KDPI SCORE: A COMPARISON WITH CLASSICAL ECD/SCD CLASSIFICATION IN PREDICTING OUTCOMES

Carlos Arias-Cabrales, María José Pérez-Sáez, Dolores Redondo-Pachón, Anna Buxeda, Carla Burballa, Sheila Bermejo, Adriana Sierra, Marisa Mir, Andrea Burón[a], Ana Zapatero[b], Marta Crespo, Julio Pascual

Departments of Nephrology, [a]Epidemiology and Evaluation, [b]Intensive Care Medicine, Hospital del Mar, Barcelona, Spain

Background and objectives

Kidney donor shortage produces an expansion in donor selection criteria, but there is a need of objective tools to minimize the percentage of discarded organs. Some easily available donor pretransplant variables such as age, definition of standard/expanded criteria donors (SCD/ECD) and calculation of the United States Kidney Donor Profile Index (KDPI), have demonstrated correlations with patient and graft outcomes. We aimed to establish the accuracy of the three models to determine the prognostic value on kidney transplantation (KT) major outcomes.

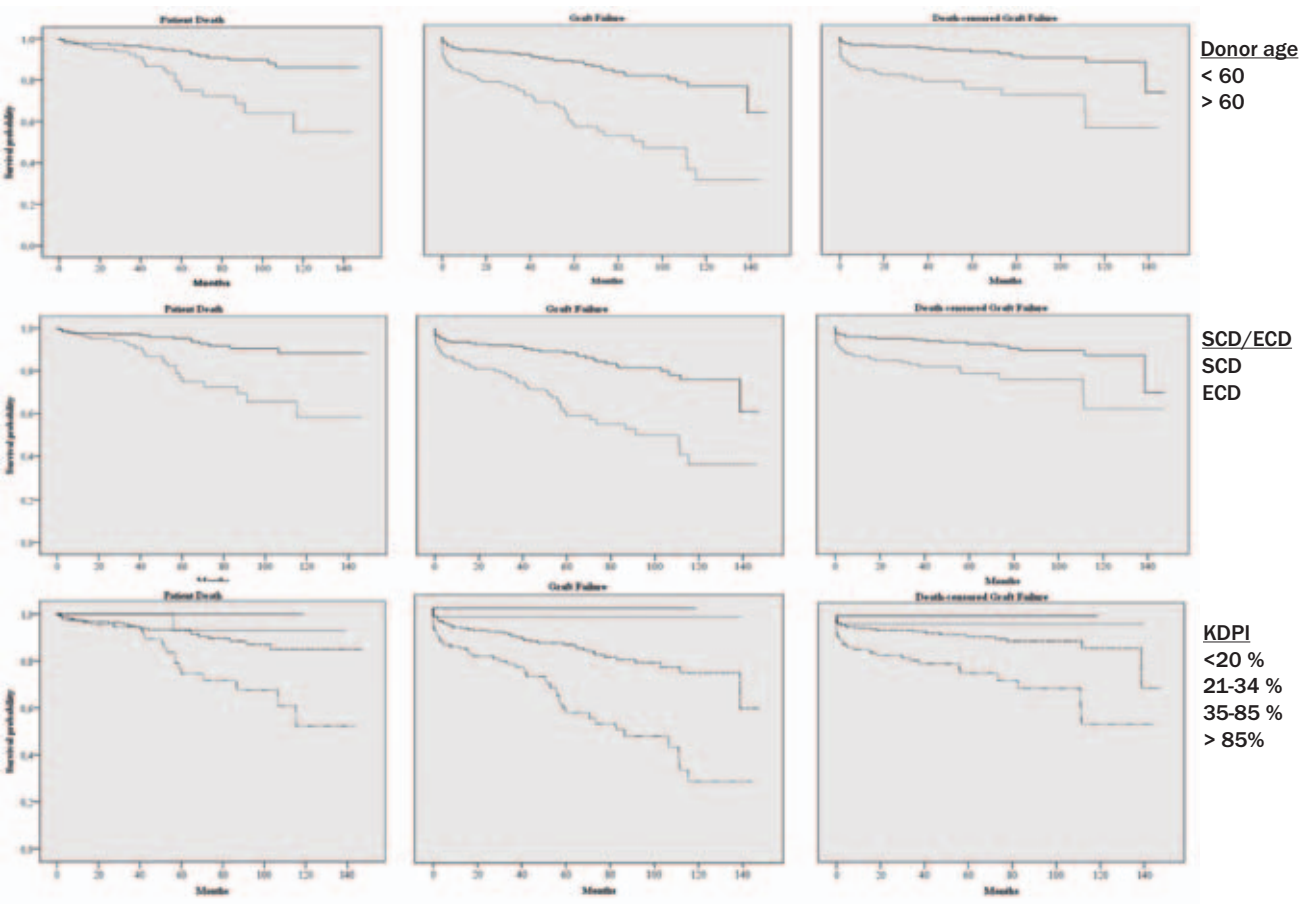
Methods

Retrospective study of deceased donor KT at our institution. Unadjusted Cox and Kaplan-Meier survival, and multivariate Cox analyses were fitted to analyze the impact of the three predictor scores donor age, SCD/ECD and KDPI on outcomes.

