**Supplementary Table 1**

Blood pressure, heart rate, and pulse wave velocity in patients after ischemic stroke with and without history of hypertension.

|  |  |  |  |
| --- | --- | --- | --- |
| Blood pressure parameter | No hypertension (n=21) | Hypertension (n=29) | *p* value |
| *Systolic blood pressure, mm Hg* |
|

|  |
| --- |
| Day 1 |

 | 139.0±27.9 | 145.3±16.2 | 0.04 |
|

|  |
| --- |
| Day 6 |

 | 135.3±27.7 | 141.7±21.1 | 0.55 |
|

|  |
| --- |
| Day >90 |

 | 129.2±14.5 | 134.6±15.2 | 0.21 |
| *Diastolic blood pressure, mm Hg* |
|

|  |
| --- |
| Day 1 |

 | 79.2±17.3 | 85.0±12.8 | 0.18 |
|

|  |
| --- |
| Day 6 |

 | 80.9±14.7 | 82.3±13.8 | 0.73 |
|

|  |
| --- |
| Day >90 |

 | 75.5±10.9 | 77.2±8.5 | 0.53 |
| *Mean blood pressure, mm Hg* |
|

|  |
| --- |
| Day 1 |

 | 99.1±20.4 | 105.1±12.5 | 0.04 |
|

|  |
| --- |
| Day 6 |

 | 99.0±18.2 | 102.1±14.9 | 0.32 |
|

|  |
| --- |
| Day >90 |

 | 93.4±11.2 | 96.4±8.8 | 0.30 |
| *Pulse pressure, mm Hg* |
|

|  |
| --- |
| Day 1 |

 | 59.8±14.2 | 60.4±13.2 | 0.63 |
|

|  |
| --- |
| Day 6 |

 | 54.4±17.5 | 59.4±15.6 | 0.13 |
|

|  |
| --- |
| Day >90 |

 | 53.7±10.3 | 57.4±14.5 | 0.33 |
| *Heart rate, bpm* |
|

|  |
| --- |
| Day 1 |

 | 70.8±15.9 | 71.1±12.7 | 0.93 |
|

|  |
| --- |
| Day 6 |

 | 63.0±9.6 | 66.4±8.2 | 0.10 |
|

|  |
| --- |
| Day >90 |

 | 63.2±13.3 | 63.1±9.9 | 0.98 |
| *Pulse wave velocity, m/s* |
|

|  |
| --- |
| Day 1 |

 | 9.4±2.9 | 11.1±3.7 | 0.14 |
|

|  |
| --- |
| Day 6 |

 | 9.6±3.0 | 10.7±3.4 | 0.38 |
|

|  |
| --- |
| Day >90 |

 | 8.7±3.9 | 9.5±2.8 | 0.09 |
| *Augmentation index normalized for heart rate of 75 bpm, mm Hg* |
|

|  |
| --- |
| Day 1 |

 | 21.6±17.6 | 28.7±7.4 | 0.05 |
|

|  |
| --- |
| Day 6 |

 | 22.5±11.2 | 28.4±10.2 | 0.06 |
|

|  |
| --- |
| Day >90 |

 | 26.0±16.5 | 28.4±10.9 | 0.90 |

Values are expressed as mean±standard deviation.

**Supplementary Table 2.**

PWV and AIxHR values in males and in females after ischemic stroke.

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Males (n=34) | Females (n=16) | *p* value |
| *Pulse wave velocity, m/s* |
| Day 1 | 9.9±3.3 | 11.3±3.7 | 0.22 |
| Day 6 | 10.6±3.7 | 9.4±1.9 | 0.31 |
| Day >90 | 8.9±3.2 | 9.9±3.5 | 0.24 |
| *Augmentation index normalized for heart rate of 75 bpm, mm Hg* |
| Day 1 | 24.6±14.1 | 28.1±10.5 | 0.33 |
| Day 6 | 24.2±10.3 | 29.6±11.7 | 0.05 |
| Day >90 | 23.1±13.1 | 36.4±9.2 | <0.01 |

AIxHR, augmentation index normalized for heart rate of 75 bpm; PWV, pulse wave velocity

Values are expressed as mean±standard deviation.

