

Successful DCD procurement program

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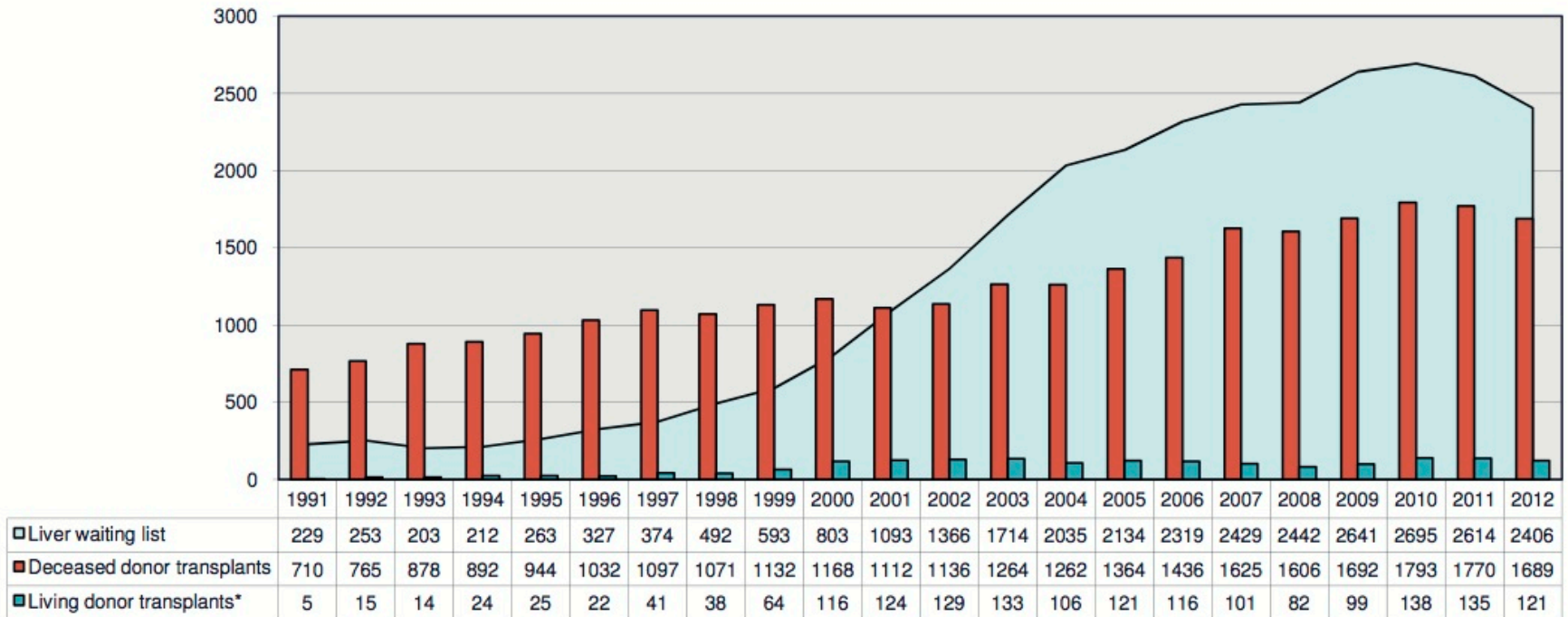
TRANSPLANT FORUM

