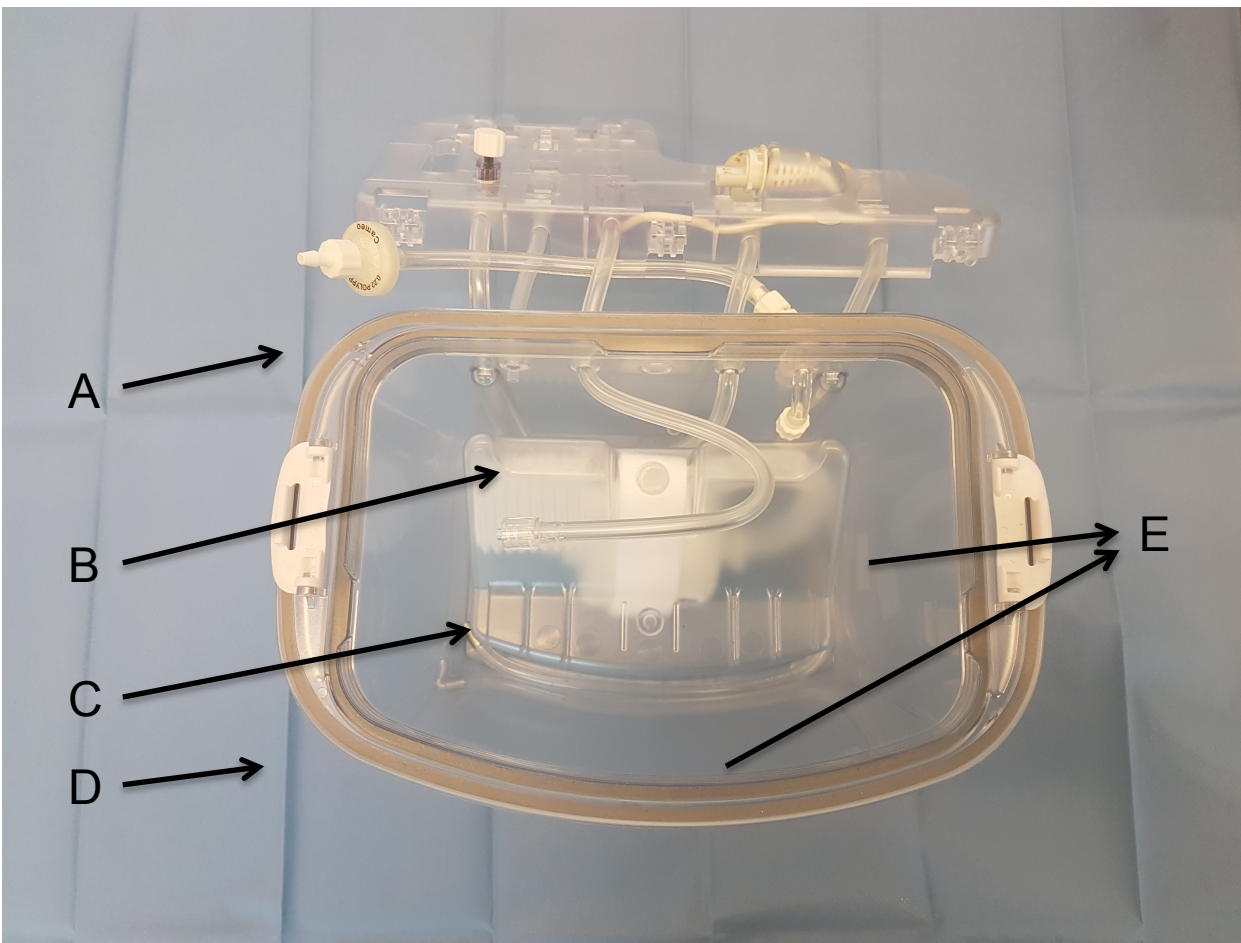


Table S1: Operative data for 24 pigs in an ischemia-reperfusion autotransplant model according to the study group.

