**Supplementary** **Table 1.** Distribution of demographic and clinical characteristics by quartile of chest tube output per weight at 24 hours

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Highest quartile of postoperative blood lossa****n=27** | **Remaining three quartilesb****n=80** | ***p*-valuec** |
| Gender, n (%) |  |  | 0.374 |
| Male | 12 (44.4) | 44 (55.7) |  |
| Female | 15 (55.6) | 35 (44.3) |  |
| Missing |  | 1 |  |
| Race, n (%) |  |  | **0.011** |
| African American | 10 (37.0) | 9 (11.3) |  |
| Other/missing | 3 (11.1) | 9 (11.3) |  |
| White/Caucasian | 14 (51.9) | 62 (77.5) |  |
| Surgeon, n (%) |  |  | 0.248 |
| A | 16 (61.5) | 57 (71.3) |  |
| B | 5 (19.2) | 6 (7.5) |  |
| C | 5 (19.2) | 17 (21.3) |  |
| Missing | 1 |  |  |
| STAT score, n (%) |  |  | 0.148 |
| 5 | 14 (51.9) | 24 (30.0) |  |
| 4 | 9 (33.3) | 37 (46.3) |  |
| <3 | 4 (14.8) | 19 (23.8) |  |
| RACHS score, n (%) |  |  | 0.620 |
| ≥4 | 19 (76.0) | 55 (69.6) |  |
| <4 | 6 (24.0) | 24 (30.4) |  |
| Missing | 2 | 1 |  |
| Weight (kg) |  |  | **0.003** |
| Mean (SD) | 3.0 (0.4) | 3.4 (0.8) |  |
| Median (range) | 3.0 (2.1-3.9) | 3.3 (1.9-8.3) |  |
| Vitamin K (mg/kg), n (%) |  |  | 0.167 |
| >0 | 3 (11.1) | 3 (3.8) |  |
| 0 | 24 (88. 9) | 77 (96.3) |  |
| Factor VII administered (μg/kg), n (%) |  |  | 0.135 |
| >0 | 4 (14.8) | 24 (30.4) |  |
| 0 | 23 (85.2) | 55 (69.6) |  |
| Missing |  | 1 |  |
| Circulatory arrest, n (%) |  |  | 0.078 |
| Yes | 18 (66.7) | 37 (46.2) |  |
| No | 9 (33.3) | 43 (53.8) |  |
| Postconceptional age (weeks) |  |  | 0.217 |
| Mean (SD) | 39 (1.5) | 39.4 (1.6) |  |
| Median (range) | 39 (35-43) | 39 (35-44) |  |
| Rewarming time (minutes) |  |  | 0.947 |
| Mean (SD) | 40.1 (13.9) d | 39.9 (12.6) |  |
| Median (range) | 40 (0-70) d | 40 (0-70) |  |
| Lowest CPB temperature (oC) |  |  | 0.755 |
| Mean (SD) | 20.7 (5.4) | 20.3 (4.3) |  |
| Median (range) | 18 (15-37) | 19.5 (15-37) |  |
| OR time (hours) |  |  | **0.036** |
| Mean (SD) | 7.2 (1.8) | 6.4 (1.4)e |  |
| Median (range) | 6.8 (4.5-13.6) | 6.25 (3.5-12.9)e |  |
| CPB time (hours) |  |  | 0.213 |
| Mean (SD) | 2.6 (0.9) d | 2.4 (0.8) |  |
| Median (range) | 2.5 (0.2-5.1) d | 2.4 (0.6-5.7) |  |
| Aortic clamp time (hours) |  |  | 0.821 |
| Mean (SD) | 1.2 (0.4)f | 1.1 (0.4)g |  |
| Median (range) | 1.1 (0.8-2.9)f | 1.1 (0-2.4)g |  |
| EACA/kg |  |  | 0.127 |
| Mean (SD) | 74.0 (39.8) d | 89.1 (35.2) h |  |
| Median (range) | 97.7 (0-111.1) d | 100 (0-198.8) h |  |
| Anticoagulation (heparin) at 24 hours, units/kg |  |  | 0.084 |
| Mean (SD) | 236.3 (658.3) d | 87.89 (106.0) e |  |
| Median (range) | 63.44 (12.4-3389.7) d | 44.19 (1.2-448.8) e |  |

a Highest quartile postoperative blood loss: CTO > 55.24 mL/kg; b Remaining three quartiles: CTO ≤ 55.24 mL/kg.