Cliniques universitaires Saint-Luc et Mont-Godinne

CENTRE DE TRANSPLANTATION DE L'UCL

Academic Year 2013 - 2014

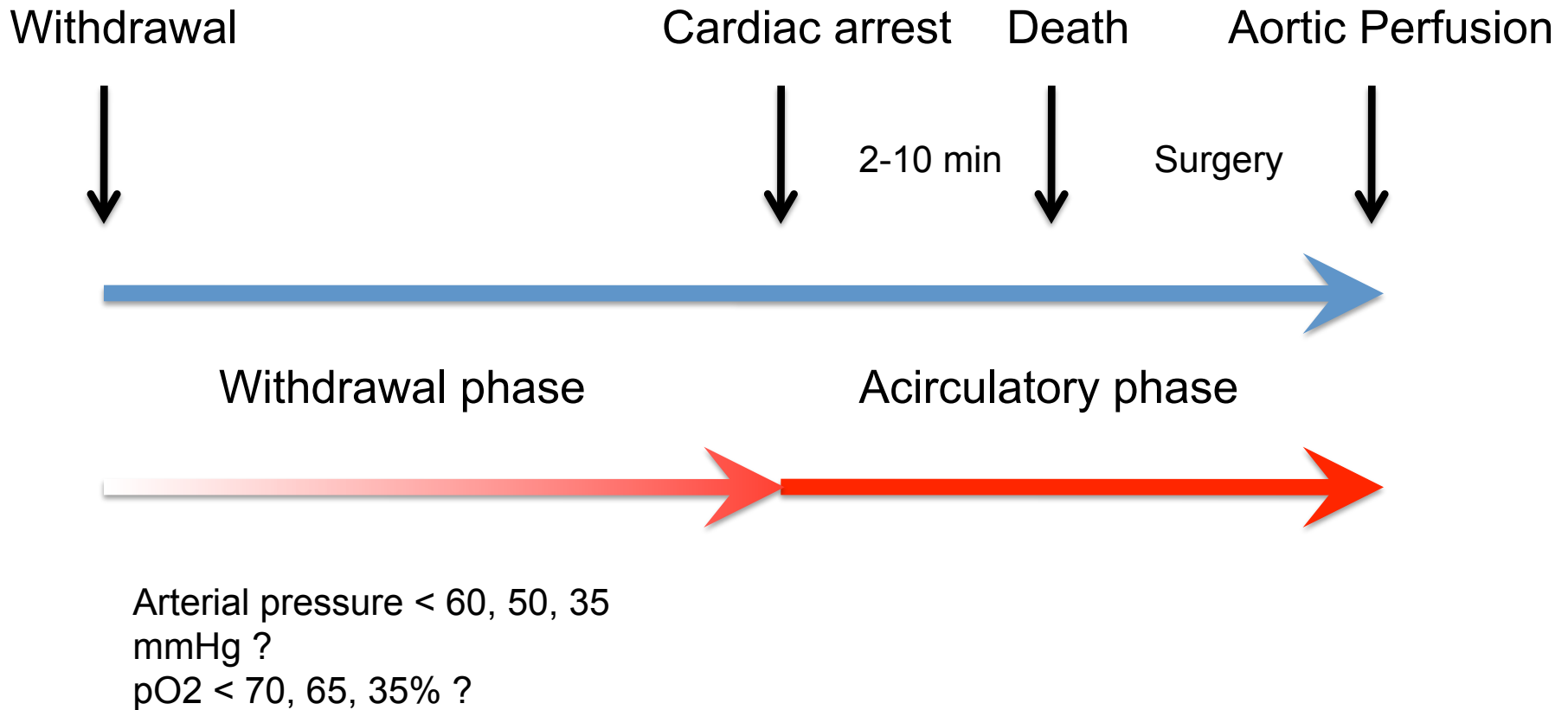
Conflict of Interest



Maastricht DCD categories

1: Death outside hospital	“uncontrolled”
2: Failed resuscitation in hospital	
3: Planned therapy withdrawal	“controlled”
4: Cardiac arrest in a DBD	

