

Supplemental Documents: Methods - Quantification of Benefit

From January 2012 to December 2014, there were 358 single kidney transplants performed at Padua University Hospital's Kidney and Pancreas Transplantation Unit; 251 involved grafts from deceased donors (DD), and 107 from living donors.

During the same period, 16 incompatible pairs were assessed at the center and enrolled in the kidney paired donation (KPD) program. Despite being listed for DD kidney transplantation, they could not be transplanted during the three-year period (2 candidates had 2 willing donors). Though the ESRD patients in these pairs were enrolled in the KPD program during the three-year period (2012-2014, and mainly in 2014, once the program was fully developed), they were still all considered as on the standard waiting list from the start because they were on dialysis and had been on the waiting list for a DD transplant since before 2012. We first checked whether any KPD could be performed between pairs in this pool, confirming that no compatible transplants were feasible.

To estimate the number of patients who could receive a compatible kidney within a KPD program initiated with a DD organ, we considered the sequence of organs from standard deceased donors allocated to the Padua Transplant Center from January 2012 to December 2014, and transplanted into patients on the standard DD waiting list. We excluded any organs allocated to highly-immunized recipients - see below for our definition of patients unlikely to be transplantable (UT).

Standard deceased donors were defined as follows: age <60 years, absence of comorbidities such as hypertension or diabetes, calculated creatinine clearance >60 ml/min, absence of proteinuria.¹

Reference

1. Pierobon ES, Sandrini S, De Fazio N, et al. Optimizing utilization of kidneys from deceased donors over 60 years: five-year outcomes after implementation of a combined clinical and histological allocation algorithm. *Transpl Int*. Aug 2013;26(8):833-841.