Supplementary Table S1. Categories for causes of death and graft loss used by the ANZDATA Registry

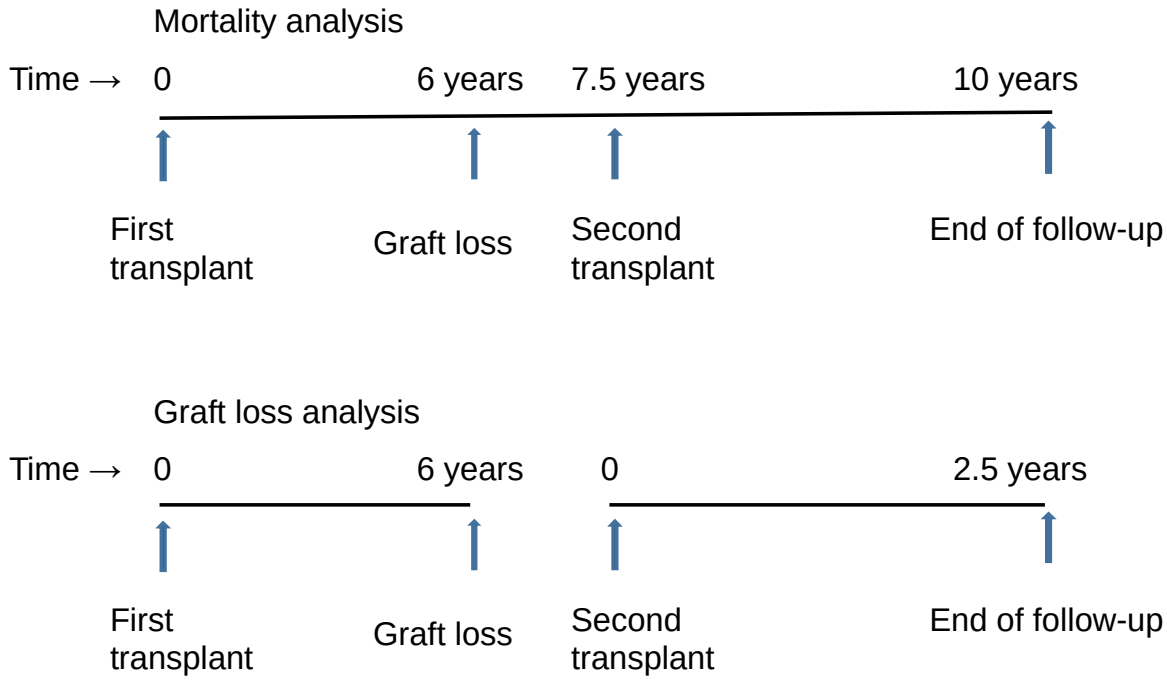
Causes of death	Causes of graft loss
Cardiac	Rejection
Myocardial ischemia (presumed),	Hyperacute rejection (within 48 hours)
Myocardial ischemia and infarction,	Acute rejection at any time
Pulmonary edema,	Chronic allograft nephropathy
Hyperkalemia,	Vascular
Hemorrhagic pericarditis,	Renal artery stenosis
Hypertensive cardiac failure,	Renal artery thrombosis
Cardiac arrest- cause uncertain,	Renal vein thrombosis
Other causes of cardiac failure	Renal vessel haemorrhage (primary)
Vascular	Renal vessel haemorrhage (secondary)
Pulmonary embolus,	Embolus- thrombo
Cerebrovascular accident,	Embolus- cholesterol
Gastrointestinal hemorrhage,	Hemolytic uremic sysndrome
Hemorrhage from dialysis access site,	Technical
Hemorrhage from transplant artery,	Nonviable kidney (due to pre-transplant cortical necrosis)
Aortic aneurysm rupture,	Cortical necrosis post-transplant (not due to rejection)
Hemorrhage from elsewhere,	Ureteric and bladder problems
Bowel infarction	**Glomerulonephritis**
Infection	Mesangiocapillary GN with subendothelial deposits
Central nervous system	Mesangiocapillary GN with intramembranous deposits (dense deposit disease)
Lung	Focal sclerosing GN (including hyalinosis)
Urinary tract	Membranous GN
Wound	Mesangial proliferative GN (IgA positive)
Peritoneum	Goodpasture’s syndrome
Septicemia- site unknown	
Liver	
Site unknown	
Social	
Withdrawal for psychosocial reason	
Patient refused further treatment	

