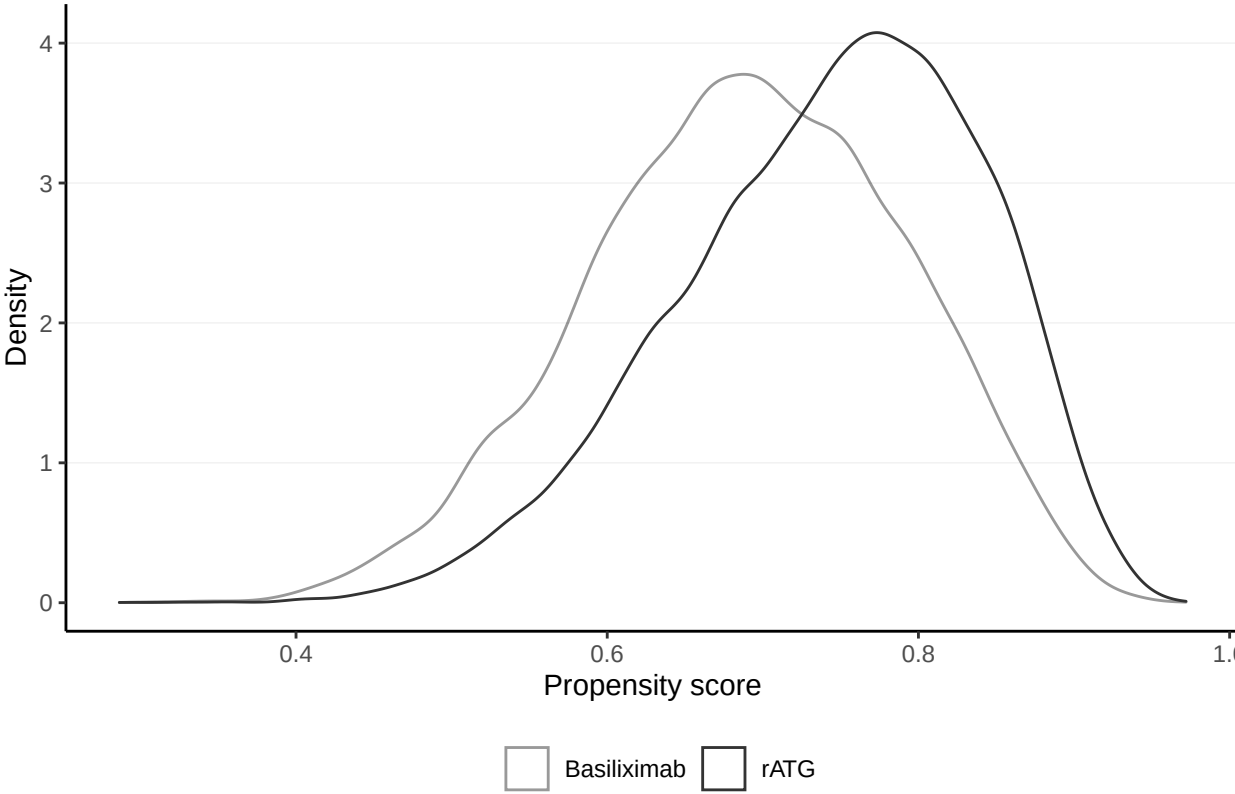
Density
4
3
2
1
0
0.4
0.6
0.8
1.0
Propensity score
Basiliximab
rATG

Figure S1. Estimated density of the propensity scores by induction agent (rabbit anti-thymocyte globulin vs. basiliximab) (n=39 336)

SDC, Materials and Methods

Multiple imputation

We checked that BMI (1.1%), years on dialysis (0.5%), PRA (32.5%), Zero HLA mismatch (0.2%), cold ischemia time (0.5%), and terminal serum creatinine (0.1%) has missingness in our dataset. We used multivariate imputation by chained equations (MICE) algorithm to address the missing data, which allows a binary variable (i.e. zero HLA mismatch) to take binary values. We chose 100 burn-in and used 20 imputation datasets. After getting coefficients from each dataset, we obtained one set of combined coefficients then estimated propensity scores.

SDC, Results

When comparing recipients with rATG (n=28 598) to those with alemtuzumab (n=7723), the relative hazard of discharge was 0.85 (95% CI:0.76-0.95) indicating that those with rATG had a 15% higher chance to be discharged on a given day after KT. Recipients with rATG were at a lower risk of acute rejection (aOR=0.87, 95% CI:0.80-0.96) compared those with alemtuzumab. The risk of death-censored graft failure was lower among recipients with rATG compared those with alemtuzumab (aHR=0.82, 95% CI:0.75-0.88). However, the risk of death-censored graft failure differed by recipient age (interaction p=0.02). The risk of death-censored graft failure was 0.85 (95% CI:0.78-0.93) among younger recipients and 0.67 (95% CI:0.56-0.81) among older recipients.

Association of rabbit anti-thymocyte globulin versus alemtuzumab with length of stay and post-KT outcomes among older and younger recipients between 2010-2016 (n=36 321)

	Overall (n=36 321)	Recipient age		
		18-64 (n=28 981)	65+ (n=7340)	Interaction P
Length of stay	0.85 (0.76-0.95)	0.83 (0.74-0.94)	0.94 (0.74-1.19)	0.38
Acute rejection	0.87 (0.80-0.96)	0.88 (0.80-0.97)	0.82 (0.64-1.03)	0.55
Death-censored graft failure	0.82 (0.75-0.88)	0.85 (0.78-0.93)	0.67 (0.56-0.81)	0.02
Death	0.95 (0.88-1.02)	0.99 (0.90-1.08)	0.90 (0.80-1.02)	0.24

Table S1. Comparison of absolute standardized mean differences before or after weighting.

Covariate	Unadjusted	Adjusted
Recipient age (65+)	0.175	0.025
Female sex	0.178	0.004
Race and ethnicity	0.051	0.001
Attended college	0.078	0.001
BMI	0.082	0.009
Cause of ESKD	0.051	0.032
Years on dialysis	0.087	0.018
Peak PRA	0.384	0.115
HCV+	0.091	0.007
Medicare as primary insurance	0.021	0.017
Transplant year	0.055	0.017
Zero HLA mismatch	0.039	0.013
ABO incompatibility	0.024	0.019
Cold ischemic time	0.155	0.040
Delayed graft function	0.077	0.023
Donor age	0.047	0.030
Donor female sex	0.014	0.004
Donor race	0.054	0.003
Terminal serum creatinine	0.068	0.010
Expanded donor criteria	0.034	0.033
kidney donation after circulatory death	0.163	0.003

BMI, body mass index; ESKD, end-stage kidney disease; PRA, panel reactive antigens; HCV, hepatitis C virus; HLA, human leukocyte antibody

Table S2. E-values

	Overall		Recipient age 18-64		65+	
E-values	Estimate	CI	Estimate	CI	Estimate	CI
Length of stay	1.3	1	1.38	1.09		
Acute rejection	1.85	1.63	1.74	1.43	2.3	1.81
Death-censored graft failure						
Death			1.44	1.23		

CI, confidence interval