Kidney Transplantation with organs from Controlled Donors after Circulatory Death: Early report from Spanish multicentre experience

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INTRODUCTION

Controlled donors after cardiac death (cDCD) programs have evolved in several countries around the world. Spain has a long experience on uncontrolled DCD but started to develop cDCD programs from 2011. The aim of GEODAS (Study group for cDCD by its Spanish initials) is to gather experience, to describe the follow-up, to identify prognostic factors and to contribute to development and promotion of cDCD.

METHODS

Design: Prospective cooperative study on 11 centers with cDCD programs.

Intervention: Kidney transplantation (Tx) from cDCD, Immunosuppressive induction regimen mainly with Tymoglobulin or Basiliximab (72.6/27.3%) plus prednisone, MFM and tacrolimus (90.3%) or mTOR-inhibitor (9.6%).
Main variable: Best eGF after one year.

Preliminary analysis of 139 patients with a mean follow-up of 1 year.

RESULTS

PATIENTS & DONORS
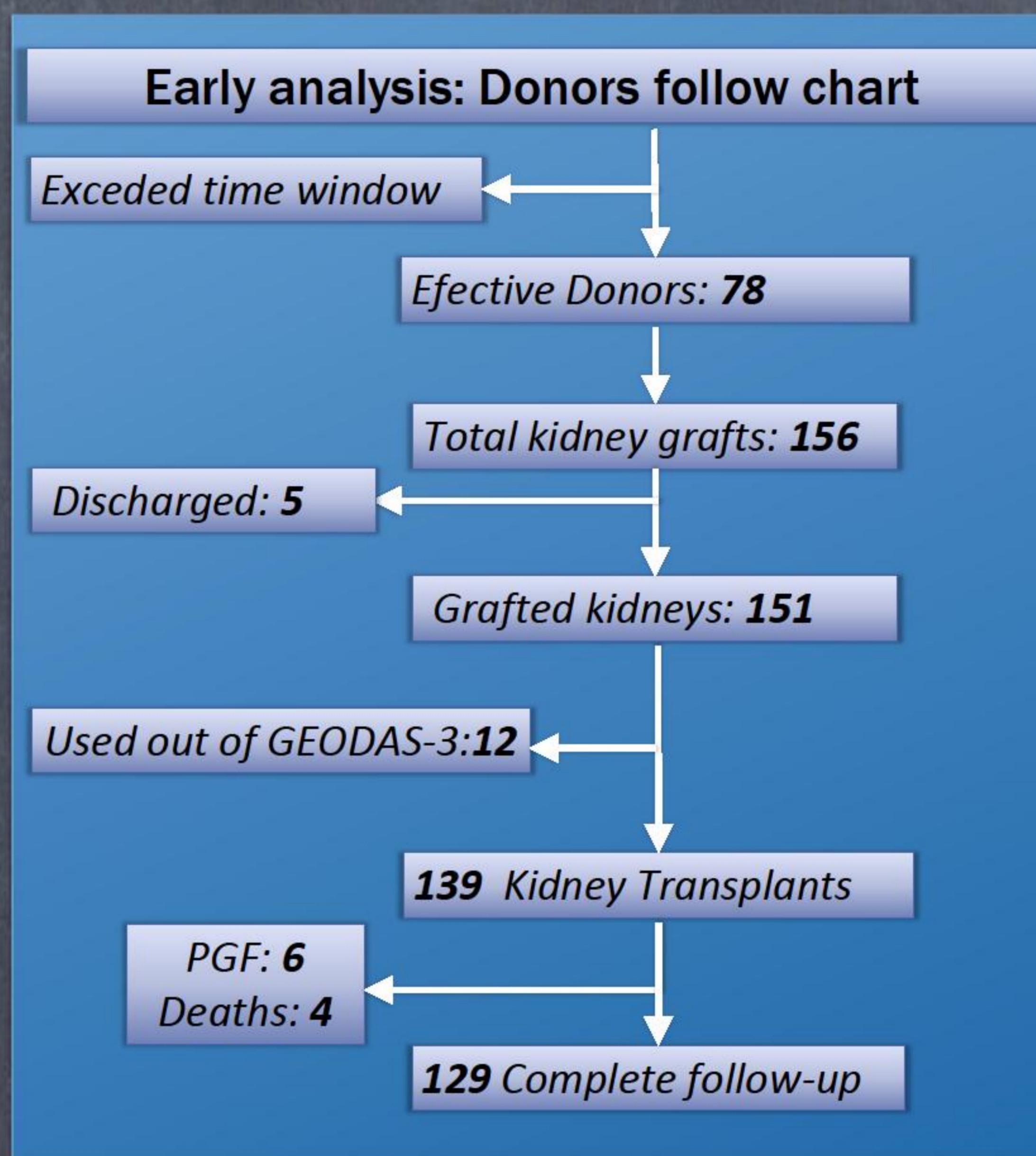
▪ 78 donors (53.6 y, 67.8% male, 74.6% CV death).

▪ 5 organs were discarded, 151 grafted. 12 went to other centres; 139 (age: 53.7 y; 70.5% male) were included

▪ 87.8% 1st Tx. 2.9% Pre-emptive; 79.7% from HD; 17.3% from PD; dialysis vintage 2.6 years

▪ 20.3% with diabetes mellitus and 10.8% with a previous CV event.

▪ None of receptors present PRA > 90%.

▪ Cold ischemia time was 11.9 h and mean HLA-missmatches was 3.8 over 6.