Suicide Therapy ceased for any other reason Accidental death Withdrawal for cardiovascular comorbid conditions Withdrawal for cerebrovascular comorbid conditions Withdrawal for peripheral vascular comorbid conditions Withdrawal related to malignancy Withdrawal related to dialysis access difficulties **Miscellaneous** Hepatic failure Uremia caused by graft failure Pancreatitis Bone marrow depression Cachexia Unknown Malignant disease Perforation of abdominal viscus Dialysis dementia Others Immunodeficiency due to viral infection Chronic respiratory failure Sclerosing peritonitis	Intra and extra capillary GN with extensive crescents (clinically rapidly progressive) Other **Drug therapy** Complications of drug therapy requiring reduction or withdrawal of steroid and/or immunosuppressants Non-compliance with therapy- causing graft failure Rejection following I/S reduction due to malignancy Rejection following I/S reduction due to infection **Miscellaneous** Other Donor malignancy Malignancy invading graft BK virus nephropathy

Supplementary Table S2. Death after graft loss according to the three mTOR inhibitor use categories

	mTOR inhibitor use group		**mTOR inhibitor non-use group**	
Time	**Number of deaths**	**Death rate per 100 person-years, 95% CI**	**Number of deaths**	**Death rate per 100 person-years, 95% CI**
Last observation carried forward				
0 – 1 year	14	16.4, 9.7 to 26.7	152	17.1, 14.6 to 20
After 1 year	7	2.7, 1.3 to 5.6	186	7.7, 6.7 to 8.9
At baseline				
0 – 1 year	11	11.4, 8 to 25.9	155	17.2, 14.7 to 20.2
After 1 year	19	8.6, 5.5 to 13.4	174	7.1, 6.1 to 8.3
At 1-year				
0 – 1 year	11	16.3, 9 to 29.5	155	17.1, 14.6 to 20
After 1 year	13	7.1, 4.1 to 12.3	180	7.2, 6.3 to 8.4

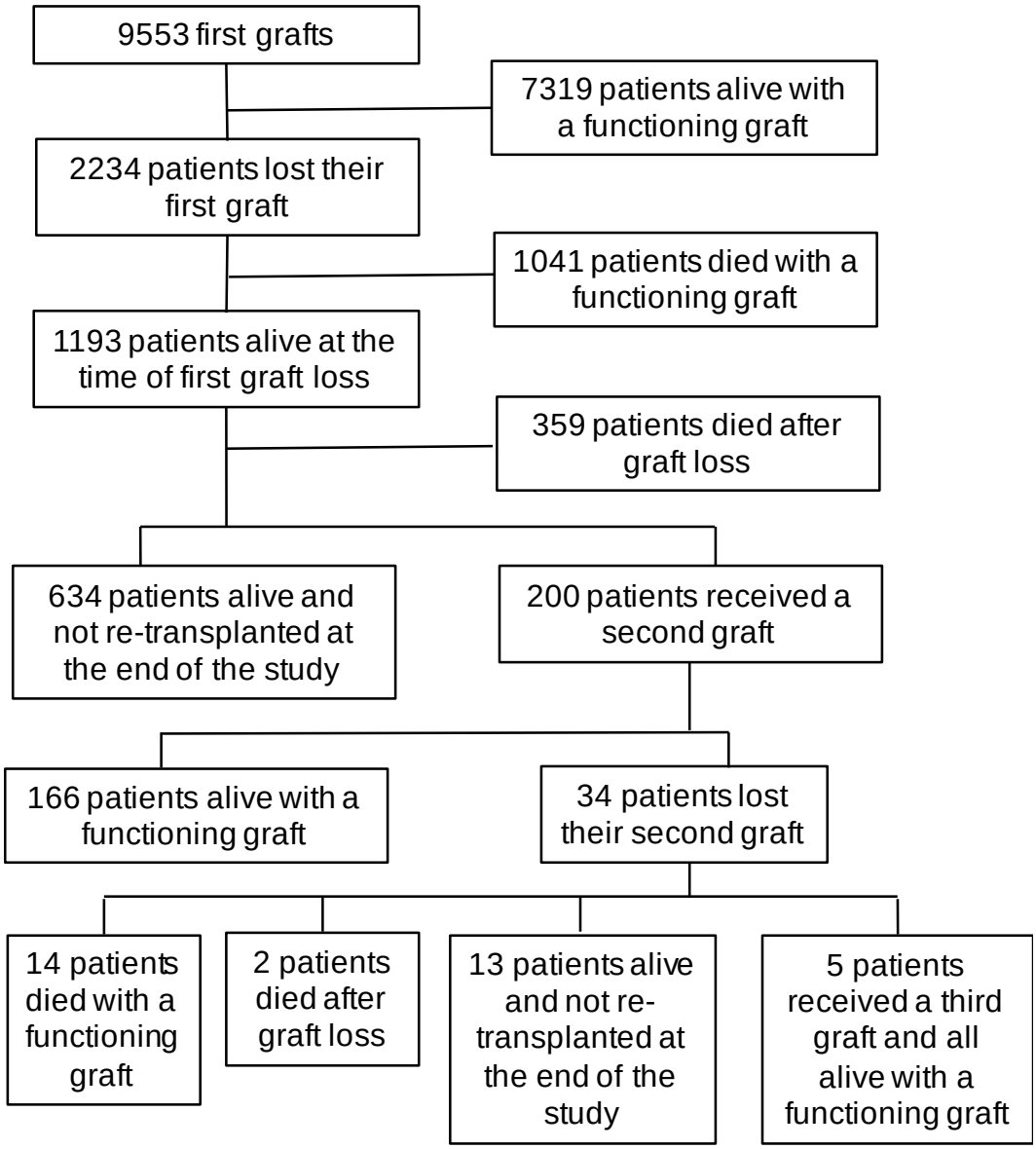
Supplementary Figure S1. Schematic description of survival analyses



