

## DOES TRANSPLANTATION IMPROVE SURVIVAL FOR END STAGE RENAL DISEASE PATIENTS IN THE UK?

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**Background:** The survival benefit of receiving a kidney transplant over remaining on the waiting list is often quoted from an American study. Fewer patients in the UK are diabetic and data from the UK Renal Registry show that survival on dialysis is better in the UK. We therefore analyse UK data to investigate the benefit of receiving a kidney transplant. Exclusion of patients never listed means that bias associated with the selection of (lower-risk) patients for transplant can be avoided.

**Methods:** Data from the National Transplant Database held by UK Transplant were combined with data from the UK Renal Registry to produce a cohort of 10503 adult patients listed for a first kidney only transplant between 1995 and 2000. Patients were followed from date of listing to September 2005 or death if earlier. Of the patients analysed, 6793 (65%) received a deceased donor transplant while 797 (8%) received a living donor transplant. Risk-adjusted standardised mortality ratios (SMRs) were calculated to compare death rates of patients who remained on the transplant list with those of patients receiving a transplant. Time-dependent Cox regression analysis was also used to evaluate the survival benefit of transplantation.

**Results:** The SMR for patients receiving a transplant was 35% lower than that for all patients listed for transplant (SMR=0.65, 95% confidence interval (CI) 0.61-0.69). Cox regression analysis showed differing risks of death after listing according to year of listing, primary renal disease, ethnicity, age, time on dialysis and receipt of transplant. Compared with remaining on dialysis, the relative risk of death up to 10 years after transplantation was 0.32 (95% CI 0.23-0.43) for a living donor transplant and 0.56 (95% CI 0.51–0.61) for a deceased donor transplant. Compared with remaining on the transplant list, and depending on the individual patient, the increased risk of death in the immediate post-transplant period resolves approximately 4 months after transplant, after which point there is an increasing survival benefit of transplantation.

**Summary:** In UK patients listed for kidney transplantation between 1995 and 2000, the risk of death for transplanted patients is greater than that for those remaining on the list only in the first few months post-transplant. Thereafter, long-term survival is significantly better for patients receiving a renal transplant.