**TABLES**

|  |
| --- |
| **e-Table 1. Baseline characteristics of the first circuit used for each patient, based on CRRT mode**  |
| **Variables** | **CVVHD****N=25** | **CVVH****N=14** | **p value** |
| Age (years) | 63 [55; 70] | 58.5 [49; 67.5] | 0.41 |
| Gender (male) | 12 (48%) | 8 (57%) | 0.74 |
| Weight (kg) | 84.5 [68.5; 96.2] | 65.8 [57.0; 85.0] | 0.07 |
| APACHE II score | 22 [18; 27] | 21 [18; 22] | 0.66 |
| APACHE III score | 45 [36; 50] | 49 [37; 57] | 0.44 |
| SAPS II score | 79 [66; 93] | 71 [58; 75] | 0.06 |
| Hemoglobin (g/l) | 88.5 [80.2; 100.8] | 82.5 [73.8; 90.2] | 0.28 |
| Platelets (G/l) | 127.0 [60.0; 159.0] | 129.5 [69.8; 299.5] | 0.36 |
| INR | 1.6 [1.4; 2.8] | 1.4 [1.2; 1.8] | 0.19 |
| aPTT (sec) | 44.0 [35.0; 57.0] | 36 [30.2; 44.2] | 0.07 |
| Data are presented as median [interquartile range] or count (percentage), and corresponds to that reported with the first circuit used in each included patients. CRRT: continuous renal replacement therapy, CVVH: continuous veno-venous hemofiltration; CVVHD: continuous veno-venous hemodialysis; INR: international normalized index; aPTT: activated partial thromboplastin time.p values: Fisher’s test for categorical variables, Wilcoxon’s for continuous variables |

**e-Table 2**. Reasons of admission of study patients.

|  |  |  |
| --- | --- | --- |
| **Patient** | **Reason of admission** | **Circuits**  |
|   |   | **CVVHD** | **CVVH** | **Total** |
| 1 | Liver, Pancreas, Stomach, Intestine Transplant for Pseudo-obstruction | 0 | 29 | 29 |
| 2 | Acute on Chronic Liver Disease | 0 | 5 | 5 |
| 3 | Liver Transplantation | 0 | 5 | 5 |
| 4 | Sepsis of Unclear Origin in the Setting of recent Limb Embolectomy | 0 | 5 | 5 |
| 5 | Cardiac arrest | 0 | 4 | 4 |
| 6 | Infected Aorto-bifemoral Graft | 0 | 1 | 1 |
| 7 | Fournier's Gangrene | 4 | 0 | 4 |
| 8 | Fulminant Hepatic Failure due to Paracetamol Overdose | 24 | 1 | 25 |
| 9 | Fulminant Hepatic Failure | 0 | 5 | 5 |
| 10 | Atrial Fibrillation with Rapid Ventricular Response | 0 | 4 | 4 |
| 11 | Post Coronary Artery Graft Surgery | 13 | 8 | 21 |
| 12 | Acute Pancreatitis | 1 | 0 | 1 |
| 13 | Intrabdominal Tuberculosis Infection | 0 | 2 | 2 |
| 14 | Post Coronary Artery Graft Surgery | 1 | 0 | 1 |
| 15 | Acute Kidney Failure | 10 | 0 | 10 |
| 16 | Acute on Chronic Liver Disease | 4 | 0 | 4 |
| 17 | Admission after Partial Nephrectomy | 0 | 1 | 1 |
| 18 | Acute Liver Failure after Hartmann Surgery for Diverticulitis | 17 | 10 | 27 |
| 19 | Acute on Chronic Liver Disease and Acute Kidney Failure | 2 | 0 | 2 |
| 20 | Necrotizing Pancreatitis | 0 | 1 | 1 |
| 21 | Liver Failure in context of Chronic Kidney Disease | 3 | 0 | 3 |
| 22 | ICU admission after Aortic Valve Replacement | 2 | 0 | 2 |
| 23 | Admission after Complicated Duodenal Ulcer | 7 | 1 | 8 |
| 24 | Acute on Chronic Liver Disease | 5 | 0 | 5 |
| 25 | Admission after Liver and Kidney Transplant | 21 | 1 | 22 |
| 26 | Cardiac Arrest | 5 | 0 | 5 |
| 27 | Out of Hospital Cardiac Arrest | 1 | 0 | 1 |
| 28 | Acute Kidney Failure and Severe Acidemia | 1 | 2 | 3 |
| 29 | Infective Endocarditis and Pneumonia | 3 | 0 | 3 |
| 30 | Multi-Organ Failure secundary to Septic Shock | 2 | 0 | 2 |
| 31 | Complicated Pneumonia | 1 | 0 | 1 |
| 32 | Sepsis, Peritonitis. Peritoneal Dialysis Patient | 4 | 0 | 4 |
| 33 | Sternal Wound Infeccion post Cardiac Surgery | 7 | 0 | 7 |
| 34 | Pneumonia with Acute Kidney Failure | 2 | 0 | 2 |
| 35 | Peritonitis after Gut Surgery | 1 | 4 | 5 |
| 36 | Acute Liver Failure due to Paracetamol Intoxication | 14 | 1 | 15 |
| 37 | Admitted ICU after Cardiac Bypass Surgery | 17 | 2 | 19 |
| 38 | Non-alcoholic Steatohepatitis Cirrosis, Liver failure, Liver transplant | 25 | 0 | 25 |
| 39 | Complicated Limphoproliferative Malignancy | 0 | 5 | 5 |

