Influence of Delayed Graft Function (DGF) over one-year outcomes on Kidney Transplantation from Donors after Controlled Cardiac Death

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INTRODUCTION

- The availability of donor kidneys has failed to keep pace with demand, resulting in an evergrowing waiting list of potential recipients.
- In 2012, a donation after controlled cardiac death (DCD) procurement and transplant program was established at our Hospital. This strategy has allowed us increase the number of kidney transplants (KT).
- However, one of the major concerns is the high incidence of DGF observed in such transplants.

OBJECTIVES

To compare the risks factors associated with DGF and it impact on one-year graft outcomes between controlled DCD and donation after brain death (DBD) kidney transplants

METHODS

- Single-center retrospective study of DCD and DBD donor KT.
- The study population included all patients undergoing KT between 2003 to 2013, except recipients with primary non function of the graft.
- DGF was defined as renal failure persisting after transplantation necessitating dialysis within the first week.
- We compared 1-year graft survival rates, 1-year estimated glomerular filtration rate (e-GFR) as well as the different factors associated with the risk of DGF between the two groups.

RESULTS

- 81 deceased donor KT were performed, 56 (69%) were from DBD and 25 (31%) from DCD donors
- Cold ischemia time (CIT) was significantly lower in the DCD group (Table I)
- Incidence of DGF (Table II) was higher among DCD recipients but there were no differences in the median duration on days (Table III).
- On multivariate analysis, risk factors associated with DGF were cerebrovascular cause of death in the DCD group (OR 4.7, IC 95% 2,3-12,5 p=0.008) and male recipients of KT from female donor in DBD group (OR 4,5 IC 95% 1.1-19,3 p=0,04).
- DGF did not affect one-year graft survival within the DCD cohort (100% vs 100%) or the DBD group (91% vs 100% p=0.,38).
- The e-GFR at one-year (Table IV) were comparable in the DCD group with or without DGF (44,4±10,6 vs 51,8±12,5 ml/min, p=0.,29) and in DBD group with or without DGF (48,3±20,2 vs 54,6±17 ml/min, p=0.,36)

