**Supplemental Appendix**

**Influence of including patients with pre-morbid disability in acute stroke trials: the HeadPoST experience**

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**Table S**

**I: Baseline characteristics according to categories of additional disability, defined by change in mRS scores from premorbid estimates to Day 7 (∆mRS)**

|  | Excluded | P value |
| --- | --- | --- |
| No | Yes |
| *Demographic*  |  |  |  |
|  Female  | 3222/8285 (38.9) | 1207/2808 (43.0) | 0.0001 |
|  Age,yr | 67.7 (13.5) | 68.7 (14.6) | <0.0001 |
| *Region of recruitment* |  |  |  |
|  Australia/UK | 3128/8285 (37.8) | 1633/2808 (58.2) | <0.0001 |
|  South America | 657/8285 (7.9) | 253/2808 (9.0) | 0.072 |
|  China (incl. Taiwan) | 4019/8285 (48.5) | 633/2808 (22.5) | <0.0001 |
|  India and Sri Lanka | 481/8285 (5.8) | 289/2808 (10.3) | <0.0001 |
| *Clinical* |  |  |  |
|  Time from symptom onset to intervention, hrs | 15.0 (5.0 - 42.0) | 11.0 (5.0 - 25.0) | <0.0001 |
|  Time from hospital admission to intervention, hrs | 9.0 (2.0 - 31.0) | 5.0 (2.0 - 16.0) | <0.0001 |
|  Clinical diagnosis\* |  |  |  |
|  AIS | 1772/8285 (21.4%) | 433/2808 (15.4) | <0.0001 |
|  ICH | 240/8285 (2.9%) | 47/2808 (1.7) | 0.0004 |
|  NIHSS  | 4 (2-7) | 8 (4-14) | <0.0001 |
|  GCS score  | 15 (14-15) | 15 (13-15) | <0.0001 |
|  Systolic BP, mmHg | 154.8 (27.1) | 155.9 (29.3) | 0.255 |
|  Diastolic BP, mmHg | 86.5 (16.4) | 86.8 (17.5) | 0.955 |
|  Heart rate, bpm | 76 (68-84) | 77 (68-88) | <0.0001 |
|  Premorbid mRS 2-5 | 1984/8285 (24.0) | 352/2786 (12.6) | <0.0001 |
| *Medical history* |  |  |  |
|  Stroke | 2087/8265 (25.3) | 520/2793 (18.6) | <0.0001 |
|  Coronary artery disease | 1154/8246 (14.0) | 386/2777 (13.9) | 0.901 |
|  Atrial fibrillation | 774/8215 (9.4) | 403/2759 (14.6) | <0.0001 |
|  Heart failure | 280/8224 (3.4) | 133/2773 (4.8) | 0.001 |
|  Hypertension | 5436/8274 (65.7) | 1715/2787 (61.5) | <0.0001 |
|  Diabetes mellitus | 2033/8266 (24.6) | 619/2792 (22.2) | 0.0095 |
|  Current smoker | 1625/8211 (19.8) | 500/2764 (18.1) | 0.0503 |
|  Aspirin | 3852/8281 (46.5) | 948/2800 (33.9) | <0.0001 |
|  Other antiplatelet agent | 1791/8279 (21.6) | 421/2799 (15.0) | <0.0001 |
|  Anticoagulation | 683/8277 (8.3) | 268/2798 (9.6) | 0.030 |

Data are n/N (%), mean (standard deviation) or median (1st quartile – 3rd quartile); P values were from chi-square and Kruskal-Wallis for categorical and continuous variables, respectively

AIS denotes acute ischemic stroke, BP blood pressure, GCS Glasgow coma scale, ICH intracerebral hemorrhage, mRS modified Rankin scale, NIHSS National Institutes of Health Stroke Scale.

 \*Clinician-reported from brain imaging and other investigations on hospital discharge.