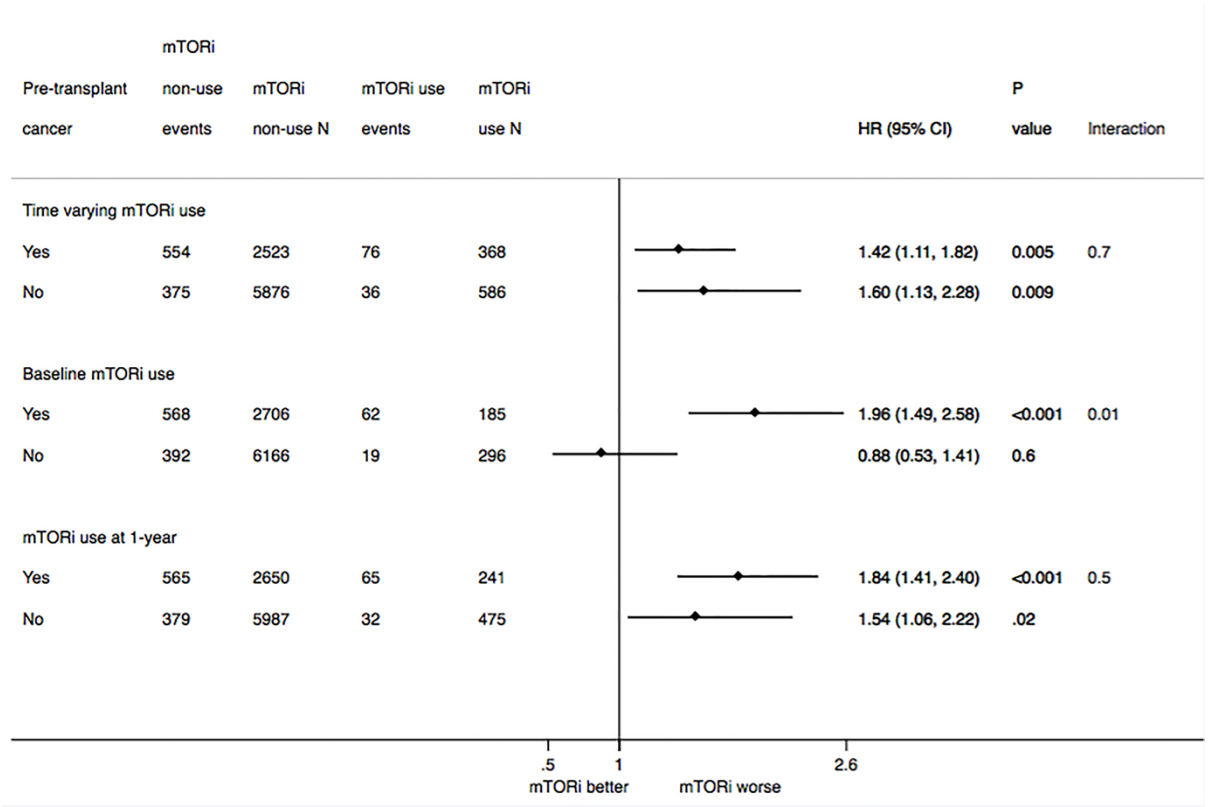
Survival time for the mortality analysis was not censored at graft loss. Survival time was calculated from the date of transplant surgery to the date of death or 31 December 2013.

To accommodate repeat kidney transplants, data were analyzed using a variance-correction conditional-risk set model for ordered allograft loss events with time for subsequent transplant events reset using the gap time method. In this method, survival time for graft loss was reset to zero at the time of second and third transplant surgeries. Survival time was calculated from the date of transplant surgery to the date of graft loss or 31 December 2013.

Supplementary Figure S2. Flow diagram showing death and graft loss outcomes



Supplementary Figure S3. The association between mTOR inhibitor use and death with functioning graft according to pre-transplant cancer status



Note: All analyses included first graft only.