Footnote: Each patient had a variable number of circuits (for example patient 1 had 29 filters, while patient 6 had only one filters) in a given modality. The difference in CRRT numbers is not due to preferential allocation to a given modality but rather to our progressive transition from CVVH/CVVHDF to CVVHD, with different teams were involved in CRRT prescription. Once a prescription was made it was continued during the ICU stay. So, if, for example, if a patient (like patient No 1) had been started on CVVH, they continued all circuits on CVVH thereafter. In contrast, if another (like patient No 8) had been started on CVVHD, they would also continue on CVVHD for essentially the entire duration of their CRRT time.

|  |
| --- |
| **e-Table 3. Settings and characteristics of the first circuit used for each patient, based on CRRT mode** |
| **Variables** | **CVVHD****N=25** | **CVVH****N=14** | **p value** |
| Blood flow (ml/min) | 100 [100; 100] | 200 [150; 200] | <0.01 |
| Effluent flow rate (ml/h/kg)\* | 27.2 [22.2; 32.3] | 24.2 [18.3; 32.0] | 0.39 |
| Anticoagulation agent: |  |  |  |
| Heparin and others§ | 11 (44%) | 3 (21%) | <0.01 |
| None | 14 (56%) | 5 (36%) |  |
| Citrate | 0 (0%) | 6 (43%) |  |
| Vascular access site: |  |  |  |
| Femoral | 16 (64%) | 7 (50%) | 0.50 |
| Superior vena cava | 9 (36%) | 7 (50%) |  |
| Data are presented as median [interquartile range] or count (percentage), and corresponds to that reported with the first filter circuit used in each included patients. \*: effluent flow rate corrected for predilution in CVVH mode. §: epoprostenolCRRT: continuous renal replacement therapy, CVVH: continuous veno-venous hemofiltration; CVVHD: continuous veno-venous hemodialysis.p values: Fisher’s test for categorical variables, Wilcoxon’s for continuous variables |

|  |
| --- |
| **e-Table 4. Multivariate Cox regression analysis of variables associated with shorter circuit survival, after exclusion of circuits electively stopped** |
| **Variables** | **Hazard ratio [95% CI]** | **p** |
| Gender: |  |  |
| Female  | 1 | - |
| Male | 1.31 [0.89; 1.92] | 0.17 |
| APACHE III score (per 1 point increase) | 0.98 [0.97; 0.99] | 0.02 |
| Platelets (per 100 G/l increase) | 1.27 [1.12; 1.45] | <0.01 |
| aPTT (per 1 sec increase) | 0.99 [0.98; 0.99] | <0.01 |
| CRRT mode: |  |  |
| CVVHD | 1 | - |
| CVVH | 1.81 [1.09; 2.98] | 0.02 |
| Anticoagulation agent: |  |  |
| Heparin and others§ | 1 | - |
| None | 2.22 [1.53; 3.20] | <0.01 |
| Citrate | 0.55 [0.29; 1.04] | 0.06 |
| Transmembrane pressure (per 10 mmHg increase) | 0.60 [0.33; 1.08] | 0.09 |
| §: epoprostenolSensitivity analysis accounting for the within-patient repetition of circuit use. 95% CI: 95% confidence interval. CRRT: continuous renal replacement therapy, CVVH: continuous veno-venous hemofiltration; CVVHD: continuous veno-venous hemodialysis; INR: international normalized index; aPTT: activated partial thromboplastin time. |

**FIGURES**



**e-Figure 1. First circuit survival**

First circuit survival is shown according to CRRT technique (panel A) and anticoagulation mode (panel B). P values are from log rank unadjusted analysis.



**e-Figure 2. Lifespan of all circuits**

All circuits survival is shown, based on CRRT technique (panel A) and anticoagulation mode (panel B). The p value is extracted from log-rank analysis, accounting for the within-individual repetition of circuits. Circuits treated with no anticoagulation had a significantly decreased circuit survival.