**Supplementary Table 1. Multivariate analysis of factors that influenced unfavorable neurological outcomes**

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | OR | 95% CI | *p*-value |
| Age >65 years | 10.80 | 4.86–23.90 | <0.01 |
| Sex (female) | 0.80 | 0.36–1.78 | 0.59 |
| H&K grade | 2.46 | 1.73–3.51 | <0.01 |
| Treatment approach (clip) | 0.74 | 0.32–1.73 | 0.49 |
| Hyperoxia subgroups (1–4) | 1.55 | 0.99–2.44 | 0.06 |

OR, odds ratio; CI, confidence interval; H&K, Hunt and Kosnik.

Hyperoxia subgroups (1–4): 1, normoxia (max PaO2, 60–120 mmHg); 2, mild hyperoxia (max PaO2, 121–200 mmHg); 3, moderate hyperoxia (max PaO2, 201–300 mmHg); 4, severe hyperoxia (max PaO2 > 300 mmHg)

**Supplementary Table 2. Multivariate analysis of factors that influenced unfavorable neurological outcomes in patients with H&K grades I to III**

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | OR | 95% CI | *p*-value |
| Age >65 years | 19.10 | 6.47–56.40 | <0.01 |
| Sex (female) | 0.39 | 0.14–1.09 | 0.07 |
| H&K grade | 3.30 | 1.61–6.75 | <0.01 |
| Treatment modality (clip) | 0.44 | 0.15–1.31 | 0.14 |
| Hyperoxia subgroups (1–4) | 2.01 | 1.11–3.64 | 0.02 |

OR, odds ratio; CI, confidence interval; H&K, Hunt and Kosnik.

Hyperoxia subgroups (1–4): 1, normoxia (max PaO2, 60–120 mmHg); 2, mild hyperoxia (max PaO2, 121–200 mmHg); 3, moderate hyperoxia (max PaO2, 201–300 mmHg); 4, severe hyperoxia (max PaO2 > 300 mmHg)

**Supplementary Table 3.** **Baseline characteristics of the patients with H&K grades I to III across hyperoxia subgroups**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variables | Normoxia  (N = 11) | Mild hyperoxia  (N = 72) | Moderate hyperoxia  (N = 43) | Severe hyperoxia  (N = 18) | *p*-value |
| Age (years) | 64.2 ± 15.2 | 61.0 ± 18.0 | 62.9 ± 16.7 | 64.7 ± 16.6 | 0.82 |
| Sex (male) | 3 (27.3) | 25 (34.7) | 11 (25.6) | 4 (22.2) | 0.63 |
| H&K grades |  |  |  |  | 0.26 |
| I | 2 (18.2) | 12 (16.7) | 7 (16.3) | 2 (11.1) |  |
| II | 9 (81.8) | 39 (54.2) | 20 (46.5) | 8 (44.4) |  |
| III | 0 (0.0) | 21 (29.2) | 16 (37.2) | 8 (44.4) |  |
| Treatment approach |  |  |  |  | 0.04 |
| Coil | 7 (63.6) | 49 (68.1) | 32 (74.4) | 14 (77.8) |  |
| Clip | 3 (27.3) | 23 (31.9) | 11 (25.6) | 4 (22.2) |  |
| Not coil or clip | 1 (9.1) | 0 (0.0) | 0 (0.0) | 0 (0.0) |  |
| Number of arterial blood gas analyses during the first 24 hours in the ICU | 5.0 [5.0–6.0] | 5.0 [4.0–6.0] | 5.0 [5.0–6.0] | 5.0 [5.0–6.0] | 0.61 |
| Median PaO2 during the first 24 h in ICU (mmHg) | 87 [80–94] | 127 [113–146] | 164 [152–184] | 157 [138–182] | <0.01 |
| Maximum PaO2 level during the first 24 h in ICU (mmHg) | 107 [101–110] | 162 [147–179] | 236 [223–250] | 403 [328–468] | <0.01 |
| Minimum PaO2 level during the first 24 h in ICU (mmHg) | 80 [72–81] | 94 [79–115] | 118 [97–132] | 116 [94–138] | <0.01 |
| Hypoxia (PaO2 < 60 mmHg) | 1 (9.1) | 3 (4.2) | 1 (2.3) | 0 (0.0) | 0.58 |
| Modified Rankin Scale |  |  |  |  | 0.80 |
| 0 | 5 (45.5) | 19 (26.4) | 10 (23.3) | 2 (11.1) |  |
| 1 | 3 (27.3) | 16 (22.2) | 7 (16.3) | 4 (22.2) |  |
| 2 | 2 (18.2) | 14 (19.4) | 9 (20.9) | 2 (11.1) |  |
| 3 | 1 (9.1) | 8 (11.1) | 7 (16.3) | 4 (22.2) |  |
| 4 | 0 (0.0) | 10 (13.9) | 5 (11.6) | 4 (22.2) |  |
| 5 | 0 (0.0) | 2 (2.8) | 4 (9.3) | 1 (5.6) |  |
| 6 | 0 (0.0) | 3 (4.2) | 1 (2.3) | 1 (5.6) |  |
| DCI | 0 (0.0) | 9 (12.5) | 8 (18.6) | 3 (16.7) | 0.42 |
| Duration of mechanical ventilation | 1 [1–2] | 2 [1–5] | 1 [1–6] | 2 [1–4] | 0.33 |
| ICU stay | 13 [11–15] | 15 [12–17] | 15 [13–19] | 16 [13–17] | 0.53 |
| Hospital stay | 20 [19–23] | 26 [22–38] | 28 [22–37] | 30 [24–44] | 0.04 |

Data are expressed as mean ± standard deviation, number (percentage), or median [interquartile range].

