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I have no financial relationships to disclose within the past 12 months relevant to my presentation

My presentation does not include discussion of off-label or investigational use
(if yes, list company and nature of relationship – e.g. grants, advisory board, etc.)

New tool to analyse confounding factors in kidney graft outcome :
a DIVAT data base study
(Validated data base in transplantation)

M.Giral*, Y. Foucher*, JP Daures and JP Soulillou***
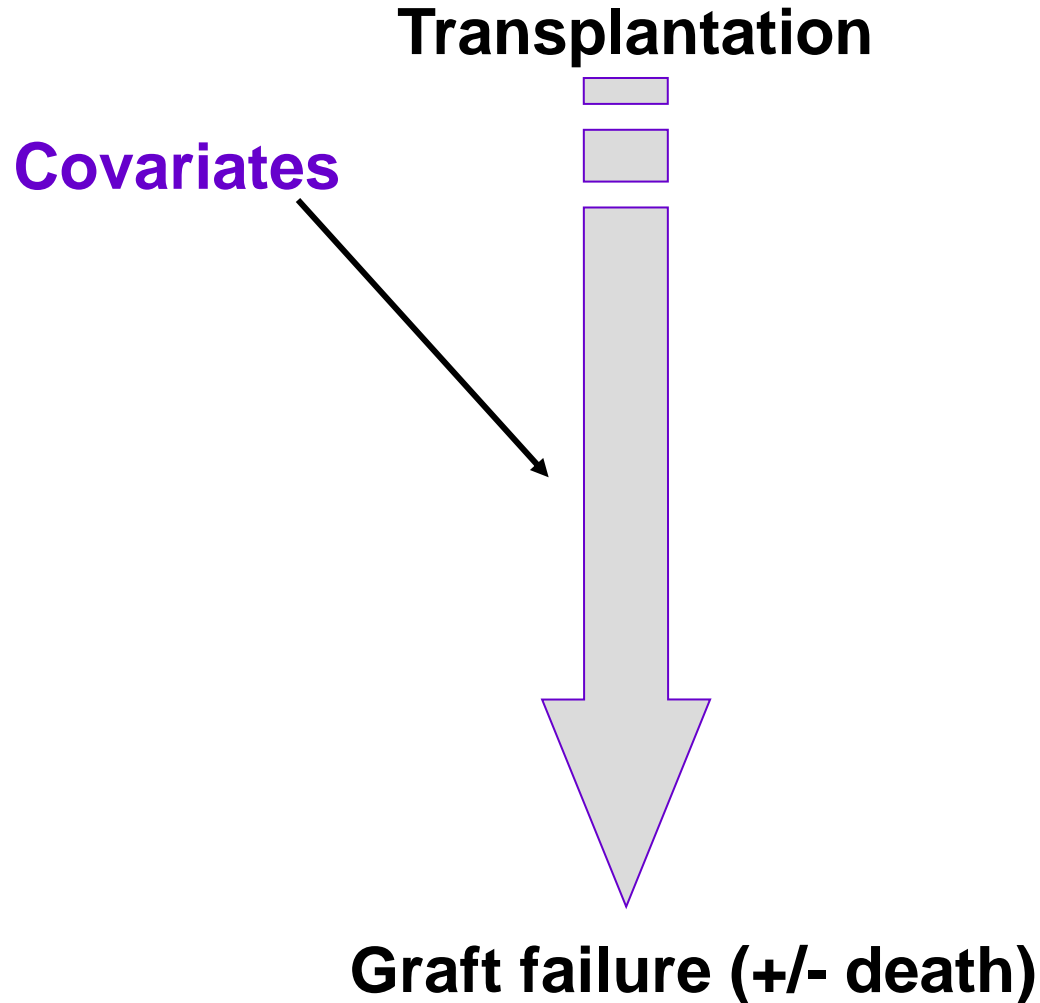
*** ITERT , CHU Nantes France**
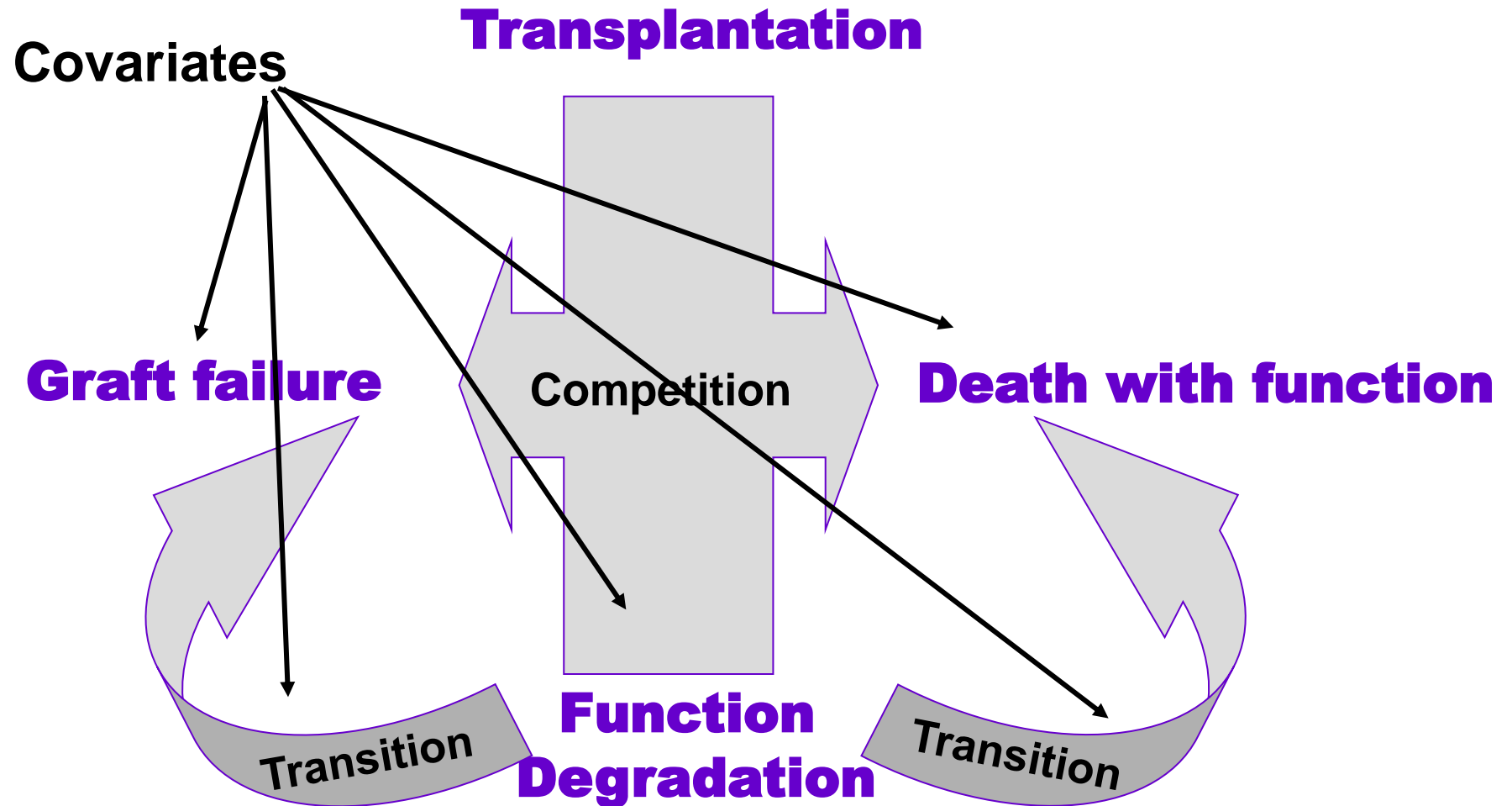**** IURC Montpellier France**

