  IV tPA and mechanical thrombectomy | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |
|  None | 1127 (90.3%) | 782 (89.5%) | 345 (92.2%) |
| IV tPA Treatment, n (%) | 121 (9.7%) | 92 (10.5%) | 29 (7.7%) | 0.1440 |
| Secondary intracerebral hemorrhage, n (%) | 76 (6.1%) | 47 (5.4%) | 29 (7.8%) | 0.1209 |

\*P-value: Continuous variables were compared using Wilcoxon rank-sum tests and categorical variables were compared using Fisher’s exact tests.

Table 8. Imputed data multivariable model results for favorable functional outcome for encounters without large vessel occlusion (all p < 0.05)

|  |
| --- |
| **Odds Ratio Estimates for Not LVO Encounters (n = 1248)** |
| **Effect** | **OR** | **95% CI** | **P-Value** |
| WMH Volume (1 unit increase for volume ≤ 4) | 0.841 | 0.735 | 0.962 | 0.0005 |
| WMH Volume (1 unit increase for volume > 4) | 0.976 | 0.951 | 1.002 |
| Age | 0.969 | 0.957 | 0.981 | <.0001 |
| Female | 0.748 | 0.572 | 0.978 | 0.034 |
| Diabetes Mellitus Type 2 | 0.598 | 0.456 | 0.784 | 0.0002 |
| Carotid Stenosis | 1.573 | 1.179 | 2.100 | 0.0021 |
| Anemia | 0.482 | 0.345 | 0.672 | < 0.0001 |
| Sleep Apnea | 0.623 | 0.416 | 0.932 | 0.0213 |
| NIHSS at Admission: Minor vs No Symptoms | 0.895 | 0.624 | 1.282 | < 0.0001 |
| NIHSS at Admission: Moderate vs No Symptoms | 0.373 | 0.250 | 0.556 |
| NIHSS at Admission: Moderate/Severe vs No Symptoms | 0.109 | 0.034 | 0.350 |
| NIHSS at Admission: Severe vs No Symptoms | 0.160 | 0.050 | 0.513 |

Table 9. Baseline demographic and stroke risk factor characteristics among all encounters with large vessel occlusion

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | **Entire Cohort(n = 353)** | **mRS 0-2Favorable(n = 200)** | **mRS 3-6 Unfavorable(n = 153)** | **P-value\*** |
| Age (years) (median [IQR], mean ± SD) | 67 [58 – 77], 67.2 ± 13.2 | 64 [53 – 73], 63.7 ± 12.9 | 73 [63 – 82], 71.8 ± 12.2 | < 0.0001 |
| Females, n (%) | 176 (49.9%) | 90 (45.0%) | 86 (56.2%) | 0.0415 |
| History of hypertension, n (%) | 283 (80.2%) | 151 (75.5%) | 132 (86.3%) | 0.0150 |
| Diabetes mellitus type 2, n (%) | 117 (33.1%) | 58 (29.0%) | 59 (38.6%) | 0.0680 |
| Dyslipidemia, n (%) | 254 (72.0%) | 132 (66.0%) | 122 (79.7%) | 0.0058 |
| Current or former smoker, n (%)*Missing, n* | 216 (65.1%)*21* | 138 (71.1%)*6* | 78 (56.5%)*15* | 0.0072 |
| Alcohol consumption, n (%)*Missing, n* | 122 (38.1%)33 | 75 (40.8%)16 | 47 (34.6%)17 | 0.2951 |
| BMI ≥ 30, n (%) | 156 (44.2%) | 94 (47.0%) | 62 (40.5%) | 0.2358 |
| Peripheral vascular disease, n (%) | 46 (13.0%) | 22 (11.0%) | 24 (15.7%) | 0.2054 |
| Coronary artery disease, n (%) | 98 (27.8%) | 47 (23.5%) | 51 (33.3%) | 0.0426 |
| Atrial fibrillation, n (%) | 82 (23.2%) | 30 (15.0%) | 52 (34.0%) | < 0.0001 |
| Carotid stenosis, n (%) | 191 (54.1%) | 103 (51.5%) | 88 (57.5%) | 0.2821 |
| Intracranial atherosclerotic stenosis, n (%) | 156 (44.2%) | 88 (44.0%) | 68 (44.4%) | 1.0000 |
| Anemia, n (%) | 39 (11.0%) | 12 (6.0%) | 27 (17.7%) | 0.0009 |
| Pro-coagulant coagulation disorder, n (%) | 17 (4.8%) | 9 (4.5%) | 8 (5.2%) | 0.8050 |
| COPD, n (%) | 47 (13.3%) | 20 (10.0%) | 27 (17.7%) | 0.0405 |
| Sleep apnea, n (%) | 29 (8.2%) | 16 (8.0%) | 13 (8.5%) | 1.0000 |
| Family history of stroke, n (%) | 79 (22.4%) | 37 (18.5%) | 42 (27.5%) | 0.0533 |
| Prior TIA, n (%) | 38 (10.8%) | 17 (8.5%) | 21 (13.7%) | 0.1226 |
| Prior stroke (hemorrhagic or ischemic), n (%) | 82 (23.2%) | 43 (21.5%) | 39 (25.5%) | 0.4456 |

\*P-value: Continuous variables were compared using Wilcoxon rank-sum tests and categorical variables were compared using Fisher’s exact tests.

