

Supplementary Information

Table S1. Primary kidney diseases

Parameter	Entire cohort (n = 337)	Without ABMR (n = 295)	ABMR (n = 42)	P value
Underlying kidney diseases				
CAKUT, n (%)	123 (36.5)	109 (36.9)	14 (33.3)	0.776
Cystic kidney disease, n (%)	59 (17.5)	52 (17.6)	7 (16.7)	0.990 [#]
FSGS, n (%)	39 (11.6)	33 (11.2)	6 (14.3)	0.605 [#]
Other, n (%)	29 (8.60)	23 (7.80)	6 (14.3)	0.232 [#]
Syndrome-related kidney disease, n (%)	23 (6.82)	20 (6.78)	3 (7.14)	0.990 [#]
aHUS or MPGN, n (%)	19 (5.64)	16 (5.42)	3 (7.14)	0.717 [#]
Congenital nephrotic syndrome, n (%)	12 (3.56)	9 (3.05)	3 (7.14)	0.178 [#]
IgA- or vasculitis-associated nephropathy, n (%)	6 (1.78)	6 (2.03)	0	1.00 [#]
Unknown cause of kidney failure, n (%)	27 (8.01)	27 (9.15)	0	0.034 [#]

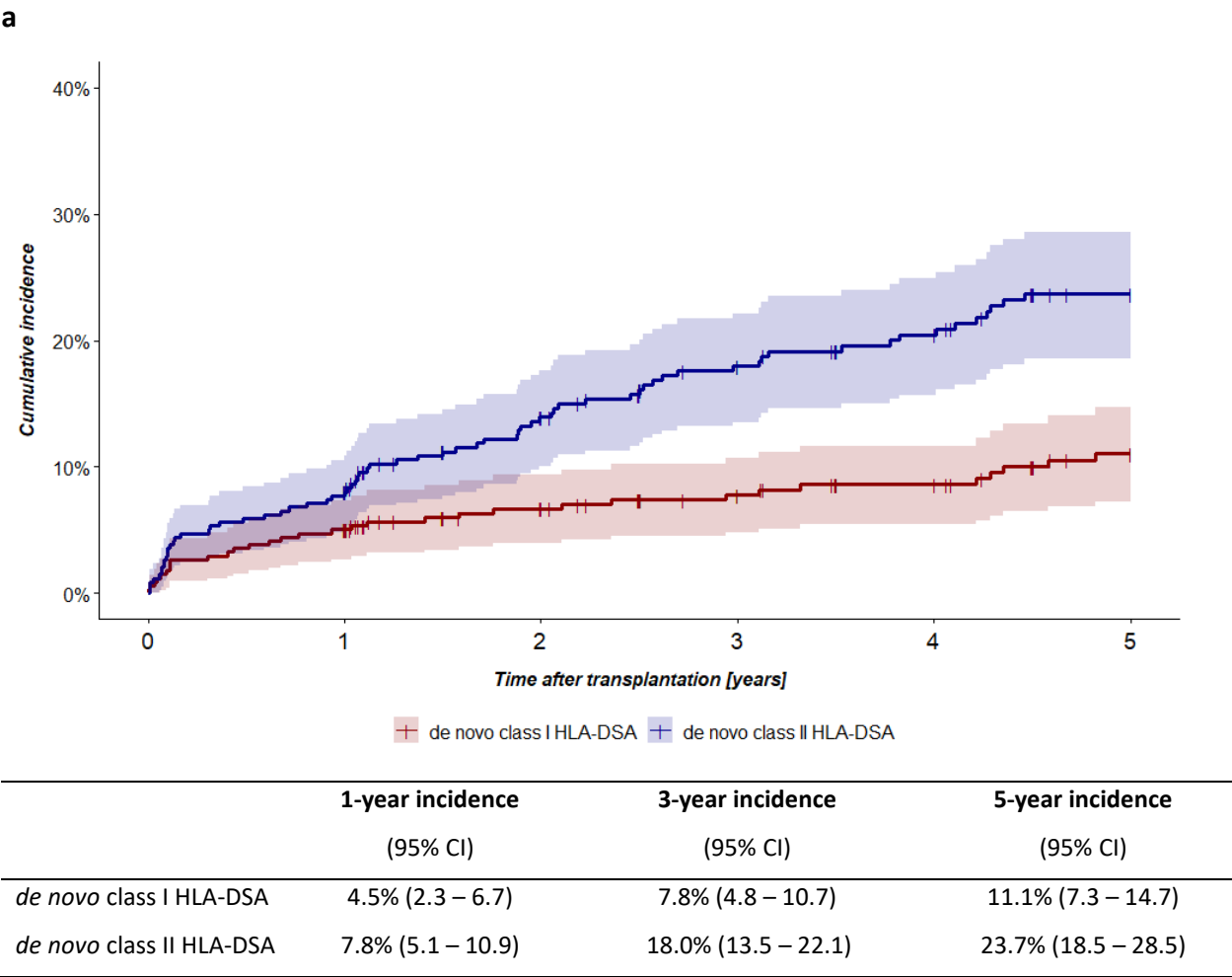
CAKUT, congenital anomalies of the kidney and urinary tract. FSGS, focal-segmental glomerulosclerosis. aHUS, atypical hemolytic uremic syndrome. MPGN, membranoproliferative glomerulonephritis. The respective frequencies of the primary kidney diseases in the two patient cohorts were compared by Chi-square test or by Fisher's exact test (marked by #).

