(21-34) 91.9%, (35-85) 88.16%, and (86-100) was 83.25%. 5-year graft survival for KDPI (0-20) was 91.4%, (21-34) 85.2%, (35-85) 79.14%, and (86-100) 69.66%. All the results were statically significant with a p-value <0.001.

Conclusions: The Kidney Donor Profile Index (KDPI) has a more significant impact on graft survival at three and five years compared to one year.

CITATION INFORMATION: Mudhher R., Zibari G., Abdehou D., Agha Z., Singh N., Shokouh-Amiri H. Correlation Between Kidney Donor Profile Index (KDPI) and Post-Transplant Graft Survival Rate AJT, Volume 25, Issue 8 Supplement 1

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Abstract# P1.07.88

Operative Donor Warm Ischemia Time is Associated with Inferior Graft Survival After Circulatory Death Kidney Transplantation

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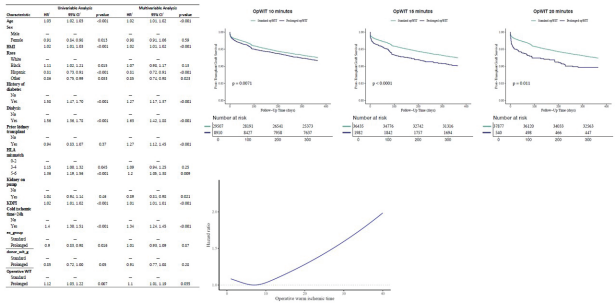
Purpose: Total donor warm ischemia (dWIT) has been widely used in decision-making of utilization of donation after circulatory death (DCD) kidney transplantation. However, recent studies have not identified total dWIT as a predictor for graft survival, possibly due to significant variations in hemodynamics and oxygen saturation during dWIT. In DCD liver transplantation, operative WIT (oWIT: the interval between circulatory arrest and aortic cold perfusion) has been reported to impact on the post-transplant outcomes. oWIT can be prolonged for several reasons: 1. Insufficient expertise of the procurement surgeon 2. Pulseless electrical activity not recognized as circulatory arrest 3. withdrawal of life support outside the operating room. This study aimed to evaluate the impact of oWIT on kidney graft survival.

Methods: Using the US national registry data between 2012 and 2023, DCD kidney transplant patients were separated into two groups based on their oWIT: standard oWIT (<10 min) and prolonged oWIT (≥10 min).

Results: Among 38,417 DCD kidney transplantation, 23.2% (8,910 patients) was categorized in the prolonged oWIT group. Kaplan-Meier estimate curves for graft survival are depicted in Figure. The 1-year graft survival rates of the prolonged oWIT group were significantly lower than those of the standard oWIT group ($P < 0.01$) Different cut-off in oWIT as 15 minutes or 20 minutes also show lower graft survival in longer oWIT patients. In multivariable COX regression model, prolonged oWIT was an independent risk factor for the 1-year graft loss after kidney transplantation (HR 1.10, 95%CI 1.01-1.20; p=0.03), while prolonged total dWIT (≥60 min) was not associated (HR 0.91; p=0.28). Spline analysis shows that the oWIT effects on the risk for 1-year graft loss with an increase in the slope. While the risk of graft loss increases from the prolonged oWIT, the association is a linear function without a specific point at which the risk increases more rapidly after median oWIT of 8 min.

Conclusions: oWIT is a risk factor for graft survival after DCD kidney tranpslantation. Therefore, oWIT should be considered in donor selection, and 10 min for oWIT can be represent for cut-offs. Our study suggests that the impact of total dWIT could have been overemphasis as a central component of DCD kidney evaluation, and DCD kidneys with prolonged total dWIT can be utilized, which can improve the organ shortage.



CITATION INFORMATION: Bekki Y., Endo Y., Taylor J., Orloff M., Tomiyama K., Hernandez-Alejandro R., Kashyap R. Operative Donor Warm Ischemia Time is Associated with Inferior Graft Survival After Circulatory Death Kidney Transplantation AJT, Volume 25, Issue 8 Supplement 1

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Abstract# P1.07.89

One-Year Outcome of HMP(O_2)-Perfused Kidneys After the Implementation of a National Machine Perfusion Service

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Purpose: In October 2022, a national hypothermic machine perfusion (HMP) service was implemented for all ECD and DCD kidneys procured and transplanted in Belgium. The aim of this study is to evaluate the functional one-year outcome of these kidneys continuously perfused with HMP.

Methods: A retrospective analysis was performed on 242 HMP-perfused kidney transplantations (DBD+DCD) performed between 1/10/2022 and 30/09/2023 of which 49 from ECD and 193 from DCD donors. The LifePort Kidney Transporter (®Organ Recovery Systems) was used for all MP procedures. Active oxygenation realized by preceding bubble O_2 ofthe perfusate and continuous surface O_2 during HMP was applied to all DCD>50yrs and in study context in 14 DCD≤50yrs[$]. Donor demographics and functional outcome were analyzed.

Results: The 1-year functional outcome according to donor type is illustrated in Table 1. The reasons for graft loss (13/242) were primary nonfunction (n=1), rejection (n=1), donor-transmitted infection (n=1), graft infection (n=1), arterial thrombosis (n=1), venous thrombosis (n=2), unknown (n=2) and patient's death (n=4).

Conclusions: Functional outcome of HMP-preserved kidneys after the introduction of a national HMP program for all ECD and DCD kidneys is excellent and reassures transplant teams in their decision-making process when such higher-risk kidneys are offered for transplantation.

Donor type	All (ECD +DCD)	DBD ECD	DCD	DCD≤50y	DCD>50yrs
Type of kidney preservation (HMP, HMPO_2)	HMP(O2) (n=242)	HMP (n=49)	HMP (n=193)	HMP(O2)[$] (n=77)	HMP(O_2) (n=116)
Delayed graft function, %	14.35	9.14	16.67	9.46	19.64
Mean eGFR @1y, ml/min/1.73m^2	54.25	52.03	54.69	61.10	49.73
Organ rejection @1y, %	10.05	2.33	12.82	8.96	14.00
Death-censored graft survival @1y, %	96.28	100	94.34	97.40	93.97
Patient survival @1y, %	98.34	95.91	98.96	100	98.28

CITATION INFORMATION: Darius T., Jochmans I., Foguenne M., Hoste E., Randon C., Roeyen G., Bracke B., Detry O., Jacob's-Tulleneers-Thevissen D., Wissing K., Bogaerts T., Mikhalski D., De Wilde J., Pirenne J., Weekers L. One-Year Outcome of HMP(O_2)-Perfused Kidneys After the Implementation of a National Machine Perfusion Service AJT, Volume 25, Issue 8 Supplement 1

DISCLOSURES:

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Donor Factors Predicting Allograft Loss and Function in Deceased-Donor Kidney Transplant Recipients

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Purpose: Deceased-donor discard rate has been increasing in the USA, with recent reports showing up to 29%. Biopsy results are the main reason for decline in half of the discarded kidneys. We aim to investigate donor related factors affecting graft survival, especially focusing on preimplantation biopsies compared to clinically indicated biopsies performed early after transplantation.