Controlled DCD: WI



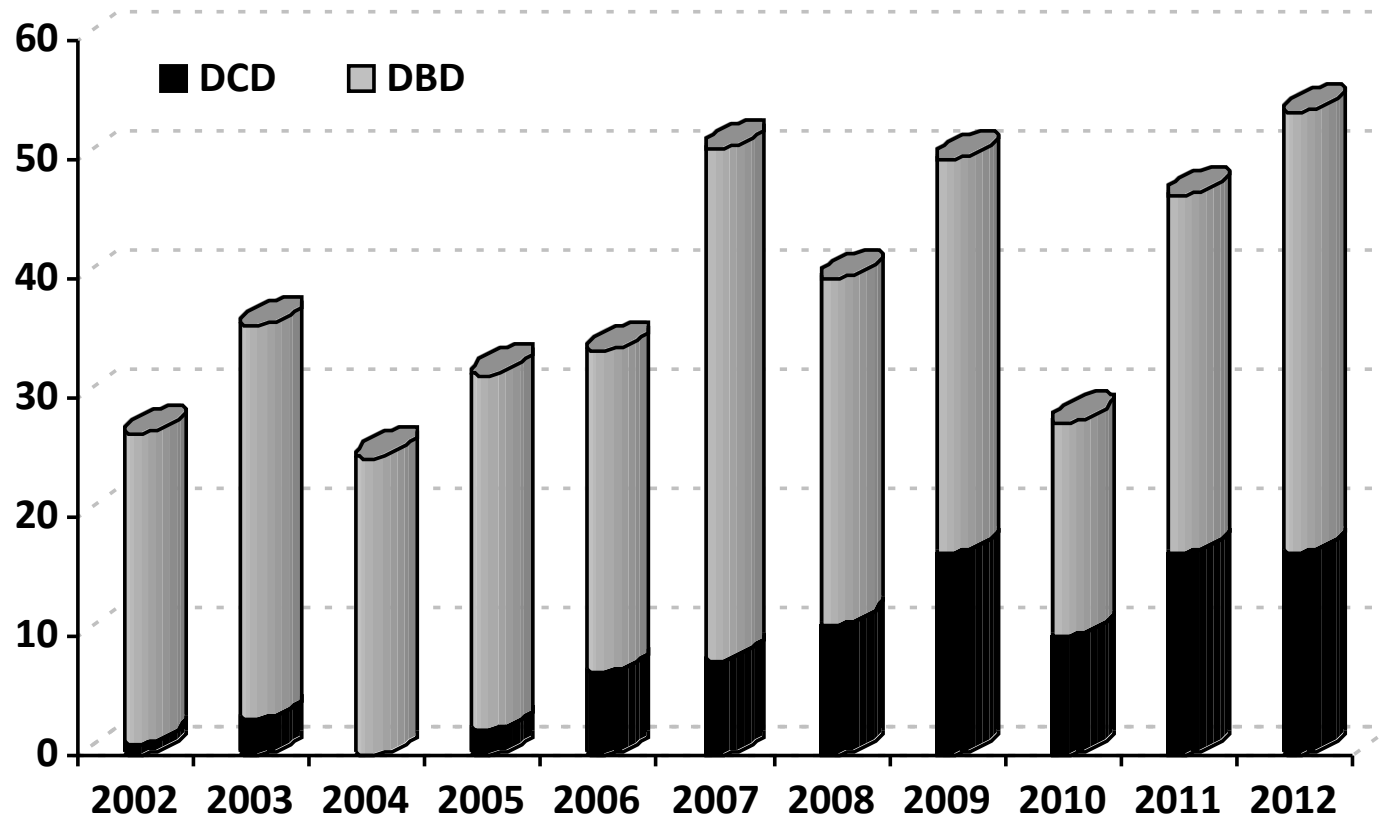
DCD in liver transplantation

- Shortage of organ donors
- Waiting time and mortality on waiting lists
- DCD has been proposed to increase the pool

