**Table S1.** The comparison between patients with and without red blood cell transfusion during the admission.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Transfusion (N=132 ) | Non-transfusion (N=2,566 ) | Total (N=2,698) | p |
| Age, year | 71.6±13.5 | 68.0±13.1 | 68.2±13.1 | <0.001 |
| Male | 61(46.2%) | 1,521(59.3%) | 1,582 (58.6) | 0.004 |
| Past medical history |  |  |  |  |
| Stroke | 45 (34.1%) | 565 (22.0%) | 610 (22.6%) | 0.002 |
| Hypertension | 93 (70.5%) | 1,707 (66.5%) | 1,800 (66.7) | 0.401 |
| Diabetes | 40 (30.3%) | 888 (34.6%) | 928 (34.4) | 0.357 |
| Hyperlipidemia | 38 (28.8%) | 838 (32.7%) | 999 (32.5) | 0.406 |
| Current smoking | 31 (23.5) | 861 (33.6) | 892 (33.1) | 0.021 |
| previous mRS, score | 0 (0-2) | 0 (0-0) | 0 (0-0) | <0.001 |
| Stroke subtype |  |  |  | <0.001 |
| LAA | 41 (31.1%) | 886 (34.5%) | 927 (34.4%) |  |
| SVO | 6 (4.5%) | 787 (30.7%) | 793 (29.4%) |  |
| CE | 39 (29.6%) | 514 (20.0%) | 553 (20.5%) |  |
| SOE | 9 (6.8%) | 59 (2.3%) | 68 (2.5%) |  |
| SUE | 37 (28.0%) | 320 (12.5%) | 357 (13.2%) |  |
| NIHSS, score | 10 (3-17) | 3 (1-7) | 3 (1-8) | <0.001 |
| Thrombolysis | 16 (12.1%) | 264 (10.3%) | 280(10.4%) | 0.598 |
| onset to visit time, hour (IQR) | 3.7 (1.1-29.7) | 8.0 (1.6-34.6) | 7.8 (1.6-34.5) | 0.057 |
| Laboratory parameter |  |  |  |  |
| WBC, 103/μL | 9.3±4.3 | 8±2.8 | 8.1±2.9 | <0.001 |
| Platelet, 103/μL | 255±134 | 234±77 | 236±81.1 | 0.005 |
| BUN, mg/dL | 22.3±16.2 | 16.9±7.8 | 17.2±8.5 | <0.001 |
| Creatinine, mg/dL | 1.2±1.2 | 1±0.9 | 1±0.9 | 0.004 |
| Total cholesterol, mg/dL | 153.7±49.3 | 176.1±42.9 | 175±43.5 | <0.001 |
| TG, mg/dL | 104.5±55.7 | 126.5±81.5 | 125.4±80.5 | 0.003 |
| HDL, mg/dL | 43.7±12.5 | 46.7±12.7 | 16.6±12.7 | 0.009 |
| LDL, mg/dL | 91.5±41.8 | 109.3±36.2 | 108.5±36.7 | <0.001 |
| FBS, mg/dL | 136.1±56.5 | 124.6±52.4 | 125.1±52.7 | 0.014 |
| INR | 1.2±0.8 | 1.0±0.3 | 1.1±0.3 | <0.001 |
| Systolic BP, mmHg | 140.6±26.6 | 144.4±25.4 | 144.2±25.5 | 0.1 |
| Diastolic BP, mmHg | 80.5±15.8 | 83.6±14.5 | 83.5±14.6 | 0.016 |
| History of antiplatelet agent usage | 45 (34.1%) | 788 (32.9%) | 833 (30.9%) | 0.469 |
| History of anticoagulation usage | 13 (9.8%) | 125 (4.8%) | 138 (5.1%) | 0.02 |
| History of antithrombotics usage | 56 (42.4%) | 883 (34.4%) | 939 (34.8) | 0.073 |

Categorical variables are represented by the number (frequency percent), and continuous variable are represented by the mean (±standard deviation) or median (interquartile range) as appropriate. mRS, modified Rankin Scale; NIHSS, National Institute of Health Stroke Scale; WBC, white blood cell, BUN, blood urea nitrogen; TG, triglycerides; HDL, high-density lipoprotein, LDL, low-density lipoprotein; FBS, fasting blood sugar; INR, international normalized ratio; BP, blood pressure.

**Figure S1.** The correlation between hemoglobin variability parameters.



iqr, interquartile range; sd, standard deviation; mad, median absolute deviation; cov, coefficient of variance, mac, mean absolute change.