The Cox multiple regression analysis

Estimates the effect of each independant Covariate (age, sex, etc.) on the **speed** to reach from the **Initial event** the **final** one

Transplantation

Covariates

Graft failure (+/- death)

Beyond a new approach : a multistate semi Markov study

Estimates the effect of each independant Covariate (age, sex, etc.) on the **risk** and on the **speed** to reach several **competitive events**

Covariates

Transplantation

Graft failure

Competition

Death with function

Transition

Function Degradation

Transition

Population of the study (n=985)

▶ **DİVAT** limited to the Nantes centre according to the high exhaustivity of the graft function (Clearance of creatinemia) records at each outpatient examination during the follow-up

▶ First kidney graft

▶ Consecutive

▶ Between 01/01/1996 to 01/09/2006

▶ Adults

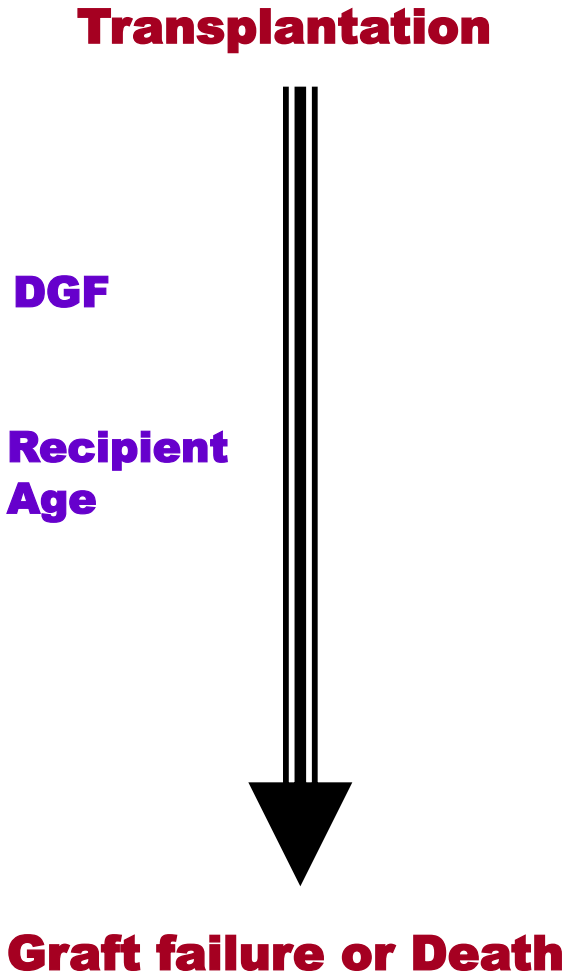▶ Clinical visit at 3 months with a eGFR (MDRD calculation CI)
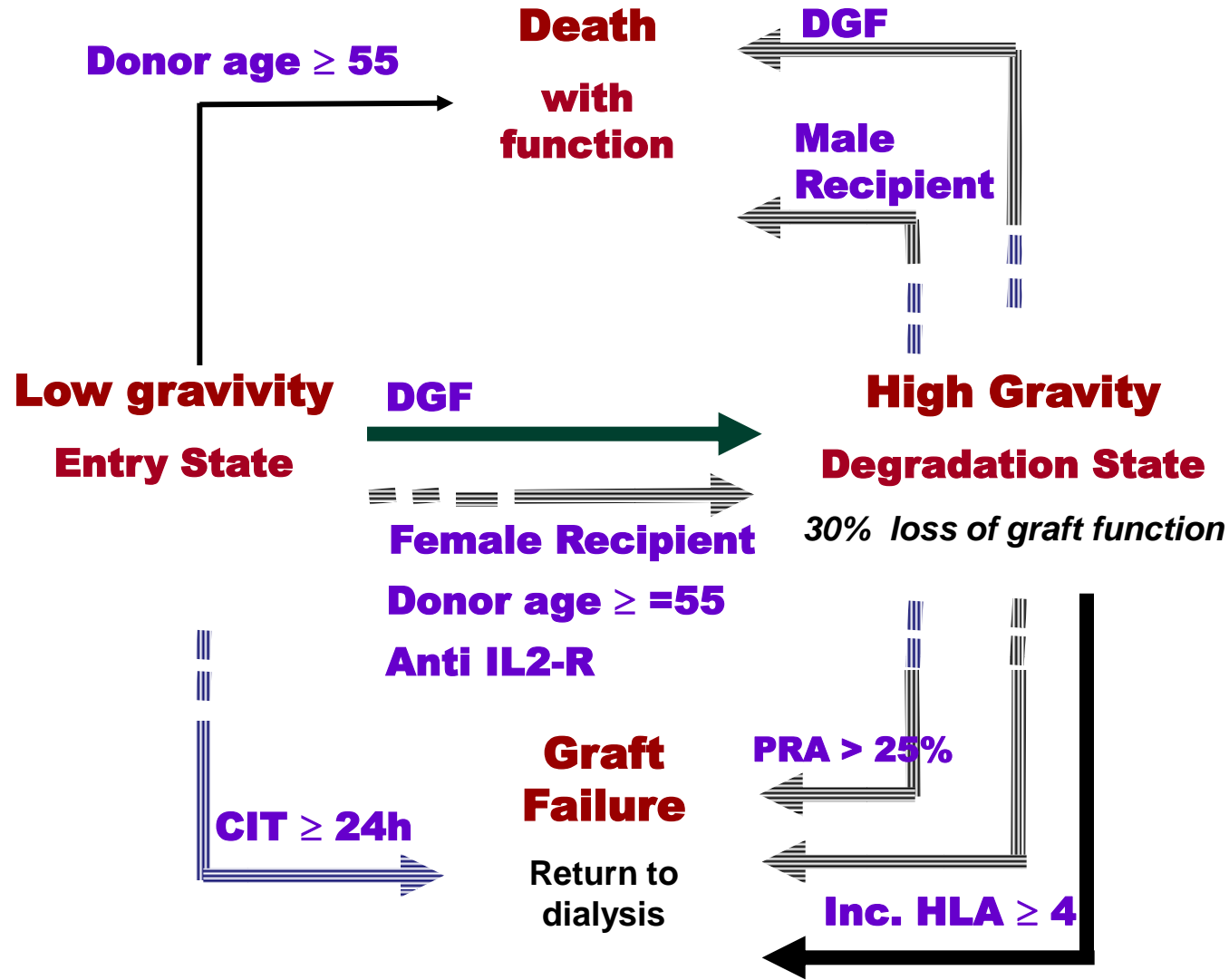
839 patients