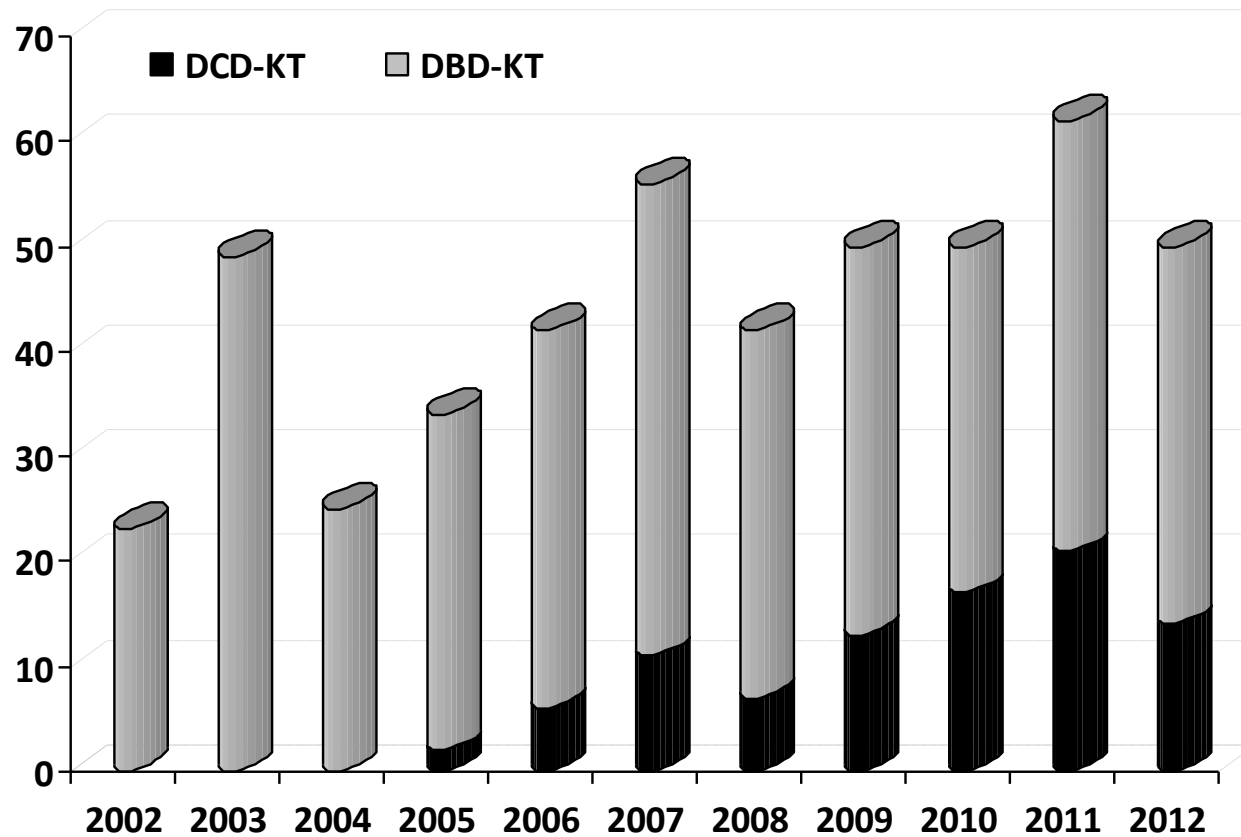
- Increased risk of PNF
- Increased risk of ischemic bile duct lesions (IBDL)

- Decreased graft and patient survival
- Increase risk of retransplantation

Deceased donors



KT activity (LD excluded)



DELAYED GRAFT FUNCTION DOES NOT HARM THE FUTURE OF DONATION-AFTER-CARDIAC DEATH KIDNEY TRANSPLANTATION



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J-P. Squifflet, M. Meurisse,
J. Monard, L. Weekers,
C. Bonvoisin, J.M. Krzesinski

Patients and methods

- A retrospective monocenter review of 80 controlled DCD-KT at the Department of Abdominal Surgery and Transplantation, University Hospital of Liège, from Jan 2005 to Dec 2011.
- Donor acceptance criteria: age <65 years; no history of renal disease, uncontrolled AHT, complicated DM, systemic sepsis or malignancy; WIT <60 min (from withdrawal of life-support treatment to aortic cold perfusion) and terminal SCr <20 mg/L.
- Distribution within the EuroTransplant organization according to the same allocation rules as DBD kidneys.
- Kidneys from elderly donors (≥ 65 years) are allocated to older recipients (≥ 65 years) in European Senior Program.

Results

- No PNF grafts
- Four patients were excluded from the analysis of DGF rates:
two died of cardiac problems within 72h post-transplant and it was not known whether the grafts were functioning at the time of patient death
two lost their kidney grafts due to renal vein thrombosis and early acute vascular rejection
- DGF=35.5% (27 patients)