**Supplementary Table 3.**

Correlation between blood pressure and arterial stiffness in ischemic stroke patients.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameter | r value | *p* value | r value | *p* value |
|  | PWV 1, m/s | AIxHR 1, mm Hg |
| SBP 1 | 0.263 | 0.07 | 0.26 | 0.07 |
| DBP 1 | 0.043 | 0.78 | 0.24 | 0.09 |
| MBP 1 | 0.143 | 0.34 | 0.26 | 0.07 |
| PP 1 | 0.360 | 0.01 | 0.15 | 0.31 |
|  | PWV 6, m/s | AIxHR 6, mm Hg |
| SBP 6 | 0.408 | <0.01 | 0.15 | 0.32 |
| DBP 6 | 0.208 | 0.16 | 0.10 | 0.48 |
| MBP 6 | 0.320 | 0.03 | 0.13 | 0.37 |
| PP 6 | 0.422 | <0.01 | 0.12 | 0.40 |
|  | PWV >90, m/s | AIxHR >90, mm Hg |
| SBP >90 | 0.395 | 0.01 | 0.39 | <0.01 |
| DBP >90 | 0.070 | 0.64 | 0.10 | 0.47 |
| MBP >90 | 0.242 | 0.10 | 0.27 | 0.06 |
| PP >90 | 0.371 | 0.01 | 0.38 | 0.01 |

AIxHR, augmentation index normalized for heart rate of 75 bpm; DBP, diastolic blood pressure; MBP, mean blood pressure; PP, pulse pressure; PWV, pulse wave velocity; SBP, systolic blood pressure

Numbers after the parameter represent the day of its assessment.

**Supplementary Table 4.**

The predictive value of a change in AIxHR between days 1 and 6 for early poor outcome in a multivariate model.

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Odds ratio | 95% confidence interval | *p* value |
| AIxHR day 6 – AIxHR day 1 | 1.08 | 0.98–1.21 | 0.11 |
| Age | 0.96 | 0.85–1.07 | 0.44 |
| Sex | 1.49 | 0.15–14.62 | 0.72 |
| History of hypertension | 0.69 | 0.06–8.09 | 0.44 |
| Use of hypertensives before stroke | 1.81 | 0.12–26.77 | 0.66 |
| MBP 1 | 1.00 | 0.93–1.08 | 0.96 |
| PWV 1 | 0.97 | 0.73–1.29 | 0.85 |
| NIHSS 1 | 0.74 | 0.58–0.95 | 0.02 |
| rtPA use | 0.63 | 0.09–4.70 | 0.65 |

AIxHR, augmentation index normalized for heart rate of 75 bpm; MBP1, mean blood pressure on day 1; PWV 1, pulse wave velocity on day 1; NIHSS 1, National Institutes of Health Stroke Scale score on day 1; rtPA, recombinant tissue plasminogen activator

**Supplementary Table 5.**

The predictive value of a change in AIxHR between days 1 and 6 for early favourable outcome in a multivariate model.

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Odds ratio | 95% confidence interval | *p* value |
| AIxHR day 6 – AIxHR day 1 | 1.34 | 1.04–1.74 | 0.03 |
| Age | 0.79 | 0.65–0.96 | 0.02 |
| Sex | 1.88 | 0.12–28.60 | 0.64 |
| History of hypertension | 1.16 | 0.08–16.33 | 0.93 |
| Use of hypertensives before stroke | 15.85 | 0.28–892.82 | 0.17 |
| MBP 1 | 1.08 | 0.98–1.20 | 0.12 |
| PWV 1 | 1.20 | 0.83–1.74 | 0.33 |
| NIHSS 1 | 0.44 | 0.23–0.83 | 0.01 |
| rtPA use | 1.69 | 0.16–15.82 | 0.67 |

AIxHR, augmentation index normalized for heart rate of 75 bpm; MBP1, mean blood pressure on day 1; PWV 1, pulse wave velocity on day 1; NIHSS 1, National Institutes of Health Stroke Scale score on day 1; rtPA, recombinant tissue plasminogen activator

**Supplementary Table 6.**

The predictive value of a change in AIxHR between days 1 and 6 for early favourable outcome in a multivariate model including hypertensives taken prior to stroke.

