

100 DUAL KIDNEY TRANSPLANTATION (DKT): A SINGLE CENTER STUDY ON STRATEGIES OF ALLOCATION AND RESULTS

Messina M¹, Diena D¹, Tognarelli G¹, Ranghino A¹, Bussolino S¹, Fop F¹, Segoloni GP¹, Biancone L¹

¹Renal Transplantation Unit "A. Vercellone", Division of Nephrology Dialysis and Transplantation, Department of Medical Sciences, Città della Salute e della Scienza Hospital, University of Turin, Italy



OBJECTIVES

- **Shortage of organs** is one of the main burden in transplantation.
- Utilization of **Expanded criteria donors (ECD)** is a well known strategy to expand donor pool.
- **DKT** may be another option to **minimize the kidney discard rate** and ensure **good renal function**.
- DKT is not universally accepted as an equitable tool. (1,2)

METHODS

- **100 DKT** (1999 – 2013) in a single transplant center.
- **DKT** allocation on the basis of **clinical, morfological, functional** (Cockroft - Gault) and **histological** data (Karpinsky score).
- **Hystological allocation strategy** of ECD kidneys (DKT or Single Kidney transplantation - SKT) :
 - Remuzzi's score up to 2005 (73% of DKT) (3);
 - afterwards, score 4 instead of 3 as a limit between SKT and DKT.
- **Immunosuppressive regimen**: the same adopted in SKT from ECD (CNI free up to sCr ≤ 2,5 mg/dl) as published elsewhere. (4)
- In **table 1** the **main characteristics** of the population are summarized.

