Supplemental Material

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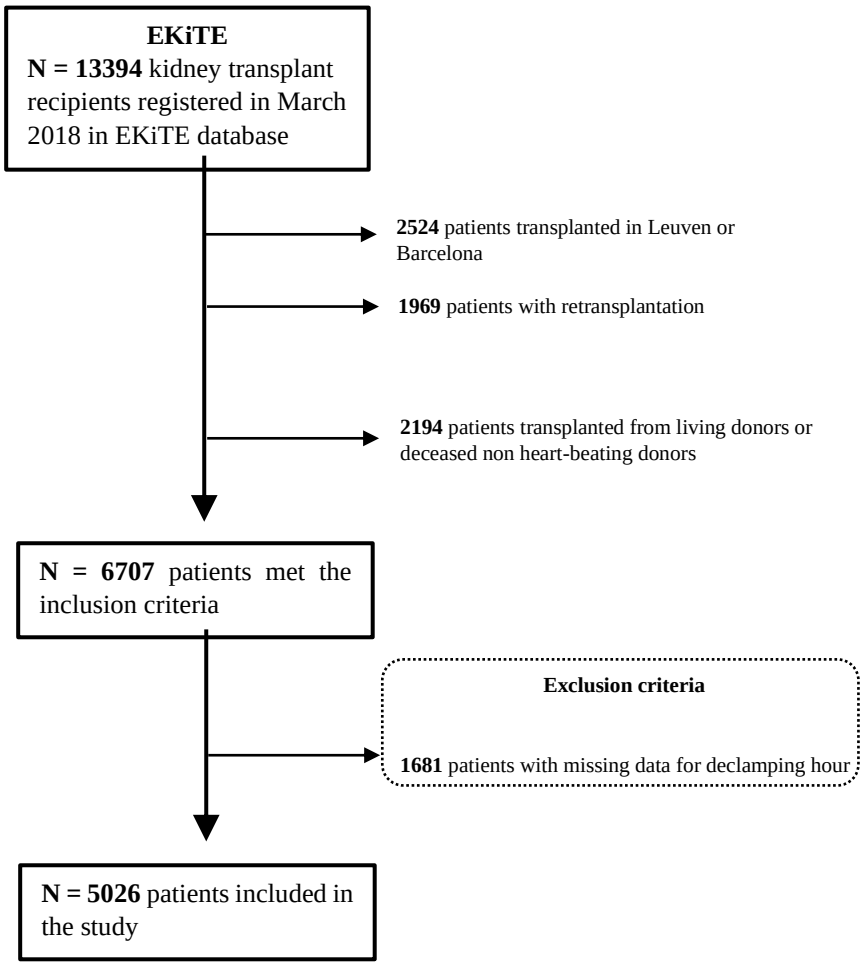
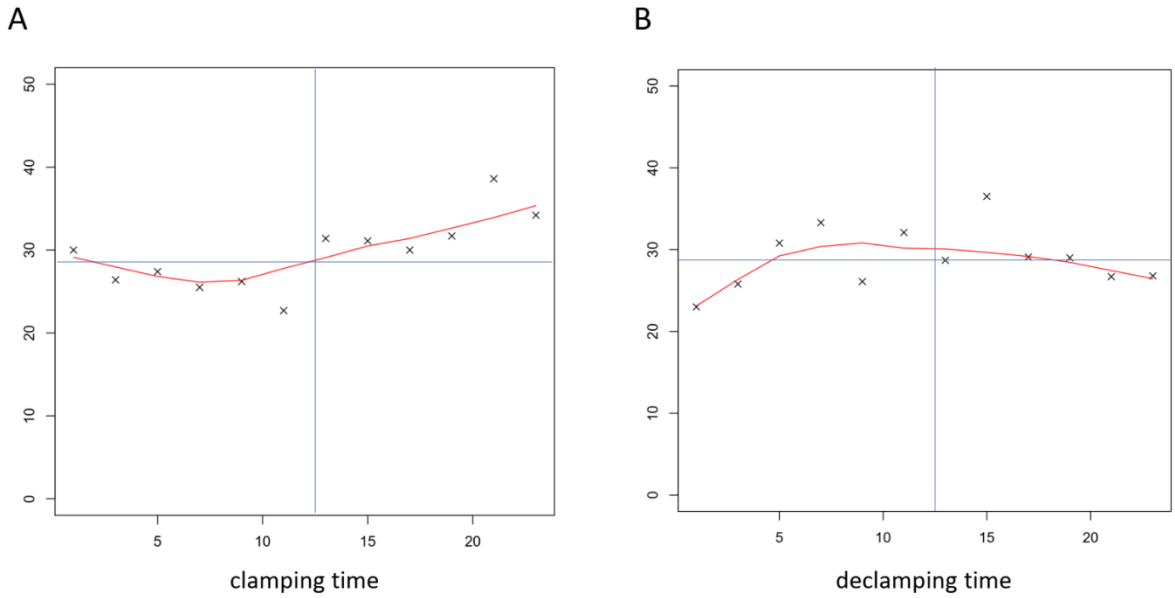
Flowchart