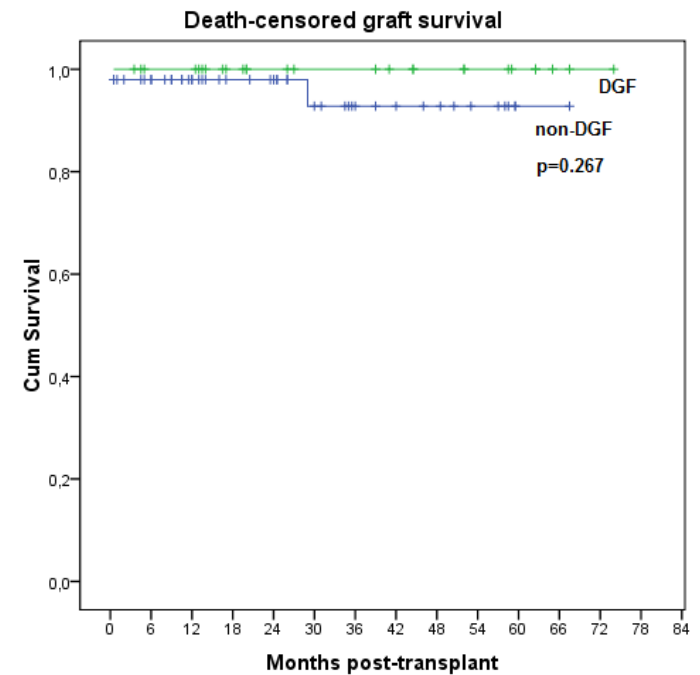
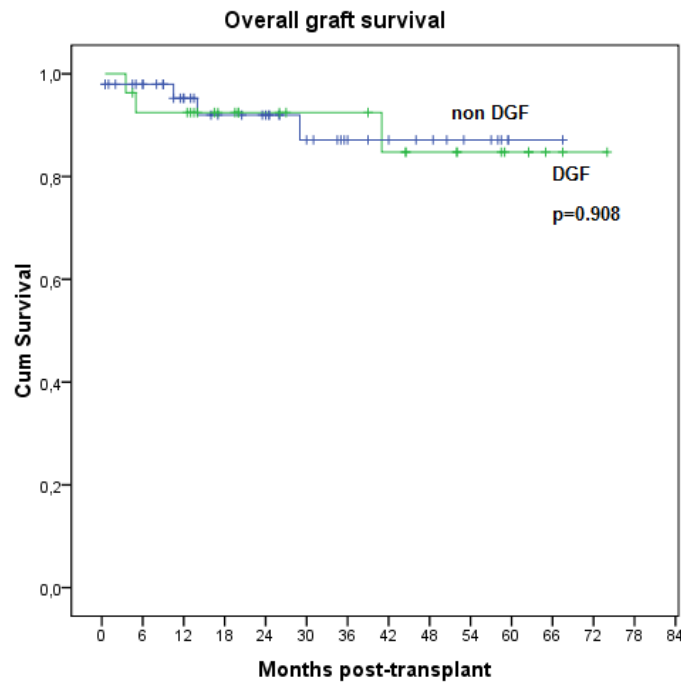
Results

Donor characteristics		Total n=76	With DGF n=27	Without DGF n=49	p value
Age (years)		45.8±13	46.6±7.7	45.3±15.2	0.642
Gender M/F (%)		49/27(65/35)	20/7(74/26)	29/20(59/41)	0.194
BMI (kg/m²)		25.1±3.7	26.4±3.7	24.4±3.6	0.027
ICU stay (days)		7.3±6.3	6.7±6.3	7.5±6.4	0.626
Terminal SCr (mg/L)		7.3±2.8	7.4±2.7	7.2±2.9	0.798
Preservation technique	SCS	65	24	41	0.737
	HMP	11	3	8	
WIT (min)	Withdrawal	10.5 ± 6.5	10.9±7.2	10.3±6.2	0.696
	Acirculation	10.1 ± 4.5	10.4±4.5	9.8±4.5	0.575
	Total WIT	20.7 ± 7.6	21.4±8	20.3±7.4	0.549
CIT (min)		712 ± 275	766±286	683±268	0.212
Suture time (min)		34.9 ± 9.4	35.8±10.1	34.3±9.1	0.504