Fig. 1

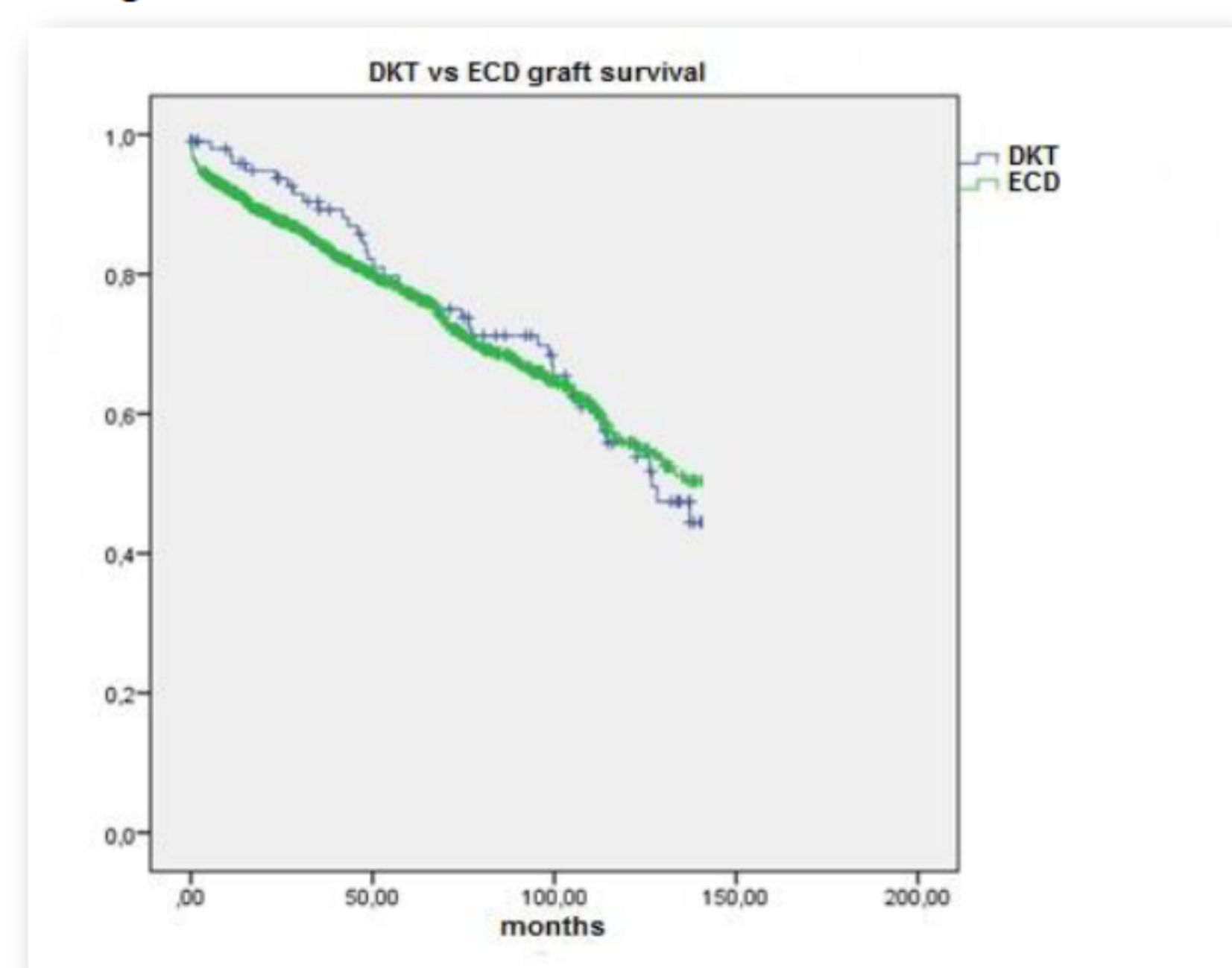
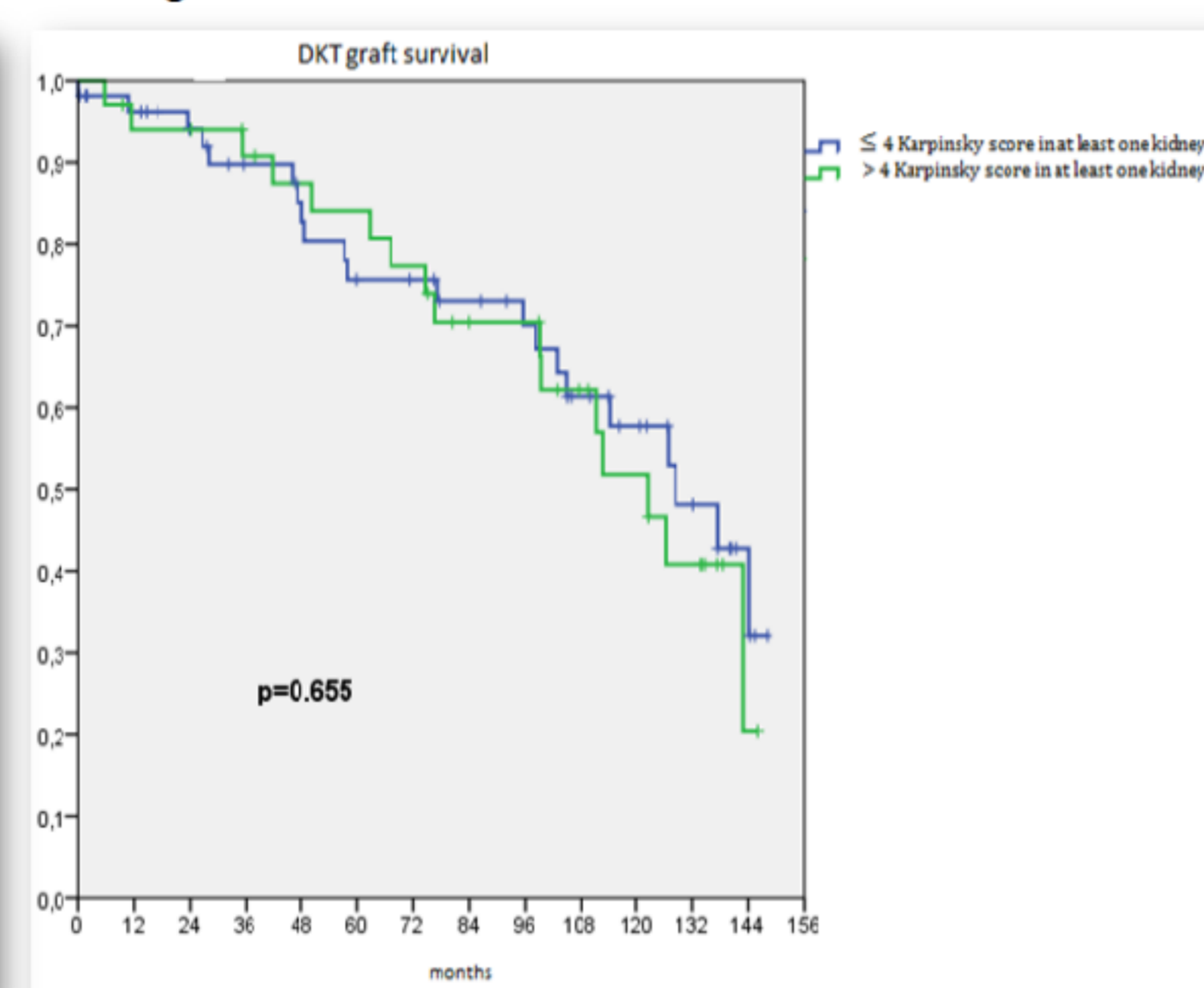