Early analysis: Donors follow chart

- Exceded time window
- Efective Donors: **78**
- Total kidney grafts: **156**
- Discharged: **5**
- Grafted kidneys: **151**
- Used out of GEODAS-3: **12**
- **139** Kidney Transplants
- PGF: **6** / Deaths: **4**
- **129** Complete follow-up

OUTCOMES

▪ PGF had longer cold ischemia time (18.8 vs 11.7; p= 0.03).

▪ Delayed graft function rate was 43.4% . Acute rejection rate: none from 0-3 months and 5 from 3-12 months.

▪ Nadir Cr 1.4 mg/dL (range 0.6-3.2) and best eGFR 58.11 (24.12) ml/min. Death-censored graft survival was 97 % (12 months) and 93.8% (24 months)).

▪ Patient survival: 4 deaths with functioning graft due to sudden death, aorta dissection and sepsis (2 patients). Patient

	OR	CI 95%
Donor age	1.8	0.6-4.8
Previous RRT	3.1	0.7-12.7

*Cold ischemia time (OR 0.96/hour]) and donor age (OR 0.94/year) without significant effect.
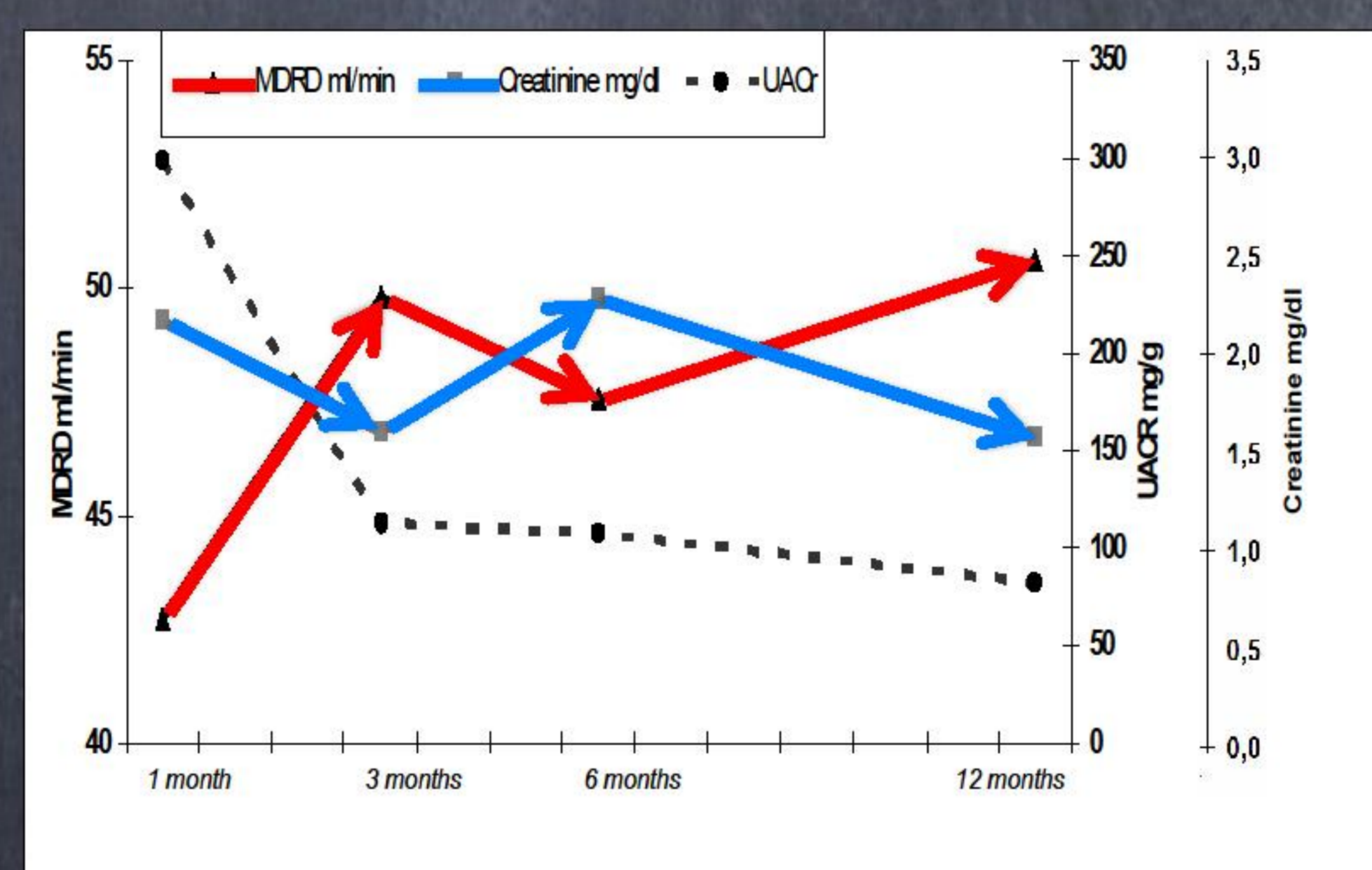
MDRD: Estimated Glomerular filtration rate by Modification of Diet in Renal Disease ml/min.
UACR:Urin creatinine-to-albumin ratio mg/g.

CONCLUSIONS

▪ These results are similar to brain-death donor Tx reported in literature, especially for the graft and recipient survival.
▪ Acute rejection rate was extremely low.
▪ Pretransplant PD as the mode of RRT and donor age <54 yr-old are associated with better graft function at one year.
▪ Shortening cold ischemia time could also improve the results and avoid primary non-functioning kidneys. cDCD programs are easier and more efficient than uncontrolled DCD programs with a higher rate of graft viability and a good-enough results to promote them.