Results

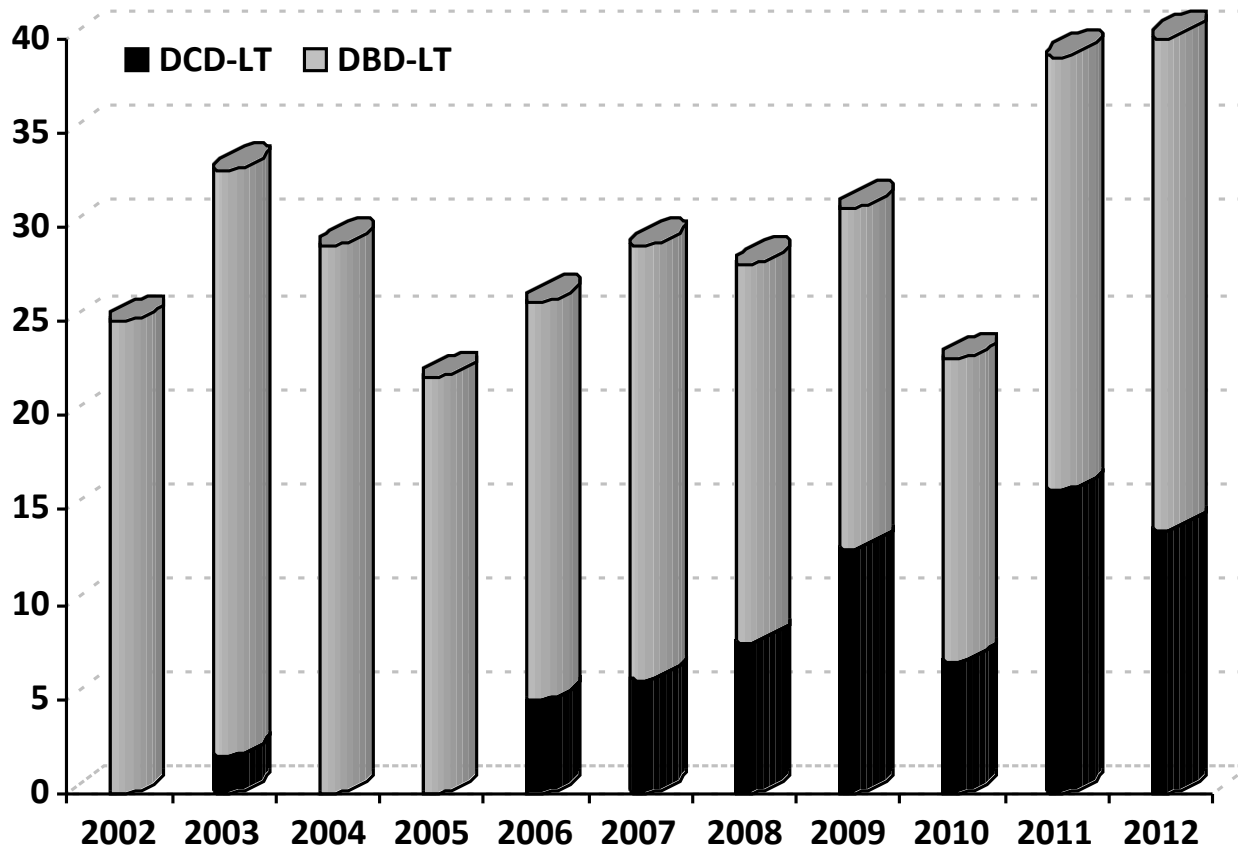
Recipient characteristics		Total n=76	With DGF n=27	Without DGF n=49	p value
Age (years)		54.1±14.4	58.9±10.4	51.7±15.7	0.018
Gender M/F (%)		48/28(63/37)	19/8(70/30)	29/20(59/41)	0.333
BMI (kg/m²)		26.1±5.1	28.7±4.6	24.7±4.8	0.001
Dialysis duration (days)		888±599	1155±590	740±556	0.003
Previous KT	First transplant	69	25	44	1
	Retransplant	7	2	5	
%PRA at transplant		4.4±13.7	4.2±10.4	4.5±15.2	0.915
Total HLA mismatches		2.7±1.1	2.8±0.9	2.6±1.1	0.401
Type of KT	Kidney alone	74	27	48	1
	Combined	2	0	1	

Results



		3 months	1 year	3 years	5 years
Overall graft survival	With DGF	100	92.4	92.4	84.7
	Without DGF	98.0	95.2	87.1	87.1
Death-censored graft survival	With DGF	100	100	100	100
	Without DGF	98.0	98.0	92.8	92.8

LTx activity (LD excluded)