EKiTE
N = 13394 kidney transplant recipients registered in March 2018 in EKiTE database
2524 patients transplanted in Leuven or Barcelona
1969 patients with retransplantation
2194 patients transplanted from living donors or deceased non heart-beating donors
N = 6707 patients met the inclusion criteria
Exclusion criteria
1681 patients with missing data for declamping hour
N = 5026 patients included in the study

Supplemental figure 1. Incidence (percentage) of delayed graft function according to the clamping (A) declamping (B) time of the kidney transplant. Each cross corresponds to a 2-hour period.



Supplemental Table 1

MULTIVARIATE LOGISTIC MODEL (N = 2886) REGARDING THE RISK OF DELAYED GRAFT FUNCTION (DGF) AND ADJUSTED ON CENTER. DECLAMPING TIME CATEGORIZED IN 2 CATEGORIES: 0-12 AM (N=612) VERSUS 0-12 PM (N=2274).

	n (%)	OR [95% CI]	p-value
Time of declamping			0.48
Afternoon (00h-12h pm)	183 (30)	1 (ref)	
Morning (00h-12h am)	672 (27)	0.92 [0.74 ; 1.15]	
Recipient gender			0.001
Female	268 (26)	1 (ref)	
Male	587 (32)	1.38 [1.14 ; 1.67]	
History of diabetes			0.28
No diabetes	644 (28)	1 (ref)	
Diabetes	211 (34)	0.89 [0.71 ; 1.11]	
History of vascular disease			0.01
No vascular disease	653 (28)	1 (ref)	
Vascular disease	202 (40)	1.32 [1.06 ; 1.66]	
History of cardiac disease			0.002
No cardiac disease	522 (26)	1 (ref)	
Cardiac disease	333 (39)	1.37 [1.13 ; 1.67]	
Recipient blood group			0.04
A	331(27)	1 (ref)	
AB	45 (34)	1.30 [0.85 ; 1.98]	
B	97 (29)	1.15 [0.85 ; 1.54]	
O	382 (32)	1.32 [1.09 ; 1.61]	
Donor cause of death			0.20
Other	346 (28)	1 (ref)	
Vascular cause	509 (31)	1.14 [0.94 ; 1.38]	
Donor CMV serology			0.23
Negative	386 (32)	1 (ref)	
Positive	469(28)	0.89 [0.75 ; 1.07]	
HLA-A-B-DR incompatibilities			0.03
<4	404 (27)	1 (ref)	
≥4	451 (32)	1.32 [1.03 ; 1.68]	
Recipient BMI (kg.m-2)		1.07 [1.05 ; 1.09]	<0.001
Donor age (years)		1.01 [1.00 ; 1.02]	0.001
Donor creatininemia (en µmol/l)		1.01 [1.00 ; 1.01]	<0.001
Cold ischemia time (hours)		1.05 [1.04 ; 1.07]	<0.001

BMI, body mass index; CMV, cytomegalovirus; HLA, human leucocyte antigens; CI, confidence interval; OR, odds ratio.

Supplemental Table 2

TABLE. MULTIVARIATE LINEAR MODEL (N = 2648) STUDYING THE ONE-YEAR RENAL FUNCTION AFTER TRANSPLANTATION. CLAMPING TIME CATEGORIZED IN 2 CATEGORIES: 0-12 AM (N=1842) VERSUS 0-12 PM (N=806).

	Coefficient [95% CI]	p-value
Time of clamping		0.08
Afternoon (00h-12h pm)	1 (ref)	
Morning (00h-12h am)	1.21 [-0.14 ; 2.57]	
Recipient gender		0.03
Female	1 (ref)	
Male	1.46 [0.16 ; 2.76]	
History of diabetes		0.23
No diabetes	1 (ref)	
Diabetes	1.02 [-0.64 ; 2.68]	
History of vascular disease		0.47
No vascular disease	1 (ref)	
Vascular disease	0.64 [-1.10 ; 2.38]	
History of malignancy		0.15
No cancer	1 (ref)	
Cancer	-1.54 [-3.62 ; 0.53]	
Donor gender		<0.001
Female	1 (ref)	
Male	2.37 [1.06 ; 3.68]	
Donor cause of death		<0.001
Other	1 (ref)	
Vascular cause	-2.64 [-4.00 ; -1.28]	
Vasoactive drugs		0.01
No	1 (ref)	
Yes	2.82 [0.71 ; 4.92]	
Induction therapy		0.002
No induction or no depleting	1 (ref)	
Depleting induction	-2.36 [-3.87 ; -0.86]	
1-year ARE		<0.001
No	1 (ref)	
Yes	-10.17 [-11.96 ; -8.38]	
Recipient age (years)	0.11 [0.03 ; 0.19]	0.01
Recipient BMI (kg.m-2)	-0.29 [-0.43 ; -0.15]	<0.001
Donor age (years)	-0.59 [-0.66 ; -0.52]	<0.001
Donor creatininemia (en µmol/l)	-0.01 [-0.03 ; 0.00]	0.01

