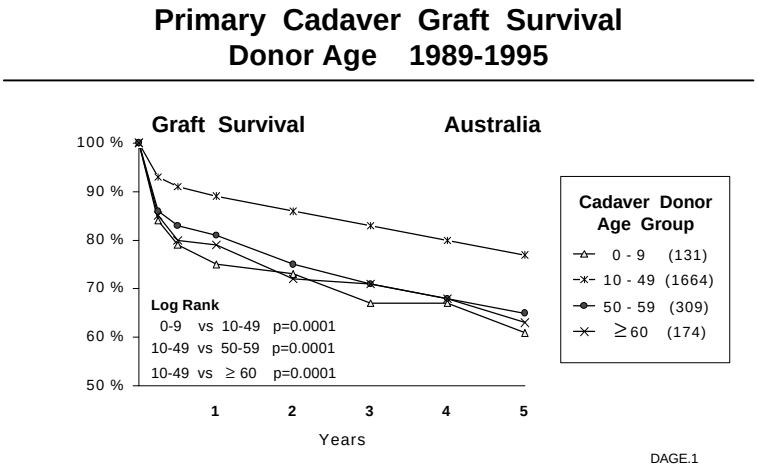
DONOR FACTORS AFFECTING CADAVERIC RENAL GRAFT SURVIVAL IN AUSTRALIA 1988-95.

Russ GR, Disney APS, for the ANZDATA Registry, The Queen Elizabeth Hospital, Adelaide, South Australia.



Factors affecting primary cadaveric renal allograft survival has been examined on the ANZDATA database for the period from 1st January 1988 to 31st December 1995. The analyses have been performed using Kaplan-Meier life tables and the significance assessed by the log rank statistic.

For donor age, primary grafts from donors aged 10-49 (n=1664) have significantly better survival compared with donors of the 0-9 (n=131), 50-59 (n=309) and >60 (n=174) years age groups [$p<0.0005$]. These differences are seen as early as one month and increase with time such that at five years there is a 12% survival difference between grafts from 10-49 year donors compared with 50-59 year old donors. The incidence of grafts which never functioned is greater with donors over 55 years and the incidence of delayed graft function (excluding never functioned) is greater with donors over 45 years. When allocated to recipients in the age group >49 years, kidneys from donors >49 years are associated with a significantly worse patient survival than for the same age group of recipients allocated kidneys from donors aged 10-49 years. For cause of donor death, cerebrovascular disease (n=1015) is associated with a worse graft survival ($p=0.0026$) compared to death by trauma (n=1046). The difference increases with increasing time. This effect is more marked with female donors. Total ischaemia time is also a factor affecting survival of primary grafts, such that times of 0-12 hours (n=460) and 13-18 hours (n=918) have a significantly better survival than grafts with ischaemia times of 19-24 hours (n=732) and >24 hours (n=211). These differences were seen as early as 12 months but increased with time post-transplant. Primary grafts with delayed graft function (n=453) have a significantly worse survival than grafts with immediate function (n=1826) [$p=0.0063$]. This difference is not seen until 24 months post-transplant and then increases with time such that there is a 6% difference at five years.

The detrimental effects on graft survival of ischaemia time >18 hours and delayed graft function are not greater in the recipients of second or subsequent grafts compared with primary recipients.

In summary, kidneys from older donors, from donors dying of cerebrovascular disease and with delayed graft function have inferior long term graft survival.