Variable	2-hours HMPO ₂ + 20- hours HMP (n=6)	22-hours HMP + interrupted surface oxygenation (n=4)	22-hours HMP (n=6)	22-hours HMPO ₂ (n=8)	p-value
Weight pig, kg	44.28±2.57	42.55±2.84	39.23±2.00	43.83±7.30	0.2187
Left nephrectomy procedure time, h:m	3h35±0h21	3h48±0h41	3h16±0h31	3h31±0h26	0.4145
Weight left kidney, gr - before preservation - after preservation	108±8 149±11	112±12 169±45	100±13 151±22	109±18 149±30	0.48 0.69
Right nephrectomy and autotransplant procedure time, h:m	3h30±0h18	3h23±0h09	3h52±0h54	2h54±0h45	0.0302
Preservation time, h:m	22h14±0h17	22h08±0h19	22h40±0h36	20h51±0h5 7	0.2038
Anastomotic time, min	24±2	24±2	32±4	26±3	0.0021

Abbreviations: HMP, hypothermic machine perfusion; HMPO₂, oxygenated hypothermic machine perfusion.
Data are given as the mean ± SD.

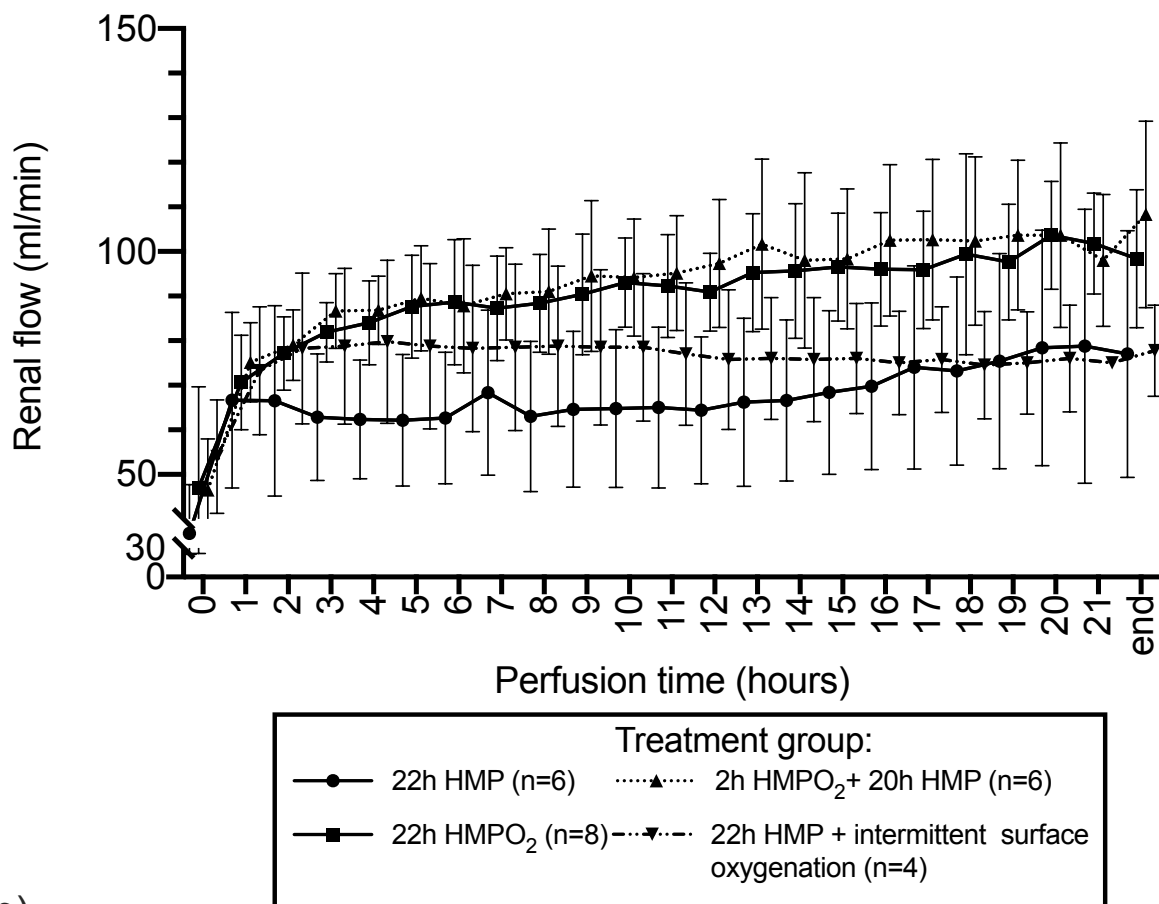
Figure S1



- A. Oxygen connection with bacterial filter
- B. Exit port of bypass line during wash cycle
- C. Connection for the arterial cannula
- D. Organ chamber
- E. Detachable, submerged perforated O₂ tubing