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Odds ratio | 95% confidence interval | *p* value |
| AIxHR day 6 – AIxHR day 1 | 1.20 | 1.02–1.42 | 0.03 |
| Age | 0.93 | 0.80–1.08 | 0.34 |
| Sex | 1.52 | 0.07–31.38 | 0.78 |
| History of hypertension | 0.72 | 0.03–19.23 | 0.84 |
| Use of hypertensives before stroke | 0.89 | 0.001–566.84 | 0.97 |
| MBP 1 | 1.07 | 0.98–1.17 | 0.11 |
| PWV 1 | 0.96 | 0.63–1.48 | 0.85 |
| NIHSS 1 | 0.69 | 0.46–1.04 | 0.07 |
| rtPA use | 1.32 | 0.07–25.68 | 0.85 |
| Beta-blockers | 0.96 | 0.01–78.69 | 0.98 |
| Alpha-blockers | 1.44 | 0.01–359.33 | 0.89 |
| Calcium channel blockers | 1.54 | 0.001–3646.16 | 0.91 |
| Angiotensin-converting enzyme inhibitors | 1.54 | 0.01–233.66 | 0.86 |
| Angiotensin receptor blockers | 1.51 | 0.001–2026.39 | 0.91 |
| Aldosterone antagonists | 1.52 | 0.01–320.11 | 0.87 |
| Diuretics | 1.33 | 0.03–51.82 | 0.88 |

AIxHR, augmentation index normalized for heart rate of 75 bpm; MBP1, mean blood pressure on day 1; PWV 1, pulse wave velocity on day 1; NIHSS 1, National Institutes of Health Stroke Scale score on day 1; rtPA, recombinant tissue plasminogen activator

**Supplementary Table 7.**

The predictive value of a change in AIxHR between days 1 and 6 for late favourable outcome in a multivariate model.

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Odds ratio | 95% confidence interval | *p* value |
| AIxHR day 6 – AIxHR day 1 | 1.14 | 1.02–1.28 | 0.03 |
| Age | 0.93 | 0.82–1.05 | 0.22 |
| Sex | 0.88 | 0.11–6.79 | 0.90 |
| History of hypertension | 0.39 | 0.05–3.12 | 0.36 |
| Use of hypertensives before stroke | 9.59 | 0.51–179.45 | 0.13 |
| MBP 1 | 1.06 | 0.99–1.13 | 0.10 |
| PWV 1 | 0.96 | 0.73–1.28 | 0.79 |
| NIHSS 1 | 0.56 | 0.37–0.85 | 0.01 |
| rtPA use | 2.68 | 0.40–17.92 | 0.30 |

AIxHR, augmentation index normalized for heart rate of 75 bpm; MBP 1, mean blood pressure on day 1; NIHSS, National Institutes of Health Stroke Scale on day 1; PWV 1, pulse wave velocity on day 1; rtPA, recombinant tissue plasminogen activator

**Supplementary Fig. 1.** Changes of systolic blood pressure (A), diastolic blood pressure (B), mean blood pressure (C), pulse pressure (D), and pulse wave velocity (E) in ischemic stroke patients with and without previous hypertension.

SBP, systolic blood pressure; DBP, diastolic blood pressure; MBP, mean blood pressure; PP, pulse pressure; PWV, pulse wave velocity

Numbers following the parameter represent the day of its assessment.

Vertical bars represent 95% confidence intervals.

**Supplementary Fig. 2.** Pulse wave velocity changes in female and male ischemic stroke patients.

PWV, pulse wave velocity.

Numbers following the parameter represent the day of its assessment.

Vertical bars represent 95% confidence intervals.