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Supplementary Table 1. Univariate analysis of predictors of all-cause mortality after kidney transplantation during childhood and adolescence.

Variable	Hazard Ratio, 95%CI[1]	p value	Missing data N (%)
Patient Level			
Age group		**0.001**	0 (0)
0-1	1.88 (0.95-3.71)	0.07	
2-10	1.0		
11-19	1.47 (1.19-1.83)	<0.001	
Cause of ESKD[2]		**0.03**	5 (<1)
CAKUT[3]	1.0		
Glomerulonephritis	1.23 (0.99-1.53)	0.06	
Other	1.36 (1.07-1.74)	0.01	
Non-Caucasian	0.88 (0.64-1.2)	0.41	12 (<1)
Female sex	1.04 (0.86-1.26)	0.66	0 (0)
BMI[4]	0.98 (0.95-1.02)	0.31	415 (23)
Pre-transplant dialysis (per year)	1.10 (1.02-1.18)	**0.02**	0 (0)
CMV[5] negative	0.77 (0.51-1.15)	0.21	711 (39)
EBV[6] negative	1.14 (0.70-1.83)	0.58	810 (46)
Comorbidities	2.25 (1.16-4.38)	**0.02**	158 (8)
Donor level			
Deceased donor	2.06 (1.66-2.54)	**<0.001**	5 (<1)
Donor age	0.98 (0.97-0.99)	**<0.001**	24 (1)
Transplant level			
Transplant era		**<0.001**	0 (0)
2005-2014	1.0		
1998-2004	2.65 (1.24-5.64)	0.01	
1986-1997	5.20 (2.63-10.3)	<0.001	
1970-1985	8.69 (4.41-17.1)	<0.00s	
Induction agent		**<0.001**	0 (0)
IL2-R[7] antibody	1.0		
Other	4.67 (2.71-8.04)	<0.001	
None/ Missing	4.48 (2.53-7.95)	<0.001	
HLA[8] mismatch (per mismatch)	1.16 (1.06-1.27)	**0.001**	312 (17)
Failed transplant	3.36 (2.77-4.07)	**<0.001**	0 (0)
Immunosuppression at transplant		**<0.001**	215 (12)
Tac[9]/MMF[10]/Pred[11]	1.0		
Cyc[12]MMF/Pred	2.54 (1.11-5.75)	0.03	
Cyc/Aza[13]/Pred	4.08 (1.95-8.52)	<0.001	
Aza/Pred	5.32 (2.54-11.14)	<0.001	
Other	4.73 (2.28-10.05)	<0.001	

1= 95% confidence interval, 2= End stage kidney disease, 3= Congenital anomalies of the kidney and urinary tract, 4=Body mass index, 5= Cytomegalovirus, 6= Epstein Barr virus 6= Panel reactive antibody, 7= Interleukin 2 receptor, 8= Human leucocyte antigen 9 =Tacrolimus, 10 = Mycophenolate, 11= Prednisone, 12=Cyclosporine, 13= Azathioprine

Supplementary Table 2. Factors associated with cardiovascular mortality after kidney transplantation during childhood and adolescence

a) Death censored analysis

Variable	Adjusted Hazard Ratio, 95%CI[1]	p value
Deceased donor	1.73 (1.21-2.46)	0.003
Transplant era		<0.001
2005-2014	0.25 (0.08-0.68)	0.007
1998-2004	0.14 (0.05-0.39)	<0.001
1986-1997	0.63 (0.46-0.92)	0.01
1970-1985	1.0	
Failed transplant	5.21 (3.75-7.25)	<0.001

b) Competing risks analysis

Variable	Adjusted Hazard Ratio, 95%CI[1]	p value
Deceased donor	1.59 (1.12-2.27)	0.009
Transplant era		<0.001
2005-2014	0.24 (0.09-0.66)	0.006
1998-2004	0.13 (0.05-0.31)	0.001
1986-1997	0.63 (0.43-0.88)	0.07
1970-1985	1	
Failed transplant	4.61 (3.33-6.40)	<0.001

1 95% confidence interval

Supplementary Table 3. Factors associated with infection-related mortality after kidney transplantation during childhood and adolescence
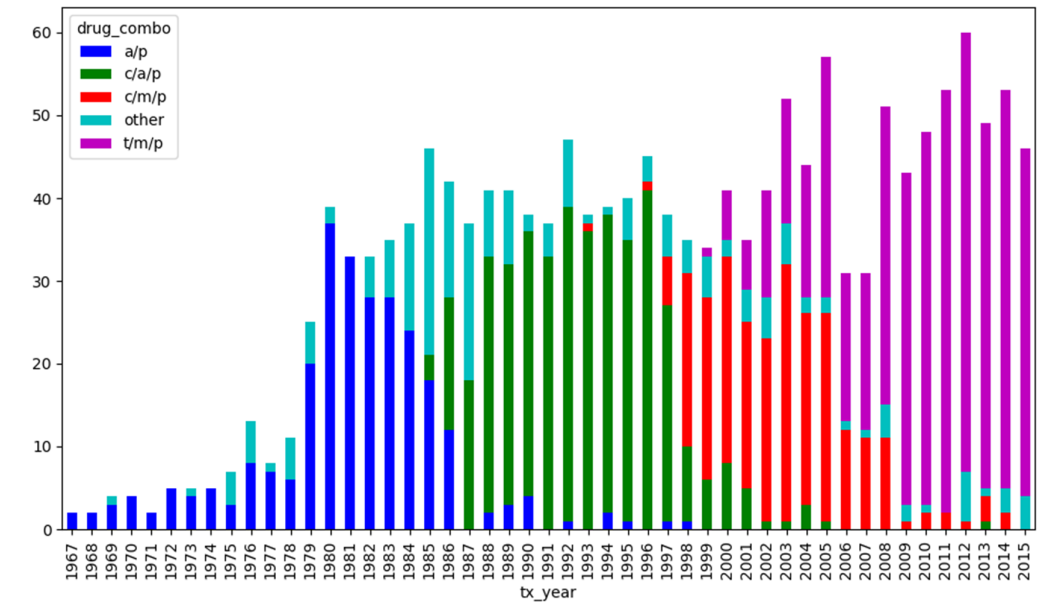
a) Death censored analysis