Figure S1: Perfuset set up for direct bubble and surface oxygenation of the perfusate on the LifePort Kidney Transporter. Fast O₂ uploading of the circulating perfusate was obtained by bubble oxygenation in the reservoir via the submerged perforated O₂ tubing segment. Bubble oxygenation was switched to surface oxygenation at the start of renal perfusion by detaching the submerged bubble-line inside the organ chamber and subsequently administration of carbogen at the surface of the perfusion fluid in the reservoir.

a)



b)

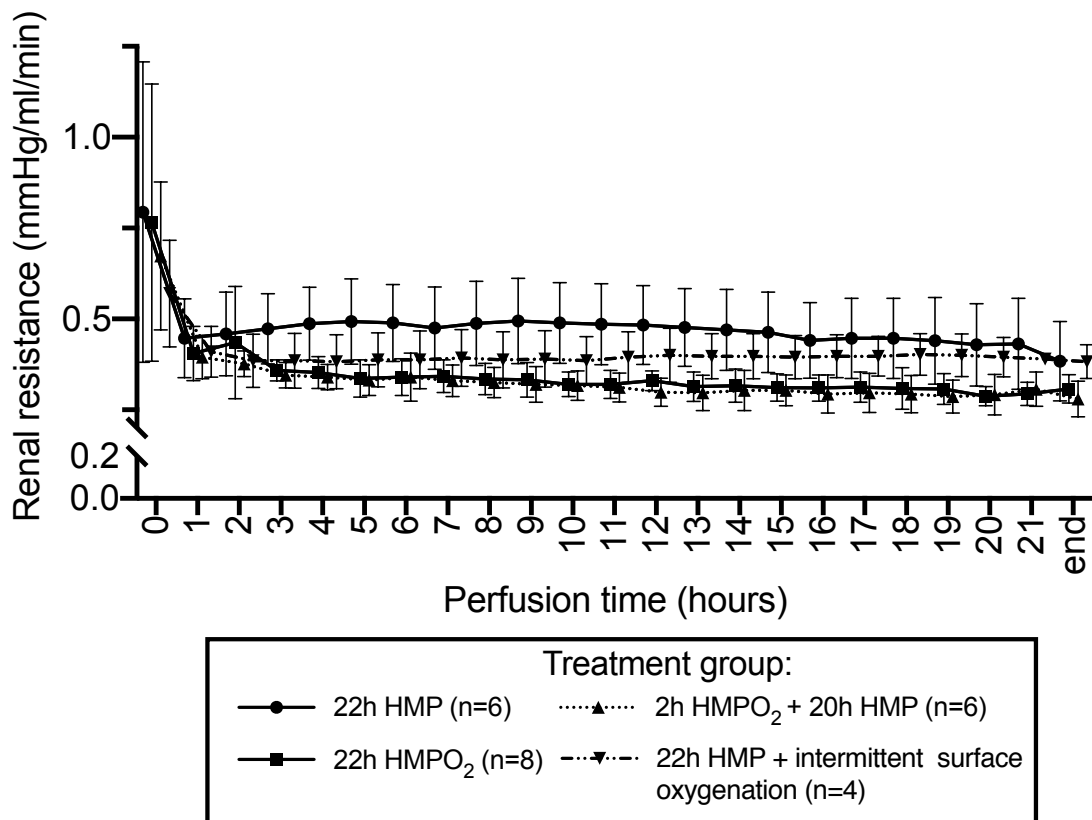


Figure S2: Influence of oxygen supply on ex vivo renal flow (a) and renal resistance (b) in all oxygenated study groups compared with standard, non-oxygenated HMP. HMP, Hypothermic machine perfusion; HMPO₂, oxygenated hypothermic machine perfusion compared with standard HMP.