BMI, body mass index; CI, confidence interval.

Supplemental Table 3

TABLE. MULTIVARIATE LINEAR MODEL (N = 2653) STUDYING THE ONE-YEAR RENAL FUNCTION AFTER TRANSPLANTATION. DECLAMPING TIME CATEGORIZED IN 2 CATEGORIES: 0-12 AM (N=543) VERSUS 0-12 PM (N=2110).

	Coefficient [95% CI]	p-value
Time of declamping		0.81
Afternoon (00h-12h pm)	1 (ref)	
Morning (00h-12h am)	-0.19 [-1.73 ; 1.34]	
Recipient gender		0.03
Female	1 (ref)	
Male	1.46 [0.17 ; 2.76]	
History of diabetes		0.25
No diabetes	1 (ref)	
Diabetes	0.98 [-0.68 ; 2.63]	
History of vascular disease		0.48
No vascular disease	1 (ref)	
Vascular disease	0.63 [-1.11 ; 2.36]	
History of malignancy		0.16
No cancer	1 (ref)	
Cancer	-1.48 [-3.55 ; 0.60]	
Donor gender		<0.001
Female	1 (ref)	
Male	2.37 [1.06 ; 3.68]	
Donor cause of death		<0.001
Other	1 (ref)	
Vascular cause	-2.66 [-4.02 ; -1.31]	
Vasoactive drugs		0.01
No	1 (ref)	
Yes	2.77 [0.67 ; 4.87]	
Induction therapy		0.002
No induction or no depleting	1 (ref)	
Depleting induction	-2.39 [-3.89 ; -0.88]	
1-year ARE		<0.001
No	1 (ref)	
Yes	-10.19 [-11.97 ; -8.41]	
Recipient age (years)	0.11 [0.03 ; 0.19]	0.01
Recipient BMI (kg.m-2)	-0.29 [-0.43 ; -0.15]	<0.001
Donor age (years)	-0.59 [-0.66 ; -0.52]	<0.001
Donor creatininemia (en µmol/l)	-0.01 [-0.03 ; 0.00]	0.01

BMI, body mass index; CI, confidence interval.

Supplemental Table 4

TABLE RESULTS OF THE MULTIVARIABLE COX MODEL (N = 4791) STUDYING THE RISK OF DEATH OR GRAFT FAILURE (1088 OBSERVED DURING THE FOLLOW-UP) AND STRATIFIED ON CENTER. DECLAMPING TIME CATEGORIZED IN 2 CATEGORIES: 0-12 AM (N=1189) VERSUS 0-12 PM (N=3602).

	HR [95% CI]	p-value
Time of declamping		0.56
Afternoon (00h-12h pm)	1 (ref)	
Morning (00h-12h am)	1.04 [0.91 ; 1.19]	
Recipient gender		0.009
Female	1 (ref)	
Male	1.20 [1.05 ; 1.37]	
Type of dialysis before the transplantation		<0.001
Hemodialysis or peritoneal dialysis	1 (ref)	
Preemptive	0.69 [0.57 ; 0.84]	
History of diabetes		0.001
No diabetes	1 (ref)	
Diabetes	1.29 [1.12 ; 1.48]	
History of vascular disease		<0.001
No vascular disease	1 (ref)	
Vascular disease	1.48 [1.27 ; 1.72]	
History of cardiac disease		0.06
No cardiac disease	1 (ref)	
Cardiac disease	1.14 [0.99 ; 1.30]	
History of malignancy		0.005
No cancer	1 (ref)	
Cancer	1.29 [1.08 ; 1.54]	
Donor gender		0.40
Female	1 (ref)	
Male	0.95 [0.84 ; 1.07]	
Donor cause of death		0.31
Other	1 (ref)	
Vascular cause	1.07 [0.94 ; 1.23]	
Donor CMV serology		0.12
Negative	1 (ref)	
Positive	1.11 [0.97 ; 1.26]	
Recipient age (years)	1.60 [1.36 ; 1.88]	<0.001
Donor age ≥55 years	1.36 [1.17 ; 1.58]	<0.001
Recipient BMI (kg.m-2)	1.01 [1.00 ; 1.02]	0.10

BMI, body mass index; CMV, cytomegalovirus; CI, confidence interval; HR, hazard ratio.