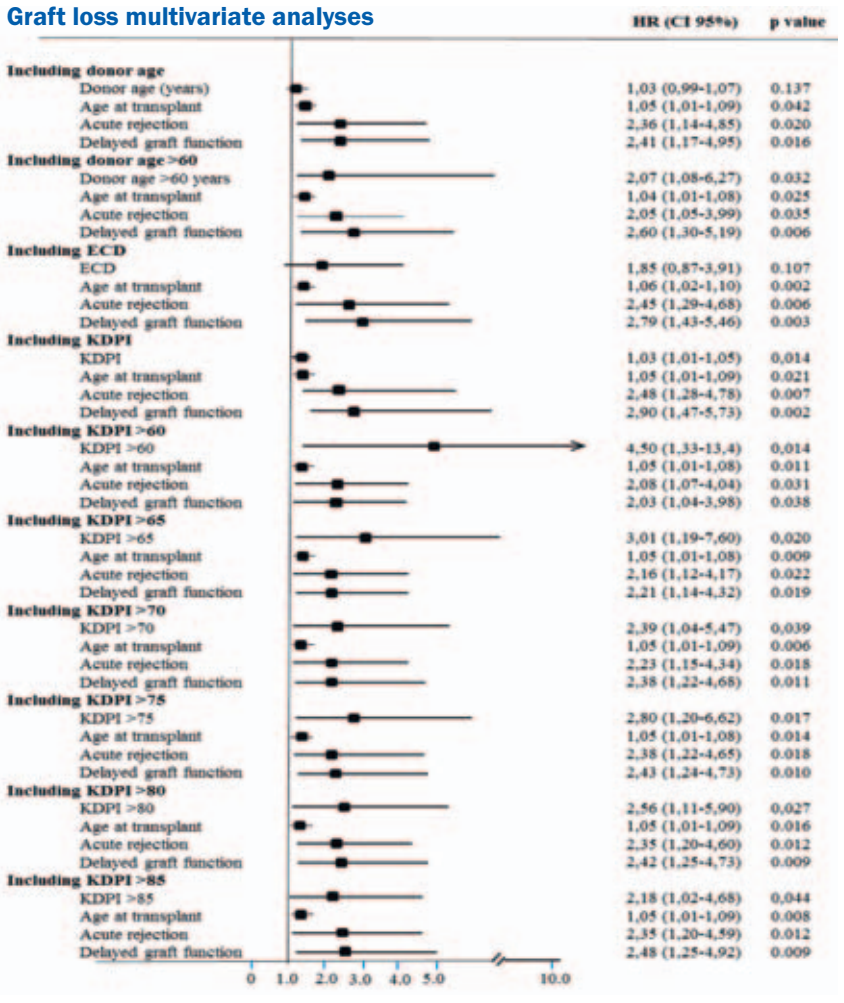
Results

	KT n= 389
Donor age (mean ± sd)	53.6±15.2 y
Recipient age (mean ± sd)	54.6±13.54 y
ECD, n (%) SCD, n (%)	163 (41.9%) 226 (58.1%)
KDPI % (mean ± sd)	69.4±23.4
KDPI subgroups (n, %) 0-20 21-34 35-85 > 85	 2 (0.5) 28 (7.2) 227 (58.4) 132 (33.9)
DGF (n, %)	155 (40.4)
BPAR (n, %)	36 (9.3)
Follow-up (median)	51,9 months
Patient death (n, %)	40 (10.2%)
Graft Failure	93 (24%)
Death-censored graft failure	53 (13.6%)

ECD, expanded criteria donor; SCD, standard criteria donor; KDPI, kidney donor profile index; DGF, delayed graft function; BPAR, biopsy-proven acute rejection



Graft loss multivariate analyses



Key findings

- Univariate Cox and Kaplan-meier analysis showed that donor age, ECD status and KDPI score were related with higher risk of patient death, graft failure and death-censored graft failure.
- Multivariate analysis:
- Age at the time of transplantation (HR 1.08 [95%CI, 1.02-1.15]; p=0.013) and recipient cardiac disease (HR 3.56 [1.17-10.78]; p=0.025) were related with higher risk of patient death.
- Donor age, ECD status nor KDPI does not show impact in patients survival. KDPI (HR 1.03 [1.01-1.05]; p=0.014), donor age (HR 2.07 [1.084-6.27]; p=0.032) recipient age at the time of transplant (HR 1.05 [1.01-1.09]; p=0.042), acute rejection (HR 2.36 [1.14-4.85]; p=0.020), and delayed graft function (HR 2.41 [1.17-4.95]; p=0.016) were significant variables that influenced graft failure.
- Acute rejection (HR 3.40 [1.59-7.24]; p=0.001) and delayed graft function (HR 3.20 [1.39-7.34]; p=0.006) had a negative impact on death-censored graft failure.
- Isolated donor age as continuous variable and ECD status were not related with higher risk of graft failure or death censored graft failure.

Conclusions

SCD/ECD classification did not provide significant prognostic information about patient and graft outcomes.
KDPI was linearly related with higher risk of graft failure, providing a better assessment.
More studies are needed before using KDPI as a tool to discard or accept kidneys for transplantation.
A score similar to KDPI may be developed using local data, thus adapting it to our environment

References

Rao PS, et al.Transplantation 2009.
Lee AP and Abramowicz D. Nephrol Dial Transplant 2015.
Querard AH, et al. Transplant Int 2016.
Pascual J and Pérez-Saéz MJ. Nefrologia 2016.

OutcomeDriven TTS2018 MADRID
Hospital del Mar
Parc de Salut MAR Barcelona