

Feasibility and initial outcome of hypothermic machine-perfused kidneys oxygenated by bubble and surface oxygenation after the introduction of a national machine perfusion service in Belgium, single center experience.



Aniss Channaoui¹, Georgia Bale¹, Antoine Buemi¹, Arnaud Devresse^{1,2}, Nada Kanaan², Martine De Meyer¹, Michel Mourad¹, Tom Darius¹

¹Surgery and Abdominal Transplant Unit, University Clinics Saint-Luc, Brussels, Belgium.

²Department of Nephrology, University Clinics Saint-Luc, Brussels, Belgium.

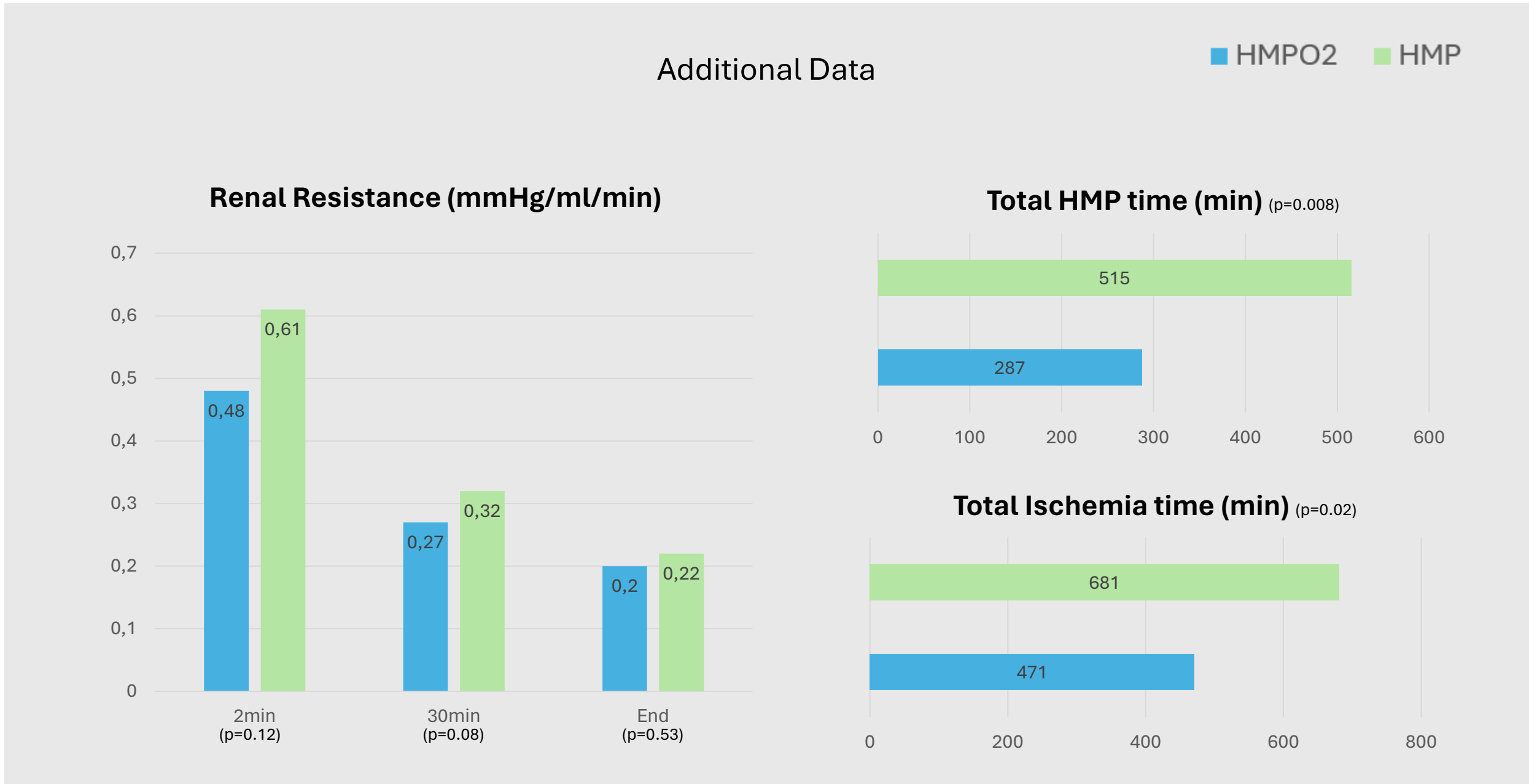
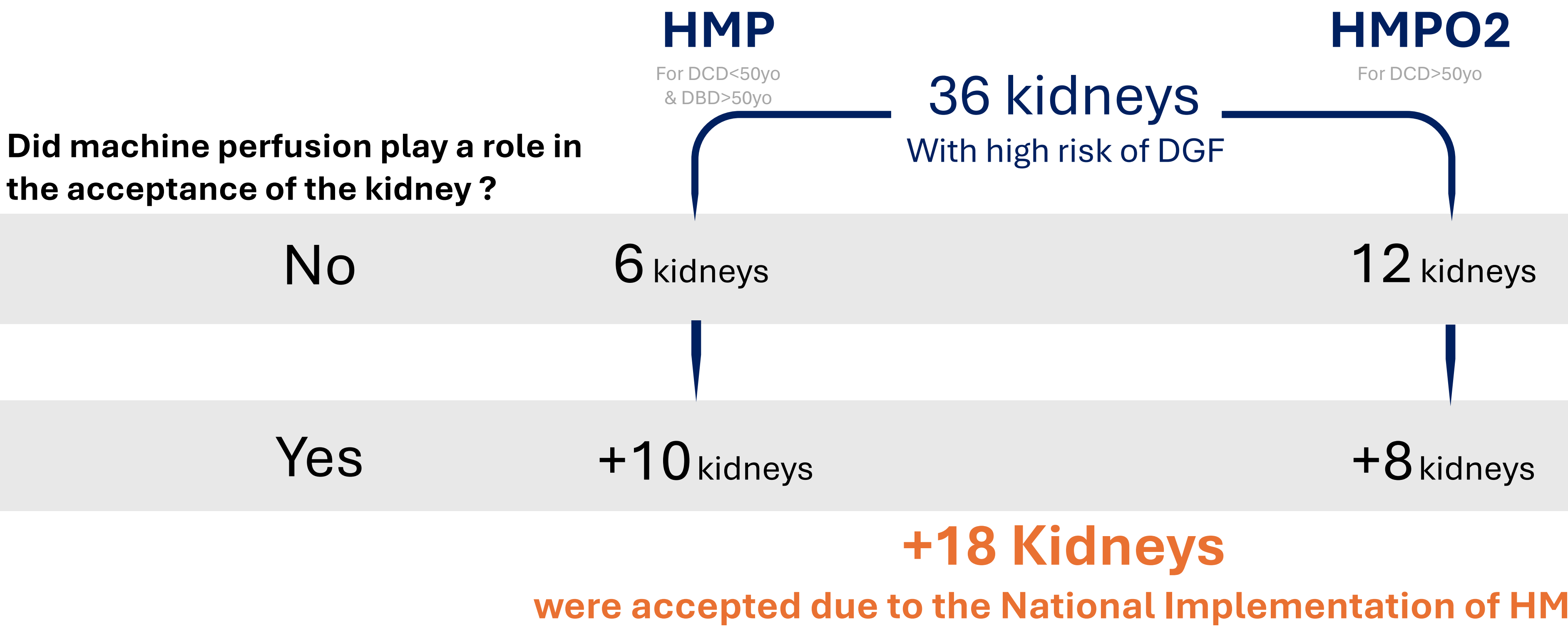
Before Oct 2022