Description of the covariates

The same covariates for the two approaches

Covariates	
Recipient gender (male)	62%
Donor gender (male)	64%
Recipient age	49.9 (18-79)
Donor age	47.7 (5-84)
Inc. HLA-A-B-DR	3.3 (0-6)
Cold ischemia time (h)	23.8 (1-50)
Delayed graft function (d)	6.6 (1-67)
Anti T PRA (%)	4.3 (0-100)
Anti IL2 R induction	40%

The COX model : RESULTS

Transplantation

DGF

Recipient
Age

Graft failure or Death

The multi-state approach : Semi Markov RESULTS

A semi-Markov model for multistate and interval-censored data with multiple terminal events. Application in renal transplantation. Foucher Y, Giral M, Soulillou JP, Daures JP. Stat med. Nov 2007
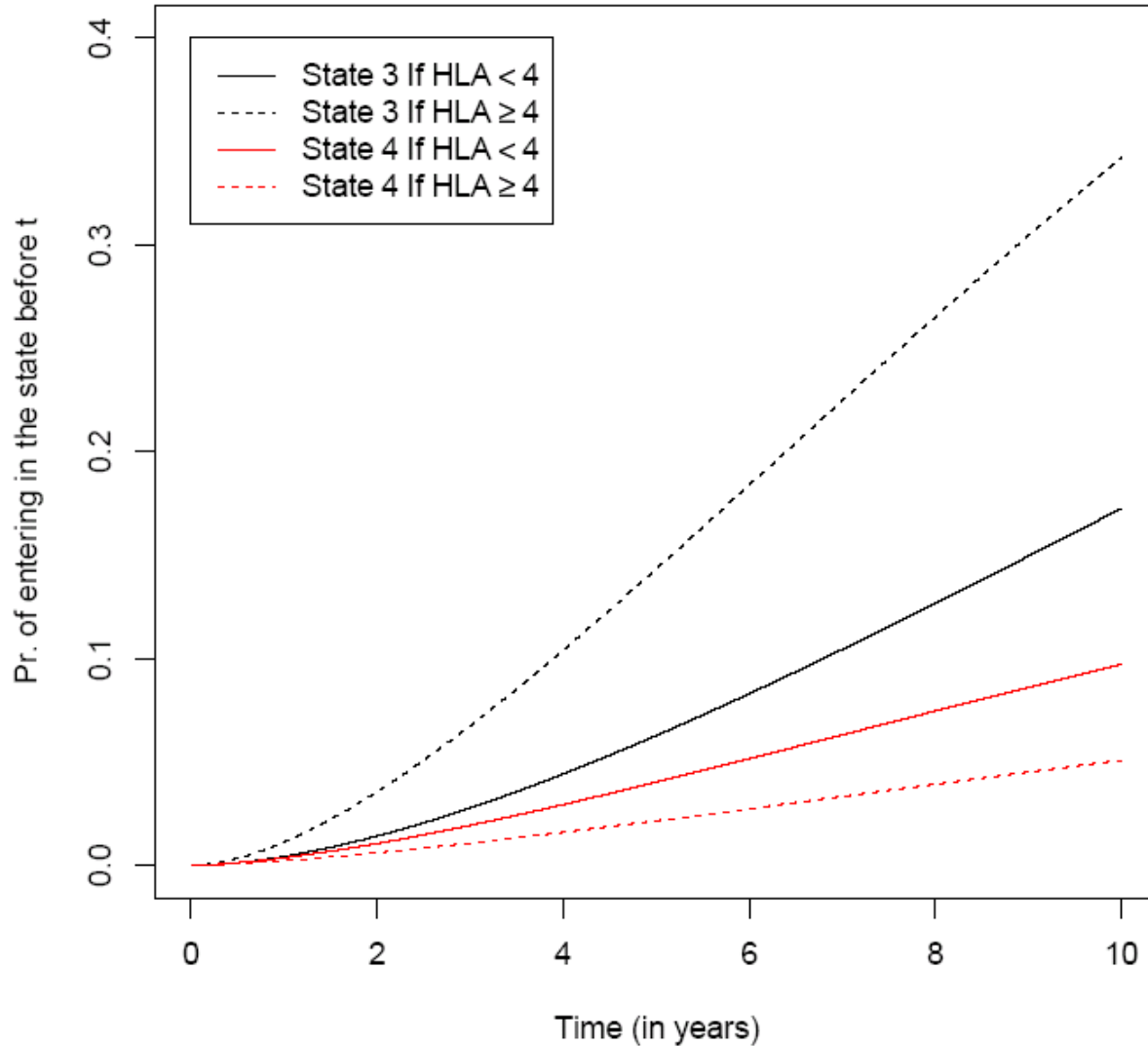
The multi-state approach : CONCLUSION

The multistate approach is a more complex model than the COX model, but allows to increase the knowledge of the graft outcome fitting more with the real life

The multi-state approach : Semi Markov RESULTS

Risk of graft failure at 5 years

17% if Inc. HLA >=4

8% if Inc. HLA < 4

Risk of death at 5 years

5% if Inc. HLA < 4

2% if Inc. HLA >=4

ATC Toronto 2008