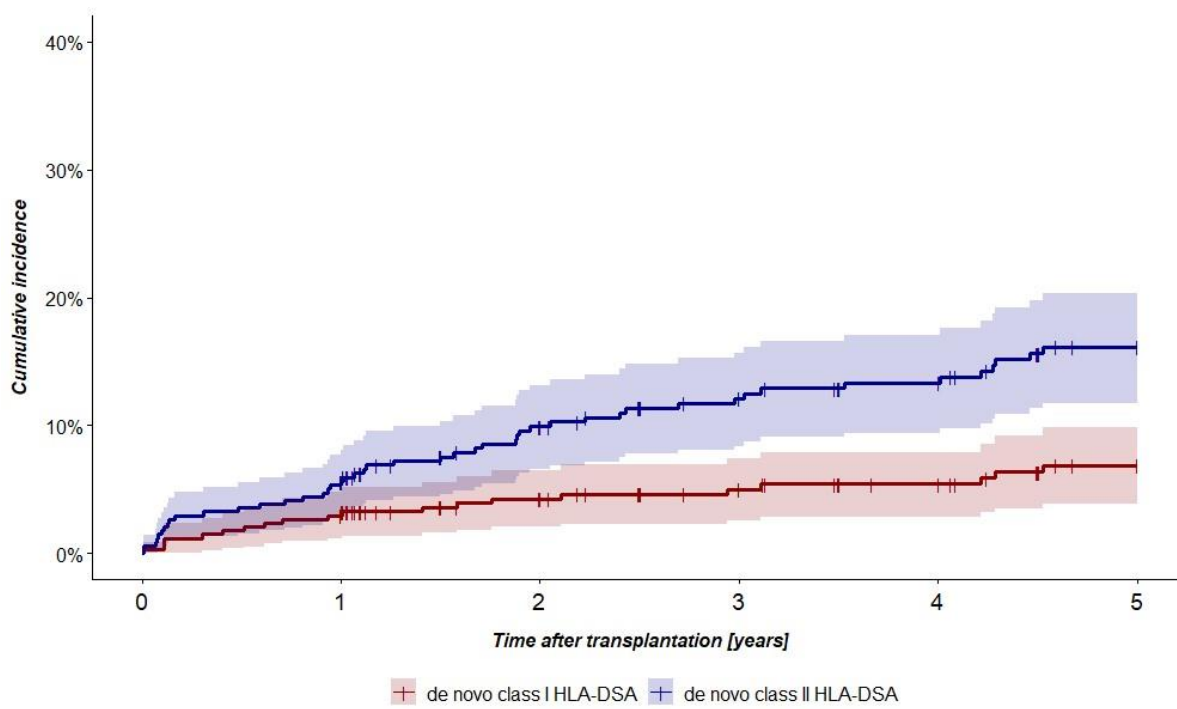
Table S2. Immunosuppressive regimens in patients with the CMV serostatus “donor and recipient seronegative” and in patients with the CMV serostatus “donor and/or recipient seropositive”

Parameter	Entire cohort (n=337)	CMV serostatus donor negative/ recipient negative (n=115)	CMV serostatus donor and/or recipient positive (n=222)	P value
Initial immunosuppressive regimen ¹				
Desensitization procedure, n (%)	15 (4.45)	2 (1.74)	13 (5.86)	0.099 [#]
IL-2R antibody induction, n (%)	145 (43.0)	42 (36.5)	103 (46.4)	0.105
Tacrolimus, n (%)	269 (79.8)	88 (76.5)	181 (81.5)	0.346
Mycophenolate mofetil, n (%)	293 (86.9)	102 (88.7)	191 (86.0)	0.606
Azathioprine, n (%)	28 (8.31)	6 (5.22)	22 (9.91)	0.152 [#]
Glucocorticoids, n (%)	328 (97.3)	111 (96.5)	217 (97.7)	0.497
Maintenance immunosuppressive regimen ²				
Tacrolimus, n (%)	267 (79.2)	87 (75.7)	180 (81.1)	0.269
Mycophenolate mofetil, n (%)	256 (76.0)	89 (77.4)	167 (75.2)	0.812
Azathioprine, n (%)	28 (8.31)	7 (6.09)	21 (9.46)	0.405 [#]
Glucocorticoids, n (%)	283 (84.0)	96 (83.5)	187 (84.2)	0.909

IL-2R, interleukin 2 receptor. ¹Until day 30 posttransplant. ²at 12 months posttransplant. The respective frequencies of the immunosuppressive regimens between the two patient cohorts were compared by Chi-square test or by Fisher’s exact test (marked by [#]).

Fig. S1. Cumulative incidence of peristent *de novo* HLA-DSA during the first 5 years posttransplant. Panel A, data reported by the respective transplant centers according to the center-specific cut-off for HLA-DSA positivity; panel B, data calculated using a uniform MFI cut-off value of 1400, as recommended for multicenter studies (9).



b

	1-year incidence (95% CI)	3-year incidence (95% CI)	5-year incidence (95% CI)
<i>de novo</i> class I HLA-DSA	3.0% (1.1 – 4.8)	5.0% (2.6 – 7.4)	6.9% (3.9 – 9.8)
<i>de novo</i> class II HLA-DSA	5.6% (3.1 – 8.1)	12.1% (8.4 – 15.7)	16.1% (11.7 – 20.4)