Table 10. Imaging, stroke, and treatment characteristics among all encounters with large vessel occlusion

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Entire Cohort(n = 353)** | **mRS 0-2Favorable(n = 200)** | **mRS 3-6 Unfavorable(n = 153)** | **P-value\*** |
| White matter hyperintensity volume (median [IQR])*Missing, n* | 2.56 [0.67 – 6.25]*73* | 1.66 [0.43 – 5.51]*32* | 3.90 [1.40 – 7.20]*41* | 0.0011 |
| Anterior (IM1M2) LVO, n (%) | 241 (68.3%) | 131 (65.5%) | 110 (71.9%) | 0.2069 |
| TOAST Subtype, n (%) |   |   |   | 0.0291 |
|  Cardioembolism | 98 (27.8%) | 44 (22.0%) | 54 (35.3%) |
|  Large-artery atherosclerosis | 183 (51.8%) | 114 (57.0%) | 69 (45.1%) |
|  Small vessel occlusion | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |
|  Stroke of undetermined etiology | 61 (17.3%) | 34 (17.0%) | 27 (17.7%) |
|  Stroke of other determined etiology | 11 (3.1%) | 8 (4.0%) | 3 (2.0%) |
| NIHSS at admission (median [IQR])*Missing, n* | 5 [2 – 13]*12* | 3 [1 – 8]*6* | 8 [3 – 18]*6* | < 0.0001 |
| NIHSS at admission, n (%) |   |   |   | < 0.0001 |
|  No stroke symptoms (0) | 47 (13.8%) | 40 (20.6%) | 7 (4.8%) |
|  Minor stroke (1-4) | 118 (34.6%) | 79 (40.7%) | 39 (26.5%) |
|  Moderate stroke (5-15) | 101 (29.6%) | 52 (26.8%) | 49 (33.3%) |
|  Moderate/severe stroke (16-20) | 43 (12.6%) | 16 (8.2%) | 27 (18.4%) |
|  Severe stroke (21-42) | 32 (9.4%) | 7 (3.6%) | 25 (17.0%) |
|  *Missing* | *12* | *6* | *6* |
| Treatment, n (%) |   |   |   | 0.4829 |
|  IV tPA | 30 (8.5%) | 18 (9.0%) | 12 (7.8%) |
|  Mechanical thrombectomy | 15 (4.3%) | 9 (4.5%) | 6 (3.9%) |
|  IV tPA and mechanical thrombectomy | 24 (6.8%) | 10 (5.0%) | 14 (9.2%) |
|  None | 284 (80.5%) | 163 (81.5%) | 121 (79.1%) |
| IV tPA Treatment, n (%) | 54 (15.3%) | 28 (14.0%) | 26 (17.0%) | 0.4586 |
| TICI reperfusion score among thrombectomy treatments, n (%) |   |   |   | 0.0074 |
|  mTCI 0 | 6 (15.4%) | 0 (0.00%) | 6 (30.0%) |
|  mTICI 1 | 0 (0.00%) | 0 (0.00%) | 0 (0.00%) |
|  mTICI 2A | 2 (5.1%) | 0 (0.0%) | 2 (10.0%) |
|  mTICI 2B | 14 (35.9%) | 7 (36.8%) | 7 (35.0%) |
|  mTICI 3 | 17 (43.6%) | 12 (63.2%) | 5 (25.0%) |
| Secondary intracerebral hemorrhage, n (%) | 54 (15.3%) | 28 (14.0%) | 26 (17.0%) | 0.4586 |

\*P-value: Continuous variables were compared using Wilcoxon rank-sum tests and categorical variables were compared using Fisher’s exact tests.

Table 11. Imputed data multivariable model for favorable functional outcome for encounters with large vessel occlusion (all p < 0.05)

|  |
| --- |
| **Odds Ratio Estimates for LVO Encounters (n = 353)** |
| **Effect** | **OR** | **95% CI** | **P-Value** |
| WMH Volume (1 unit increase for volume ≤ 4) | 0.741 | 0.595 | 0.923 | 0.0065 |
| WMH Volume (1 unit increase for volume > 4) | 1.066 | 0.993 | 1.144 |
| Age | 0.972 | 0.952 | 0.994 | 0.0114 |
| Dyslipidemia | 0.495 | 0.274 | 0.895 | 0.0199 |
| Smoking Ever vs Never | 2.504 | 1.418 | 4.424 | 0.0016 |
| Anemia | 0.231 | 0.093 | 0.573 | 0.0016 |
| COPD | 0.426 | 0.199 | 0.912 | 0.0280 |
| Family History of Stroke | 0.508 | 0.278 | 0.929 | 0.0279 |
| NIHSS at Admission: Minor vs No Symptoms | 0.333 | 0.126 | 0.877 | < 0.0001 |
| NIHSS at Admission: Moderate vs No Symptoms | 0.166 | 0.061 | 0.452 |
| NIHSS at Admission: Moderate/Severe vs No Symptoms | 0.087 | 0.028 | 0.271 |
| NIHSS at Admission: Severe vs No Symptoms | 0.047 | 0.013 | 0.170 |