c The nonparametric *p*-value was calculated by the Kruskal-Wallis test for numerical covariates and Fisher's exact test for categorical covariates; d n = 26; e n = 79; f n = 25; g n = 77; h n = 78

CPB, cardiopulmonary bypass, CTO, chest tube output; EACA, ε-aminocaproic acid; OR, operating room; RACHS, Risk Adjustment for Congenital Heart Surgery; SD, standard deviation; STAT, Society of Thoracic Surgeons-European Association of Cardiothoracic Surgery.

**Supplementary Table 2.** Unadjusted associations with increased chest tube output per weight at 24 hours (highest quartile postoperative blood loss vs remaining three quartiles)

|  |  |  |  |
| --- | --- | --- | --- |
| **Covariate** | **N** | **Odds ratio(95% CI)** | ***p*-value** |
| Gender |  |  |  |
| Male | 56 | 0.64 (0.26-1.53) | 0.314 |
| Female | 50 | *reference* | - |
| Race |  |  |  |
| African American | 19 | 4.92 (1.69-14.36) | **0.004** |
| Other/missing | 12 | 1.48 (0.35-6.17) | 0.593 |
| White/Caucasian | 76 | *reference* | - |
| Surgeon |  |  |  |
| A | 73 | 0.95 (0.30-2.99) | 0.936 |
| B | 11 | 2.83 (0.60-13.35) | 0.188 |
| C | 22 | *reference* | - |
| STAT score |  |  |  |
| 5 | 38 | 2.77 (0.78-9.80) | 0.114 |
| 4 | 46 | 1.16 (0.31-4.24) | 0.828 |
| <3 | 23 | *reference* | - |
| RACHS score |  |  |  |
| ≥4 | 75 | 1.38 (0.49-3.89) | 0.541 |
| <4 | 32 | *reference* | - |
| Vitamin K (mg/kg) |  |  |  |
| >0 | 6 | 3.21 (0.61-16.95) | 0.170 |
| 0 | 101 | *reference* | - |
| Factor VII administered (μg/kg) |  |  |  |
| >0 | 28 | 0.40 (0.12-1.28) | 0.122 |
| 0 | 78 | *reference* | - |
| Circulatory arrest |  |  |  |
| Yes | 55 | 2.32 (0.93-5.79) | 0.070 |
| No | 52 | *reference* |  |
| Postconceptional age (weeks) | 107 | 0.84 (0.63-1.13) | 0.247 |
| Rewarming time (minutes) | 106 | 1.00 (0.97-1.04) | 0.938 |
| Lowest CPB temperature (oC) | 107 | 1.02 (0.93-1.12) | 0.685 |
| OR time (hours) | 106 | 1.37 (1.02-1.83) | **0.037** |
| CPB time (hours) | 106 | 1.39 (0.79-2.42) | 0.252 |
| Aortic clamp time (hours) | 102 | 1.31 (0.47-3.61) | 0.607 |
| EACA/kg | 104 | 0.99 (0.98-1.00) | 0.073 |
| Anticoagulation (heparin) at 24 hours (units/kg) | 105 | 1.00 (1.00-1.01) | 0.271 |

Highest quartile postoperative blood loss: chest tube output > 55.24 mL/kg; Remaining three quartiles: chest tube output ≤ 55.24 mL/kg.

CI, confidence interval; CPB, cardiopulmonary bypass; EACA, ε-aminocaproic acid; OR, operating room; RACHS, Risk Adjustment for Congenital Heart Surgery; STAT, Society of Thoracic Surgeons-European Association of Cardiothoracic Surgery.