Variable	Adjusted Hazard Ratio, 95%CI[1]	p value
Deceased donor	1.76 (1.04-2.96)	0.03
Transplant era		0.05
2005-2014	0.16 (0.04-0.71)	0.01
1998-2004	0.49 (0.21-1.17)	0.11
1986-1997	0.91 (0.53-1.55)	0.71
1970-1985	1.0	
Failed transplant	1.61 (1.01-2.57)	0.05
Age at transplant (years)		0.01
0-1	4.97 (1.72-14.3)	0.002
2-10	1.01 (0.56-1.79)	0.99
11-19	1.0	

b) Competing risks analysis

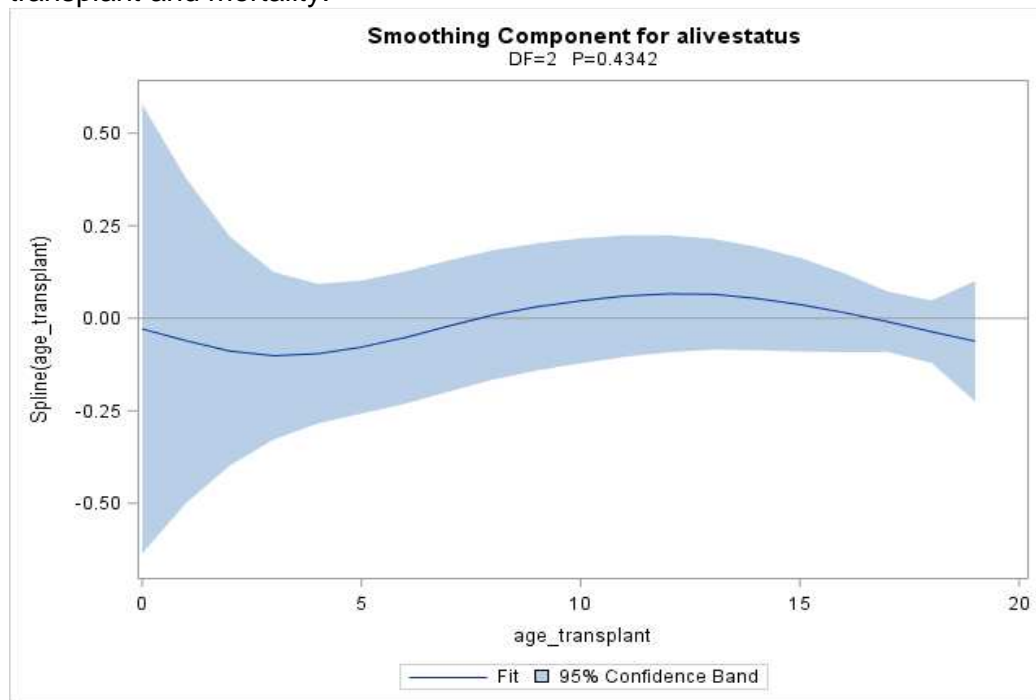| Variable	Adjusted Hazard Ratio, 95%CI[1]	p value
Deceased donor	1.68 (0.99-2.88)	0.05
Transplant era		0.006
2005-2014	0.16 (0.03-0.70)	0.01
1998-2004	0.52 (0.23-1.14)	0.51
1986-1997	0.93 (0.54-1.58)	0.78
1970-1985	1.0	
Failed transplant	1.39 (0.88-2.19)	0.15
Age at transplant (years)		0.02
0-1	4.78 (1.60-14.2)	0.005
2-10	1.01 (0.57-1.78)	0.98
11-19	1	

1 95% confidence interval

Supplementary Figure 1. Baseline immunosuppression over time.

a= azathioprine, p= prednisone, c=cyclosporine, m=mycophenolate, t=tacrolimus

Supplementary Figure 2. Spline demonstrating relationship between age at transplant and mortality.

Supplementary Figure 3. Study Flow.

1810 recipients of a kidney transplant
1970-2015
<20 years old at first transplant

60 (3%) lost to follow up

At end of survey

1070 (59%) alive with a functioning graft
249 (14%) alive on dialysis

248 (14%) died on dialysis
183 (10%) died with a functioning transplant