Table I: Cold ischemia time in hours

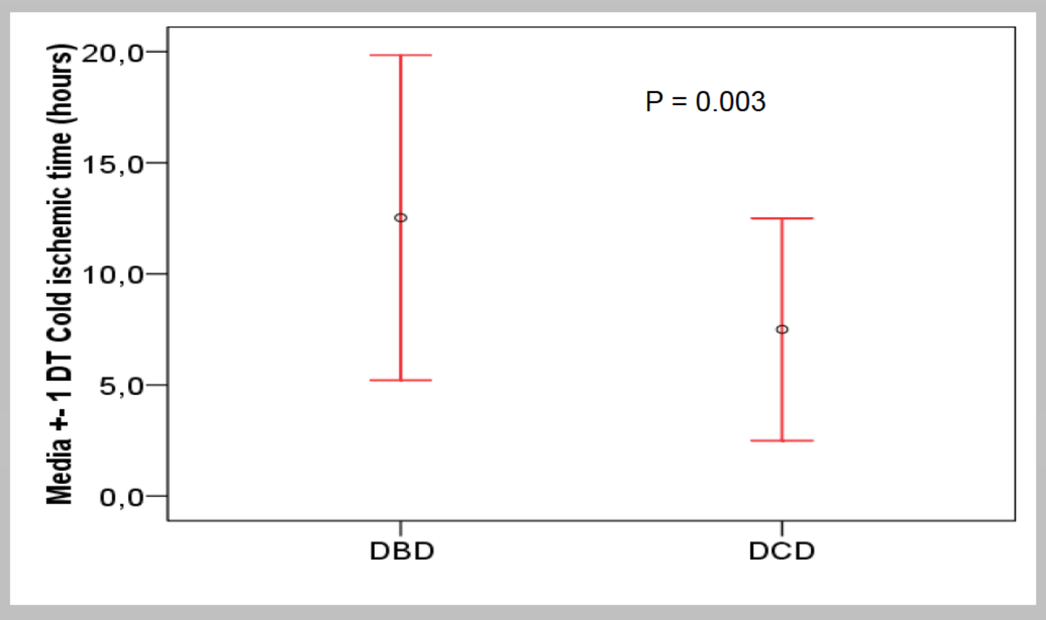


Table II: Incidence of DGF

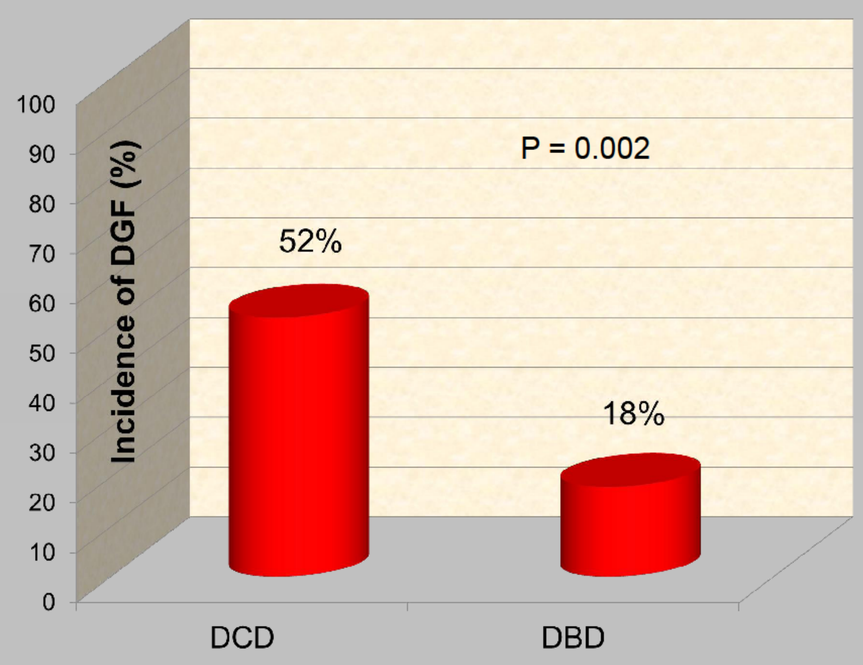


Table II: Duration of DGF on days

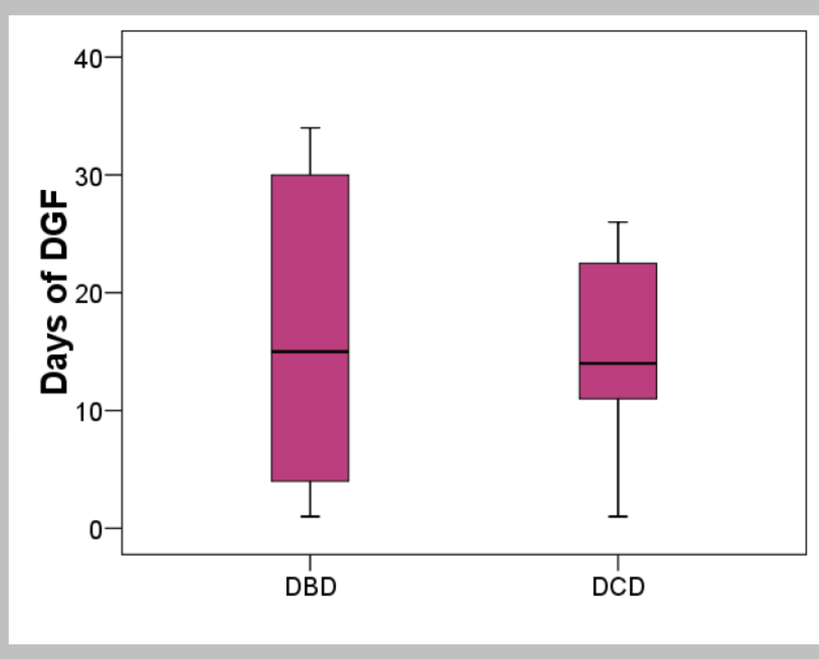
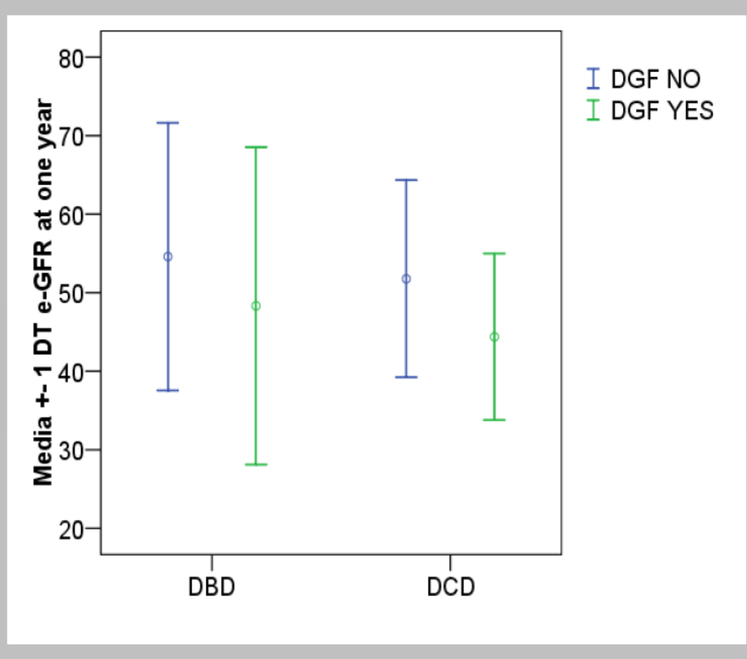


Table IV: e-GFR at one-year



CONCLUSIONS

- Despite the higher incidence of DGF observed in KT from controlled DCD donors compared with DBD donors, it does not seem to have an adverse impact on graft outcomes in the context of relatively short CITs.
- This results may contribute to stimulate the implementation of controlled DCD kidney transplant programs.

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