

**Table S1 – Blood gas analyses before and after implantation of extracorporeal membrane oxygenation**

Arterial blood gas parameter	No intracranial hemorrhage (n=161)	Intracranial hemorrhage (n=43)	<i>p</i>
PaO <sub>2</sub> before ECMO, mmHg	75 (61-96)	70 (64-85)	0.539
PaCO <sub>2</sub> before ECMO, mmHg	62 (49-81)	66 (57-84)	0.200
pH before ECMO	7.26 (7.16-7.36)	7.27 (7.17-7.39)	0.943
HCO <sub>3</sub> <sup>-</sup> before ECMO, mmol/L	26 (21-30)	26 (23-30)	0.333
Lactate before ECMO, mmol/L	1.8 (1.1-3.3)	2.7 (1.3-4.5)	0.245
Hemoglobin before ECMO, mg/dL	10.0 (8.3-12.0)	9.5 (8.5-11.6)	0.340
Glucose before ECMO, mg/dL	141 (109-182)	146 (121-170)	0.960
1 <sup>st</sup> PaO <sub>2</sub> after ECMO start, mmHg	96 (73-172)	80 (68-104)	0.059
1 <sup>st</sup> PaCO <sub>2</sub> after ECMO start, mmHg	45 (38-55)	52 (45-61)	0.002
1 <sup>st</sup> pH after ECMO start	7.37 (7.28-7.46)	7.34 (7.25-7.43)	0.302
1 <sup>st</sup> HCO <sub>3</sub> <sup>-</sup> after ECMO start, mmol/L	25 (21-31)	28 (24-33)	0.155
1 <sup>st</sup> lactate after ECMO start, mmol/L	2.2 (1.4-4.1)	2.9 (1.7-5.2)	0.214
1 <sup>st</sup> hemoglobin after ECMO start, mg/dL	9.5 (8.2-11.1)	8.9 (7.9-10.3)	0.091
1 <sup>st</sup> glucose after ECMO start, mg/dL	142 (107-178)	137 (116-179)	0.682
2 <sup>nd</sup> PaO <sub>2</sub> after ECMO start, mmHg	75 (65-97)	72 (57-91)	0.112
2 <sup>nd</sup> PaCO <sub>2</sub> after ECMO start, mmHg	43 (37-53)	50 (44-63)	<0.001
2 <sup>nd</sup> pH after ECMO start	7.39 (7.32-7.46)	7.37 (7.30-7.42)	0.237
2 <sup>nd</sup> HCO <sub>3</sub> <sup>-</sup> after ECMO start, mmol/L	25 (20-31)	28 (25-32)	0.114
2 <sup>nd</sup> lactate after ECMO start, mmol/L	2.5 (1.7-4.8)	3.4 (1.8-4.9)	0.381
2 <sup>nd</sup> hemoglobin after ECMO start, mg/dL	10.0 (8.7-11.1)	9.2 (8.3-10.5)	0.079
2 <sup>nd</sup> glucose after ECMO start, mg/dL	143 (104-179)	141 (112-180)	0.728
3 <sup>rd</sup> PaO <sub>2</sub> after ECMO start, mmHg	75 (64-91)	72 (65-92)	0.906
3 <sup>rd</sup> PaCO <sub>2</sub> after ECMO start, mmHg	42 (38-49)	49 (45-58)	<0.001
3 <sup>rd</sup> pH after ECMO start	7.38 (7.30-7.46)	7.37 (7.28-7.42)	0.304
3 <sup>rd</sup> HCO <sub>3</sub> <sup>-</sup> after ECMO start, mmol/L	25 (21-31)	28 (22-31)	0.165
3 <sup>rd</sup> lactate after ECMO start, mmol/L	2.6 (1.6-5.1)	3.3 (1.9-6.2)	0.311
3 <sup>rd</sup> hemoglobin after ECMO start, mg/dL	10.3 (9.2-11.2)	9.8 (8.8-10.8)	0.104
3 <sup>rd</sup> glucose after ECMO start, mg/dL	148 (109-193)	146 (114-178)	0.719
PaO <sub>2</sub> 24 h after ECMO start, mmHg	71 (65-81)	71 (61-85)	0.772
PaCO <sub>2</sub> 24 h after ECMO start, mmHg	45 (40-49)	49 (44-54)	0.005
pH 24 h after ECMO start	7.41 (7.36-7.45)	7.41 (7.36-7.45)	0.880
HCO <sub>3</sub> <sup>-</sup> 24 h after ECMO start, mmol/L	28 (23-32)	29 (26-31)	0.192
Lactate 24 h after ECMO start, mmol/L	1.9 (1.2-3.4)	1.9 (1.3-2.8)	0.919
Hemoglobin 24 h after ECMO start, mg/dL	10.3 (9.6-11.2)	10.3 (9.3-11.0)	0.617
Glucose 24 h after ECMO start, mg/dL	147 (122-178)	153 (118-178)	0.917
1 <sup>st</sup> ΔPaCO <sub>2</sub> <sup>a</sup> , mmHg	14 (5-28)	13 (6-28)	0.720
ΔPaCO <sub>2</sub> 24 h <sup>b</sup> , mmHg	17 (6-33)	22 (6-36)	0.855
Mean PaCO <sub>2</sub> during ECMO, mmHg	45 (42-48)	48 (44-52)	0.001

<b>PaCO<sub>2</sub> variability<sup>c</sup> during ECMO, mmHg</b>	33 (24-47)	39 (29-69)	0.073
<b>Mean pH during ECMO</b>	7.41 (7.38-7.44)	7.42 (7.38-7.45)	0.656
<b>pH variability<sup>c</sup> during ECMO</b>	0.00 (0.00-0.01)	0.00 (0.00-0.01)	0.441

**Table S1:** Results from arterial blood gas analyses stratified by the diagnosis of intracranial hemorrhage during venovenous extracorporeal membrane oxygenation (ECMO). “Before ECMO” refers to the final blood gas analysis before ECMO implantation. 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> blood gas analyses refer to the first three analyses after ECMO start. PaO<sub>2</sub>: arterial partial pressure of oxygen. PaCO<sub>2</sub>: arterial partial pressure of carbon dioxide. HCO<sub>3</sub><sup>-</sup>: bicarbonate. <sup>a</sup>Difference between the last PaCO<sub>2</sub> before ECMO start and the first PaCO<sub>2</sub> after ECMO initiation. <sup>b</sup>Difference between the last PaCO<sub>2</sub> before ECMO start and PaCO<sub>2</sub> 24 h after ECMO initiation <sup>c</sup>The variability of PaCO<sub>2</sub> and pH was calculated as the variance of all PaCO<sub>2</sub>/pH values during venovenous ECMO support. Data are presented as n (%) or median with 25<sup>th</sup> and 75<sup>th</sup> percentiles.