SCS alone as standard preservation technique, independent of donor type

Since Oct 2022

A national machine perfusion service was implemented in Belgium to **preserve high-risk kidneys*** for delayed graft function (DGF) by continuous HMP to increase the donor pool and national transplantation rate and decrease export abroad

- HMP used for DBD >50 years & DCD <50 years
- HMPO2 used for DCD> 50 years (using bubble and surface oxygenation as alternative for membrane-oxygenated kidneys)



Outcomes

AE (adverse events)	2 during HMP*	0
DGF	0	2
Serum Creatinine (@ 3 months) (p=0.74)	1.66	1.56
Serum Creatinine (@ 6 months) (p=0.75)	1.54	1.46
Glomerular Filtration Rate (@ 3 months) (p=0.73)	53	47
Glomerular Filtration Rate (@ 6 months) (p=0.74)	54	51
Proteinuria (@ 3 months) (p=0.13)	0.23	0.16
Proteinuria (@ 6 months) (p=0.45)	0.20	0.14
Graft Survival (@ 6 months)	100%	95%**
Patient Survival (@ 6 months)	100%	100%

* Adverse Events due to kinking of the renal artery (n=1) & stop MP to tilting of the device (n=1)

** due to graft thrombosis day 2 after transplantation (n=1)

data from October 1st, 2022 to October 31st, 2023

Bubble and surface O₂ during HMP is technically feasible without any serious adverse events observed

Functional outcome at 6 months was similar as compared to standard HMP-preserved kidneys

Prof Tom Darius
University Hospital Saint Luc, Brussels, BE
Email: tom.darius@saintluc.uclouvain.be
Phone: +3227646065