Fig. 2



Tab. 1

Recipient mean age	59,86 ± 5,84 yrs; max 75 yrs, min 46 yrs
Donor mean age	71,51 ± 8,72 yrs; max 88 yrs, min 45 yrs
Donor eGFR	64,90 ± 29,63 ml/min
Hypertension in the donor	63,4 %
Diabetes in the donor	14,6 %
Mean Karpinsky score	6,66 ± 2,47
Mean Karpinsky score in each kidney	3,49 ± 1,25

RESULTS

- Mean DKT f/up: 93,9±46,8 months.
- DKT patient and graft survival (not death censored): 100%, 91%, 77,9% and 95,9 %, 75,4%, 55,8% at 1,5 and 10 years.
- **Graft survival** in our whole **ECD** population (n= 898) **comparable to DKT**: 72,2% and 54,9 % at 5 and 10 years. **Fig. 1**
- Deaths, 19/25 with a functioning graft (76%).
- DGF rate 41%(mean duration 6,26 ± 3,1 days)
- 1° Yr AR rate 13%.
- Mean sCr **1,71 mg/dl, 1,72 mg/dl, 1,67 mg/dl** at 1,2 and 5 years; mean pto **0,25 g/24 h, 0,22 g/24 h, 0,25 g/24 h** at 1,2 and 5 years.
- In **8/100 grafts one kidney lost perioperatively: 5/8 patients returned to dialysis** by the end of the follow up (mean 87 months)
- Mean hystological score of the remaining kidney in this 8 DKT is 3,37.
- **Comparable graft survival between DKT with > and ≤ 4 Karpinsky score** in at least one kidney. **Fig. 2**

CONCLUSIONS

- In our Region (Piemonte) > **45 %** of the donors are **older than 60 years (> 25% older than 70 years)**.
- **Recipients are accepted** for the waiting list on the basis of their **biological** and not chronological age.
- **DKT results** in 100 grafts over more than 10 yrs are **good in terms of patient, graft survival and renal function**.
- In our experience **Graft survival in DKT and SKT from ECD are comparable**.
- After 2005 we adopted **KS > 4 for DKT allocation** with the aim either **to contain and reduce the discard rate** and to **increase the number of SKT** (in an old for old allocation strategy)
- The **debate** about where to put the **limits between SKT and DKT** in safety and fairness is **still open**. (5)

REFERENCES:

- (1) Moore et al. Dual Kidney Transplantation: A Case-Control Comparison With Single Kidney Transplantation From Standard and Expanded Criteria Donors. Transplantation 2007;83: 1551–1556.
- (2) Gill et al. Outcomes of Dual Adult Kidney Transplants in the United States: An Analysis of the OPTN/UNOS Database. Transplantation 2008;85: 62–68
- (3) Remuzzi et al. Long-Term Outcome of Renal Transplantation from Older Donors. N Engl J Med 2006;354:343–52.
- (4) Segoloni et al. Preferential Allocation of Marginal Kidney Allografts to Elderly Recipients Combined with Modified Immunosuppression Gives Good Results. Transplantation 2005;80: 953–958.
- (5) Klair et al. Outcomes of Adult Dual Kidney Transplants by KDRI in the United States. Am J Transplant 2013; 13: 2433–2440.