**Table SII: Baseline characteristics by pre-stroke function on the mRS**

|  | **mRS score** |  |  |
| --- | --- | --- | --- |
|  | **0-1** | **≥2** |  | **P value** |
| *Demographic*  |  |  |  |  |
|  Female | 2280/6301 (36.2) | 942/1984 (47.5) |  | <0.0001 |
|  Age,yr | 66.2 (13.1) | 72.5 (13.4) |  | <0.0001 |
| *Region of recruitment* |  |  |  |  |
|  Australia/UK | 2293/6301 (36.4) | 835/1984 (42.1) |  | <0.0001 |
|  South America | 478/6301 (7.6) | 179/1984 (9.0) |  |  |
|  China (incl. Taiwan) | 3141/6301 (49.8) | 878/1984 (44.3) |  |  |
|  India and Sri Lanka | 389/6301 (6.2) | 92/1984 (4.6) |  |  |
| *Clinical* |  |  |  |  |
| Symptom onset to intervention, hrs | 16.0 (5.0 - 43.0) | 14.0 (5.0 - 37.0) |  | 0.013 |
| Hospital admission to intervention, hrs | 9.0 (2.0 - 31.0) | 8.0 (2.0 - 30.5) |  | 0.767 |
| Final diagnosis\* |  |  |  | 0.043 |
|  AIS | 5471/6299 (86.9) | 1691/1983 (85.3) |  |  |
|  ICH | 440/6299 (7.0) | 172/1983 (8.7) |  |  |
| NIHSS score | 3.0 (2.0 - 6.0) | 6.0 (3.0 - 11.0) |  | <0.0001 |
| GCS score  | 15.0 (15.0 - 15.0) | 15.0 (13.0 - 15.0) |  | <0.0001 |
| Systolic BP (mmHg) | 154.9 (27.0) | 154.3 (27.6) |  | 0.246 |
| Diastolic BP (mmHg) | 86.9 (16.1) | 85.2 (17.4) |  | <0.0001 |
| Heart Rate (bpm) | 76.0 (67.0 - 84.0) | 76.0 (69.0 - 85.0) |  | 0.0002 |
| *Medical history* |  |  |  |  |
|  Previous stroke | 1227/6286 (19.5) | 860/1979 (43.5) |  | <0.0001 |
|  Coronary artery disease | 784/6283 (12.5) | 370/1963 (18.8) |  | <0.0001 |
|  Atrial fibrillation | 491/6256 (7.8) | 283/1959 (14.4) |  | <0.0001 |
|  Heart failure | 148/6267 (2.4) | 132/1957 (6.7) |  | <0.0001 |
|  Hypertension | 4019/6293 (63.9) | 1417/1981 (71.5) |  | <0.0001 |
|  Diabetes mellitus | 1446/6287 (23.0) | 587/1979 (29.7) |  | <0.0001 |
|  Current smoker | 1350/6250 (21.6) | 275/1961 (14.0) |  | <0.0001 |
| *Medications*  |  |  |  |  |
|  Aspirin | 2849/6299 (45.2) | 1003/1982 (50.6) |  | <0.0001 |
|  Other antiplatelet agent | 1260/6299 (20.0) | 531/1980 (26.8) |  | <0.0001 |
|  Anticoagulant | 443/6295 (7.0) | 240/1982 (12.1) |  | <0.0001 |

Data are n/N (%), mean (standard deviation) or median (1st quartile – 3rd quartile); P values were from chi-square and Kruskal-Wallis for categorical and continuous variables, respectively

AIS denotes acute ischemic stroke, BP blood pressure, GCS Glasgow coma scale, ICH intracerebral hemorrhage, mRS modified Rankin score, NIHSS National Institutes of Health Stroke Scale

 \*Clinician-reported from brain imaging and other investigations on hospital discharge.

**Figure SI**  **Associations of mRS scores 3-6 at Day 90, by change from pre-morbid levels**



Footnote: CI denotes confidence interval, mRS modified Rankin scale, OR odds ratio

Model adjusted for country, pre-morbid mRS, age, sex, baseline National Institutes of Health Stroke Scale score, time from symptom onset to intervention, and history of stroke, atrial fibrillation, current smoking, and prior antiplatelet and anticoagulant therapy. Solid boxes represent odds ratio for outcome. Vertical lines represent 95% confidence interval.

**Figure SII.**  Sankey diagram of disability, pre-morbid and at Days 7 and 90, on the mRS by recovery pattern



Footnote: mRS denotes modified Rankin scale

Panel A, maintains stable good function; panel B, makes some meaningful recovery; panel C, shows decline; and panel D, maintains disability. Each color represents a different mRS score; the 3 horizontal positions indicate pre-morbid and Days 7 and 90 time points; the vertical ordering shows mRS scores 0 to 6.