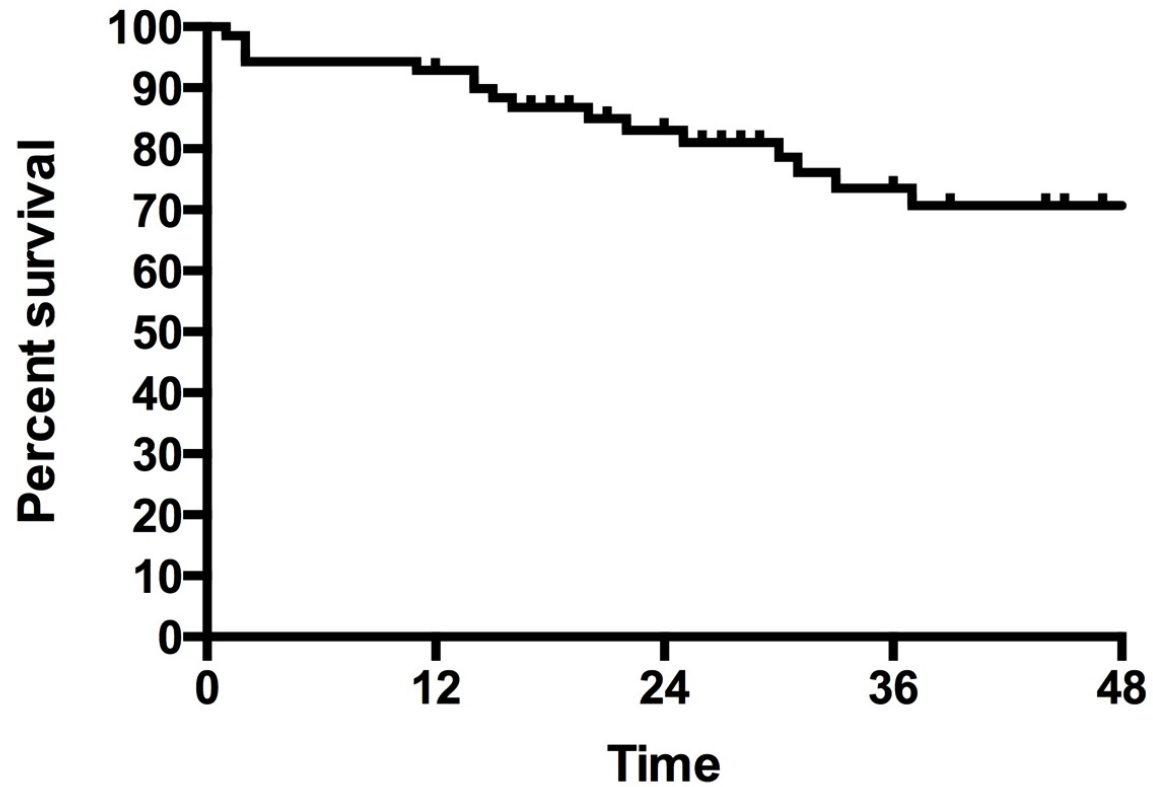


		Median	n	IQR
DONORS	Age (years)	59		44.7 – 70
	DRI	2.1		1.8-2.5
RECIPIENTS	Age (years)	58.5		51.7-64
	Lab MELD	15		11-20
RECIPIENTS	indication	HCC on cirrhotic liver	26	
		Other cancers	6	
		Cirrhosis without cancer	36	
		ReTx for HAT	2	
PROCEDURES	DWIT (min)	19.5		16 – 24
	Withdrawal phase (min)	11		7-15.5
	Acirculatory phase	9		8-10
CIT (min)		235.5		200-285
	Total ischemia	292		268-340

	Median/n/%	
Peak AST (UI/L)	1,163	702-2,810
Peak total bili (mg/dL)	30.4	18.6-62.2
PNF (n)	0	
HAT (n)	1	
1 year graft survival	91.3%	
3 year graft survival	77.7%	
Graft loss	HAT: 1, cancer: 8, MOF: 4,	other: 2
Intrahepatic symptomatic NA stricture	0	

- **DCD may be a valuable source of liver grafts**
- **DWIT < 30 min & CIT < 5 hours may lead to a low rate of graft loss due to PNF and/or ischemic cholangiopathy**
- **With DWIT < 30 min & CIT < 5 hours, DCD donors > 60 years could be considered to really increase the cadaveric donor pool**

70 DCD-Liver transplantations



DCD liver transplantation: is donor age an issue?