Figure S3

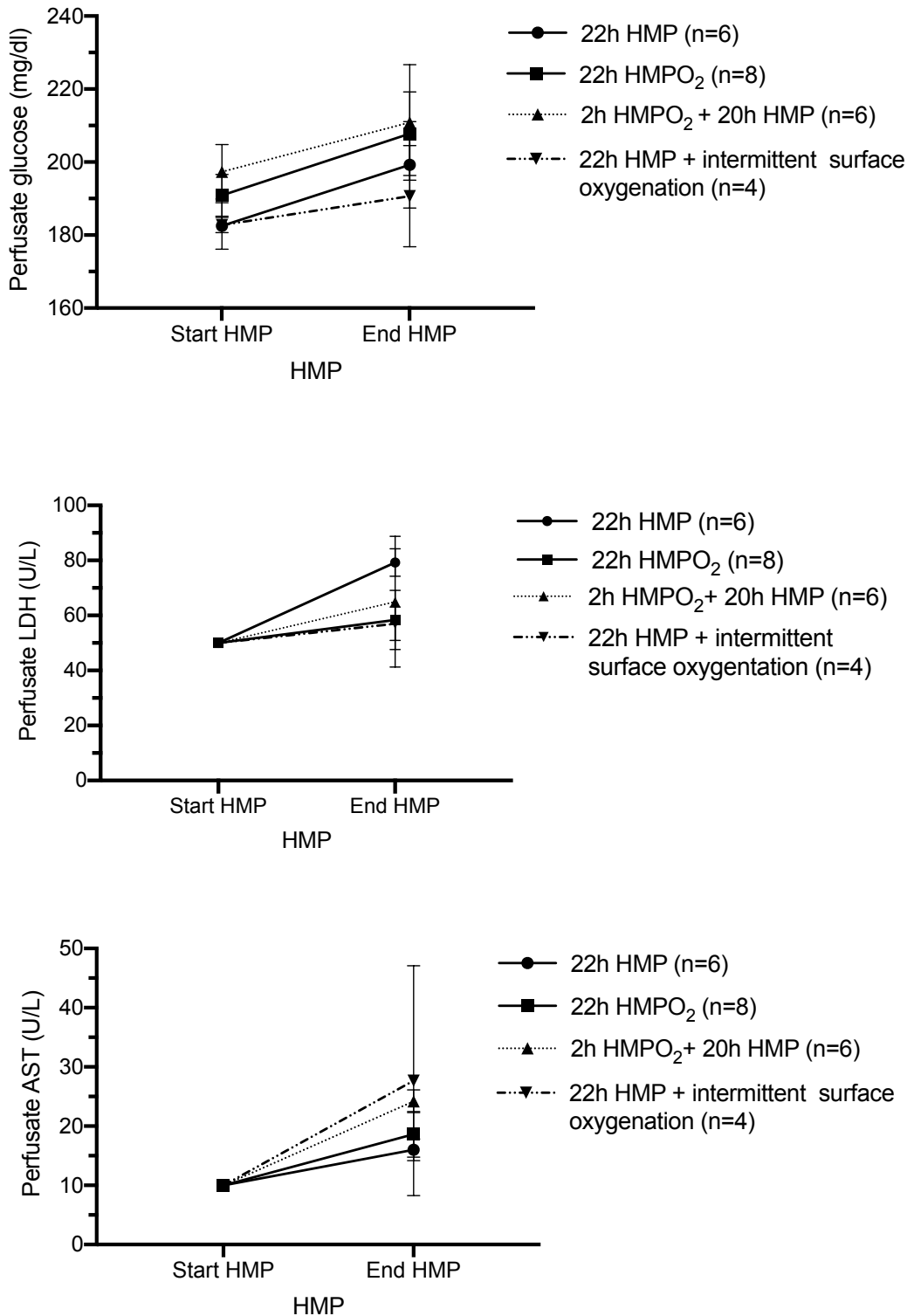


Figure S3: No differences were observed in levels of glucose, LDH, and AST at the end of machine perfusion between all study groups. AST, aspartate aminotransaminase; LDH, lactate dehydrogenase; HMP, hypothermic machine perfusion; HMPO₂, oxygenated hypothermic machine perfusion.