Supplemental Table 5

TABLE: RESULTS OF THE MULTIVARIABLE COX MODEL (N = 4831) STUDYING THE RISK OF GRAFT FAILURE (542 OBSERVED DURING THE FOLLOW-UP) AND STRATIFIED ON CENTER. DECLAMPING TIME CATEGORIZED IN 2 CATEGORIES: 0-12 AM (N=1207) VERSUS 0-12 PM (N=3624).

	n (%) / m (SD)	HR [CI95%]	p-value
Time of Declamping			0.47
00h -12h pm	3624 (75)	1 (ref)	
00h - 12h am	1207 (25)	1.07 [0.88 ; 1.30]	
Type of dialysis before the transplantation			0.01
Hemodialysis or peritoneal dialysis	4170 (86)	1 (ref)	
Preemptive	661 (14)	0.69 [0.52 ; 0.92]	
History of diabetes			0.002
No diabetes	3839 (79)	1 (ref)	
Diabetes	992 (21)	1.37 [1.12 ; 1.68]	
History of vascular disease			0.003
No vascular disease	4090 (85)	1 (ref)	
Vascular disease	741 (15)	1.40 [1.12 ; 1.74]	
History of malignancy			0.001
No cancer	4340 (90)	1 (ref)	
Cancer	491 (10)	1.55 [1.21 ; 1.99]	
HLA-A-B-DR incompatibilities			0.01
<4	2623 (54)	1 (ref)	
≥4	2208 (46)	1.36 [1.08 ; 1.72]	
Recipient age (years)	55 (14)	0.75 [0.61 ; 0.94]	0.01
Recipient BMI (kg.m-2)	25.6 (5.0)	1.01 [1.00 ; 1.03]	0.09
Donor age (years)	55 (17)	1.02 [1.02 ; 1.03]	<0.001

BMI, body mass index; HLA, human leucocyte antigens; CI, confidence interval; HR, hazard ratio.

Supplemental Table 6

TABLE: RESULTS OF THE MULTIVARIABLE COX MODEL (N = 4661) STUDYING THE RISK OF ACUTE REJECTION (765 OBSERVED DURING THE FOLLOW-UP) AND STRATIFIED ON CENTER. CLAMPING TIME CATEGORIZED IN 2 CATEGORIES: 0-12 AM (N=3006) VERSUS 0-12 PM (N=1655).

	HR [95% CI]	p-value
Time of clamping		0.32
Afternoon (00h-12h pm)	1 (ref)	
Morning (00h-12h am)	0.92 [0.79 ; 1.08]	
Donor cause of death		0.004
Other	1 (ref)	
Vascular cause	1.26 [1.08 ; 1.46]	
HLA-A-B-DR incompatibilities		0.003
<4	1 (ref)	
≥4	1.34 [1.11 ; 1.62]	
Induction therapy		<0.001
No induction or no depleting	1 (ref)	
Depleting induction	1.59 [1.35 ; 1.88]	
Recipient age (years)	0.99 [0.99 ; 1.00]	0.003
Duration on waiting list (months)	1.00 [0.99 ; 1.00]	0.07

HLA, human leucocyte antigens; CI, confidence interval; HR, hazard ratio.

Supplemental Table 7

TABLE: RESULTS OF THE MULTIVARIABLE COX MODEL (N = 4677) STUDYING THE RISKOF ACUTE REJECTION (768 OBSERVED DURING THE FOLLOW-UP) AND STRATIFIED ON CENTER. DECLAMPING TIME CATEGORIZED IN 2 CATEGORIES: 0-12 AM (N=1177) VERSUS 0-12 PM (N=3500).

	HR [95% CI]	p-value
Time of declamping		0.79
Afternoon (00h-12h pm)	1 (ref)	
Morning (00h-12h am)	1.02 [0.86 ; 1.22]	
Donor cause of death		0.003
Other	1 (ref)	
Vascular cause	1.26 [1.08 ; 1.47]	
HLA-A-B-DR incompatibilities		0.003
<4	1 (ref)	
≥4	1.34 [1.10 ; 1.62]	
Induction therapy		<0.001
No induction or no depleting	1 (ref)	
Depleting induction	1.59 [1.35 ; 1.87]	
Recipient age (years)	0.99 [0.99 ; 1.00]	0.002
Duration on waiting list (months)	1.00 [0.99 ; 1.00]	0.10

HLA, human leucocyte antigens; CI, confidence interval; HR, hazard ratio.