H&K, Hunt and Kosnik; DCI, delayed cerebral ischemia; ICU, intensive care unit.

Hyperoxia subgroups (1–4): 1, normoxia (max PaO2, 60–120 mmHg); 2, mild hyperoxia (max PaO2, 121–200 mmHg); 3, moderate hyperoxia (max PaO2, 201–300 mmHg); 4, severe hyperoxia (max PaO2 > 300 mmHg).

**Supplementary Table 4. Association between PaO2 levels and DCI (univariate analysis)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | All patients (N = 196) | DCI  (N = 27) | No DCI  (N = 169) | *p*-value |
| Age (years) | 62.7 ± 16.8 | 63.5 ± 15.2 | 62.5 ± 17.1 | 0.78 |
| Sex (male) | 63 (32.1) | 9 (33.3) | 54 (32.0) | 1.00 |
| H&K grades |  |  |  | 0.01 |
| I | 23 (11.7) | 1 (3.7) | 22 (13.0) |  |
| II | 76 (38.8) | 6 (22.2) | 70 (41.4) |  |
| III | 45 (23.0) | 13 (48.1) | 32 (18.9) |  |
| IV | 36 (18.4) | 6 (22.2) | 30 (17.8) |  |
| V | 16 (8.2) | 1 (3.7) | 15 (8.9) |  |
| Treatment approach |  |  |  | 0.08 |
| Coil | 144 (73.5) | 16 (59.3) | 128 (75.7) |  |
| Clip | 50 (25.5) | 10 (37.0) | 40 (23.7) |  |
| Not coil or clip | 2 (1.0) | 1 (3.7) | 1 (0.6) |  |
| Number of ABG analyses during the first 24 h in ICU | 5.0 [4.0–6.0] | 5.0 [4.0–6.0] | 5.0 [5.0–6.0] | 0.23 |
| Median PaO2 during the first 24 h in ICU (mmHg) | 140 [118–169] | 149 [123–178] | 137 [117–167] | 0.19 |
| Maximum PaO2 level during the first 24 h in ICU (mmHg) | 193 [155–250] | 216 [172–261] | 193 [150–245] | 0.09 |
| Minimum PaO2 level during the first 24 h in ICU (mmHg) | 103 [82–130] | 115 [84–142] | 101 [82–130] | 0.31 |
| Hypoxia (PaO2 <60 mmHg) | 5 (2.6) | 1 (3.7) | 4 (2.4) | 0.53 |
| Hyperoxia subgroups |  |  |  | 0.15 |
| Normoxia (max PaO2 60–120 mmHg) | 13 (6.6) | 0 (0.0) | 13 (7.7) |  |
| Mild (max PaO2 121–200 mmHg) | 95 (48.5) | 10 (37.0) | 85 (50.3) |  |
| Moderate (max PaO2 201–300 mmHg) | 62 (31.6) | 13 (48.1) | 49 (29.0) |  |
| Severe (max PaO2 >300 mmHg) | 26 (13.3) | 4 (14.8) | 22 (13.0) |  |
| Modified Rankin Scale |  |  |  | 0.04 |
| 0 | 41 (20.9) | 2 (7.4) | 39 (23.1) |  |
| 1 | 30 (15.3) | 1 (3.7) | 29 (17.2) |  |
| 2 | 35 (17.9) | 6 (22.2) | 29 (17.2) |  |
| 3 | 31 (15.8) | 9 (33.3) | 22 (13.0) |  |
| 4 | 31 (15.8) | 4 (14.8) | 27 (16.0) |  |
| 5 | 16 (8.2) | 3 (11.1) | 13 (7.7) |  |
| 6 | 12 (6.1) | 2 (7.4) | 10 (5.9) |  |
| Duration of mechanical ventilation | 2 [1–9] | 3 [1–13] | 2 [1–9] | 0.54 |
| ICU stay | 15 [13–19] | 20 [15–23] | 15 [12–18] | <0.01 |
| Hospital stay | 28 [22–44] | 38 [30–68] | 26 [22–40] | <0.01 |
| Hospital mortality | 12 (6.1) | 2 (7.4) | 10 (5.9) | 0.67 |

Data are expressed as mean ± standard deviation, number (percentage), or median [interquartile range].

H&K, Hunt and Kosnik; ABG, arterial blood gas; DCI, delayed cerebral ischemia; ICU, intensive care unit.