O.Detry, H LeDinh, P Honoré, MF Hans, J Monard, MH
Delbouille, S Lauwick, JP Squifflet, A. Deroover, M.Meurisse

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16TH CONGRESS OF THE EUROPEAN
SOCIETY FOR ORGAN TRANSPLANTATION
PUSHING THE LIMITS



Methods

- Retrospective evaluation of a prospective database of 70 consecutive DCD LTx
- Comparison of 3 age groups:
 - < 56 y: n=32
 - 56-69 y: n=20
 - >69 y: n=18
- dWIT: from withdrawal to aortic perfusion
- Results: Median (IQR)
- Mean follow-up: 36 months

Donors' characteristics

	<56 y (n=32)	56-69 y (n=20)	>69 y (n=18)	<i>P</i>
Age (years)	44 (35.5-50.7)	62.5 (59-66.7)	73 (70-77)	<0.0001
DRI	1.8 (1.5-2.1)	2.3 (2.1-2.4)	2.6 (2.5-2.7)	<0.0001
Intensive care stay (days)	5 (4-8)	6.5 (5-8.7)	6.5 (3.7-9.2)	NS
Na (mmol/L)	145 (139-149)	143 (139-147)	141 (136-148)	NS
Total bilirubin (mg/dL)	0.38 (0.3-0.66)	0.3 (0.3-0.67)	0.44 (0.3-0.82)	NS
AST (UI/mL)	39.5 (24.7-59.7)	38 (23.5-69)	36 (26-69)	NS
GGT (UI/mL)	40 (27-118)	67 (39-118)	39 (24-92)	NS

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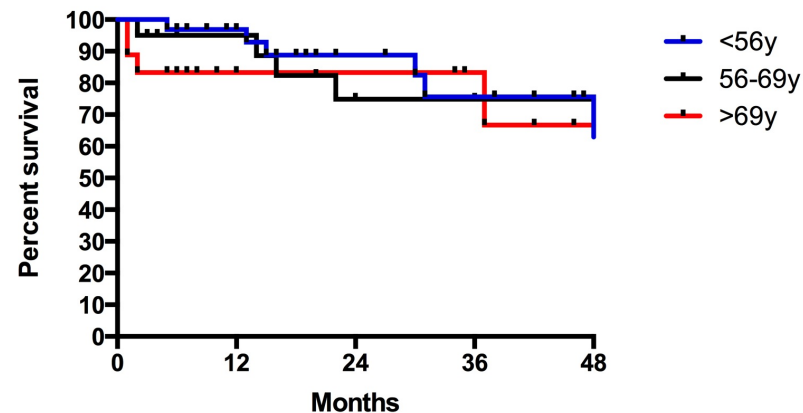
Procurement and Transplantation Characteristics

	<56 y (n=32)	56-69 y (n=20)	>69 y (n=18)	<i>P</i>
HTK/UW (n)	28/2	15/5	17/1	NS
DWIT (min)	20 (15-22)	21 (17-28)	19 (15.5-26.7)	NS
Withdrawal phase (min)	10 (7-12)	13 (8-19)	9 (5.7-17.2)	NS
Acirculatory phase (min)	9 (8-10)	8 (7.2-10.7)	9 (7-10.2)	NS
Hepatectomy time (min)	23 (20.7-30.7)	24.5 (17.2-30.7)	22.5 (18.2-23.5)	NS
CIT (min)	236 (212-287)	245 (204-323)	210 (187-270)	NS
Suture time (min)	41 (36-47)	42 (38-46)	39 (33-44)	NS

Graft and patient survivals

	<55y (n=32)	56-69y (n=20)	>69y (n=18)	<i>P</i>
Patient				NS
1 year	96%	95%	83%	
3 years	75%	74%	83%	
Graft				NS
1 year	93%	95%	83%	
3 years	73%	74%	83%	

Survival proportions: Survival of Three groups





THANK YOU!

