Supplemental Figure 1. Day of Maximum AKI Stage after the Comprehensive Stage 2 Procedure AKI= Acute Kidney Injury. POD= Post-op Day. Supplemental Figure 1 describes which day patients who developed acute kidney injury (AKI) reached their maximum AKI stage. Patients who did not develop AKI were not included in this figure.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables** | | **ALL** | **No AKI** | **AKI** | ***p*-value** | **NS-AKI** | **S-AKI** | ***p-*value** |
|  |
| **(N=61)** | **(N=22)** | **(N=39)** | **(N=39)** | **(N=22)** |  |
| Intra-op Contrast Use, *ml/kg* | | 0.98 (0.9, 1.1) | 0.95 (0.78, 1.11) | 1 (0.9, 1.07) | 0.92 | 0.94 (0.9, 1.07) | 1.02 (0.8, 1.61) | 0.42 |  |
| **Weight Change from pre-op, *kg*** | |  |  |  |  |  |  |  |  |
| POD 1 |  | 0.42 ± 0.3 | 0.43 ± 0.33 | 0.41 ± 0.29 | 0.91 | 0.41 ± 0.31 | 0.43 ± 0.3 | 0.91 |  |
| POD 2 |  | 0.72 ± 0.56 | 0.64 ± 0.41 | 0.76 ± 0.63 | 0.41 | 0.6 ± 0.44 | 0.91 ± 0.7 | 0.121 |  |
| POD 3 |  | 0.6 ± 0.52 | 0.57 ± 0.51 | 0.62 ± 0.54 | 0.81 | 0.53 ± 0.47 | 0.71± 0.61 | 0.41 |  |
| **Total Lasix equivalent, *mg/kg/day*** | |  |  |  |  |  |  |  |  |
| 8h post-op |  | 0 (0, 0.3) | 0 (0, 0) | 0 (0, 0.35) | 0.52 | 0 (0, 0.31) | 0 (0, 0.3) | 0.82 |  |
| POD1 |  | 2.18 (1.9, 3.15) | 2.07 (1.99, 2.96) | 2.9 (1.09, 3.85) | 0.62 | 2.11 (1.96, 3.09) | 2.8 (1.17, 3.88) | 0.82 |  |
| **Other Diuretics Use** | |  |  |  |  |  |  |  |  |
| Chlorothiazide 8hr post |  | 2 (3.28%) | 1 (4.55%) | 1 (2.56%) | >.094 | 1 (2.56%) | 1 (4.55%) | >0.94 |  |
| Chlorothiazide POD2 |  | 50 (81.97%) | 15 (68.18%) | 35 (89.74%) | 0.0794 | 31 (79.4%) | 19 (86.36%) | 0.74 |  |
| Bumetanide POD1 |  | 3 (4.92%) | 0 (0%) | 3 (7.69%) | 0.54 | 1 (2.56%) | 2 (9.09%) | 0.34 |  |
| Bumetanide POD2 |  | 4 (6.56%) | 1 (4.55%) | 3 (7.69%) | >0.94 | 3 (7.69%) | 1 (4.55%) | >0.94 |  |
| Fenoldopam POD1 |  | 11 (18.03%) | 3 (13.64%) | 8 (20.51%) | 0.74 | 5 (12.82%) | 6 (27.27%) | 0.24 |  |
| Fenoldopam POD2 |  | 18 (29.51%) | 4 (18.18%) | 14 (35.9%) | 0.153 | 6 (15.38%) | 12 (54.55%) | 0.0013 |  |
| RRT Utilization |  | 0 (0%) | 0 (0%) | 0 (0%) |  | 0 (0%) | 0 (0%) |  |  |
| ECMO Utilization |  | 1 (1.64%) | 0 (0%) | 1 (2.56%) | >0.94 | 0 (0%) | 1 (4.55%) | 0.44 |  |

Supplemental Table 1. Additional Post-Comprehensive Stage 2 Procedure Variables Comparing the Presence of Post-operative AKI. AKI= Acute Kidney Injury; NS-AKI= Not Severe Acute Kidney Injury; S-AKI= Severe Acute Kidney Injury; POD= Post-op Day; RRT= Renal Replacement Therapy. Post-comprehensive stage 2 procedure AKI comparisons defining AKI as any stage injury (AKI greater than or equal to Stage 1) and defining NS-AKI as less than or equal to Stage 1 AKI and S-AKI as greater than or equal to Stage 2 AKI. Post-operative Variables are described as mean ± standard deviation, median (Quartile 1, Quartile 3) and frequency (percentage %). 1= Welch Two Sample t-test, 2=Wilcoxon rank sum test, 3= Pearson’s chi-squared test. 4=Fisher’s exact test.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **AKI** | | | **Severe AKI** | | |
| **Variable** | **OR** | **95% CI** | **p-value** | **OR** | **95% CI** | **p-value** |
| CPB | 1.003 | (0.991, 1.016) | 0.6733 | 1.007 | (0.996, 1.02) | 0.2268 |

Supplemental Table 2. Association of Post-Comprehensive Stage 2 outcomes and the development of acute kidney injury AKI= Acute Kidney Injury; CPB=Cardiopulmonary bypass; hr=hours; RR= Relative Risk; CI= Confidence Intervals. Logistic regression analysis investigating the association between CPB and the development of AKI and severe AKI post-comprehensive stage 2 procedure.

|  |  |  |
| --- | --- | --- |
| **LOS Hospital (AKI)** | | |
| **Variable** | **RR** | **95% CI** |
| VIS 24hr post-op | 1.069 | (1.04, 1.1) |
| PPV | 1.038 | (1.02, 1.05) |
| AKI | 0.71 | (0.484, 1.04) |
| Fluid Overload POD 2 (%) | 0.977 | (0.92, 1.04) |
| AKI + Fluid Overload POD 2 | 1.015 | (0.952, 1.08) |
| **LOS Hospital (Severe AKI)** | | |
| **Variable** | **RR** | **95% CI** |
| VIS 24hr post-op | 1.069 | (1.04, 1.099) |
| PPV | 1.032 | (1.01, 1.05) |
| Severe AKI | 1.356 | (0.723, 2.54) |
| Fluid Overload POD 1 (%) | 0.989 | (0.966, 1.01) |
| AKI + Fluid Overload POD 1 | 0.962 | (0.911, 1.02) |

Supplemental Table 3. Association of length of stay in the hospital with acute kidney injury and post-comprehensive stage 2 outcomes LOS= Length of Stay; AKI= Acute Kidney Injury; VIS= Vasoactive Inotrope Score; hr=hours; PPV= Positive pressure ventilation; POD= Post-operative day; RR= Relative Risk; CI= Confidence Intervals. Poisson regression analysis investigating the association between length of stay in the hospital with AKI and Severe AKI post-comprehensive stage 2 procedure. The model adjusts for VIS, PPV, AKI, and Fluid Overload.