Supplemental Digital Content

Table S1. Distribution of Banff severity scores at 6 months posttransplant. Numbers reflect percentages of 6-month surveillance biopsies with scores of 0, 1, 2, or 3 for each Banff lesion according to SCI status. SCI, subclinical inflammation; NMA, no major surveillance abnormalities.

Banff Injury Lesion (% with score of 0, 1, 2, 3)	All (n=441)	SCI (n=137)	NMA (n=304)	*P*-value
tubulitis (t)	72%, 17%, 7%, 4%	10%, 56%, 23%, 11%	100%, 0%, 0%, 0%	< 0.0001
interstitial inflammation (i)	89%, 8%, 2%, 1%	63%, 27%, 8%, 2%	100%, 0%, 0%, 0%	< 0.0001
intimal arteritis (v)	98%, 1%, 1%, 0%	95%, 4%, 1%, 0%	100%, 0%, 0%, 0%	< 0.0001
total inflammation (ti)	37%, 57%, 4%, 2%	6%, 79%, 10%, 5%	51%, 48%, 1%, 0%	< 0.0001
inflammation in scarred areas (i+IFTA)	46%, 53%, 1%, 0%	37%, 60%, 3%, 0%	51%, 48%, 1%, 0%	0.01
glomerulitis (g)	92%, 6%, 2%, 0%	83%, 10%, 7%, 0%	96%, 4%, 0%, 0%	< 0.0001
peritubular capillaritis (ptc)	95%, 3%, 2%, 0%	85%, 9%, 6%, 0%	99%, 1%, 0%, 0%	< 0.0001
interstitial fibrosis (ci)	71%, 27%, 2%, 0%	59%, 34%, 6%, 1%	76%, 23%, 1%, 0%	0.0002
tubular atrophy (ct)	32%, 65%, 3%, 0%	24%, 69%, 6%, 1%	36%, 63%, 1%, 0%	0.001
chronic vasculopathy (cv)	61%, 27%, 10%, 2%	53%, 29%, 16%, 2%	63%, 27%, 8%, 2%	0.05
transplant glomerulopathy (cg)	97%, 3%, 0%, 0%	96%, 4%, 0%, 0%	97%, 3%, 0%, 0%	0.44
mesangial matrix increase (mm)	93%, 6%, 1%, 0%	90%, 8%, 1%, 1%	94%, 6%, 0%, 0%	0.30
arteriolar hyalinosis (ah)	81%, 14%, 4%, 1%	77%, 18%, 5%, 0%	83%, 12%, 4%, 1%	0.21
C4d staining of peritubular capillaries (C4d)	95%, 3%, 2%, 0%	93%, 4%, 2%, 1%	96%, 3%, 1%, 0%	0.48

Table S2. Outcomes According to Treatment of Surveillance Phenotypes. Comparison of outcomes after the 6-month surveillance biopsy according to whether surveillance findings were treated with increased immunosuppression or observed expectantly. The *P*-values represent comparisons between the treated and observed subgroups within each subclinical inflammation phenotype by Mann-Whitney-U test (continuous variables) or chi-square/Fisher's exact test (categorical variables). Continuous variables are presented as mean ± standard error. SCI, subclinical inflammation; SC-B-TCMR, subclinical borderline T cell-mediated rejection; SC-TCMR, subclinical T cell-mediated rejection; SC-MVI, subclinical microvascular injury.

Outcome	All SCI (n=137)		
	Treated (n=60)	Observed (n=77)	*P*-value
Triple Composite Endpoint (no, %)	10 (17%)	7 (9%)	0.18
Acute rejection after surveillance (no., %)	6 (10%)	5 (7%)	0.45
TCMR (no. %)	1 (2%)	2 (3%)	0.61
ABMR/Mixed(no., %)	5 (8%)	3 (4%)	
Death-censored graft failure (no, %)	5 (8%)	4 (5%)	0.39
Death (no, %)	2 (3%)	0 (0%)	0.19
Estimated GFR (mL/min/1.73 m2), 12 months	53 ± 2.5 (n=50)	54 ± 2.2 (n=69)	0.91
Estimated GFR (mL/min/1.73 m^2), 24 months	57 ± 2.8 (n=35)	54 ± 3.5 (n=35)	0.28
Estimated GFR decline > 30%, 6-24 months	2/32 (6%)	2/39 (5%)	1.00

Outcome	SC-B-TCMR (n=102)			SC-TCMR (n=15)			SC-MVI (n=20)		
	Treated (n=37)	Observed (n=65)	*P*-value	Treated (n=10)	Observed (n=5)	*P*-value	Treated (n=13)	Observed (n=7)	*P*-value
Triple Composite Endpoint (no, %)	6 (16%)	7 (11%)	0.43	0 (0%)	0 (0%)	N/A	4 (31%)	0 (0%)	0.25
Acute rejection after surveillance (no., %)	3 (8%)	5 (8%)	1.00	0 (0%)	0 (0%)	N/A	3 (23%)	0 (0%)	0.52
TCMR (no. %)	1 (3%)	3 (5%)	0.82	0 (0%)	0 (0%)	N/A	0 (0%)	0 (0%)	0.52
ABMR/Mixed(no., %)	2 (5%)	3 (5%)		0 (0%)	0 (0%)		3 (23%)	0 (0%)	
Death-censored graft failure (no, %)	3 (8%)	4 (6%)	0.70	0 (0%)	0 (0%)	N/A	2 (15%)	0 (0%)	0.39
Death (no, %)	2 (5%)	0 (0%)	0.13	0 (0%)	0 (0%)	N/A	0 (0%)	0 (0%)	N/A
Estimated GFR (mL/min/1.73 m2), 12 months	54 ± 3.2 (n=32)	55 ± 2.4 (n=60)	0.68	50 ± 4.9 (n=8)	41 ± 3.3 (n=4)	0.46	52 ± 6.8 (n=10)	61 ± 9.2 (n=5)	0.59
Estimated GFR (mL/min/1.73 m^2), 24 months	60 ± 3.3 (n=23)	55 ± 3.8 (n=39)	0.19	53 ± 3.6 (n=6)	36 ± 1.0 (n=2)	0.07	52 ± 9.7 (n=6)	64 ± 5.6 (n=2)	0.64
Estimated GFR decline > 30%, 6-24 months	1/20 (5%)	2/34 (6%)	1.00	1/5 (20%)	0/2 (0%)	1.00	0/7 (0%)	0/3 (0%)	N/A

Figure S1. Time to Composite Endpoint According to Subclinical BKVAN Status at 6 Months Posttransplant. Kaplan-Meier plot comparing time to the composite endpoint between the subclinical BK virus-associated nephropathy group (SC-BKVAN) group and the no major surveillance abnormalities group (NMA) using the log-rank test. Hatch marks represent censored cases in each group.

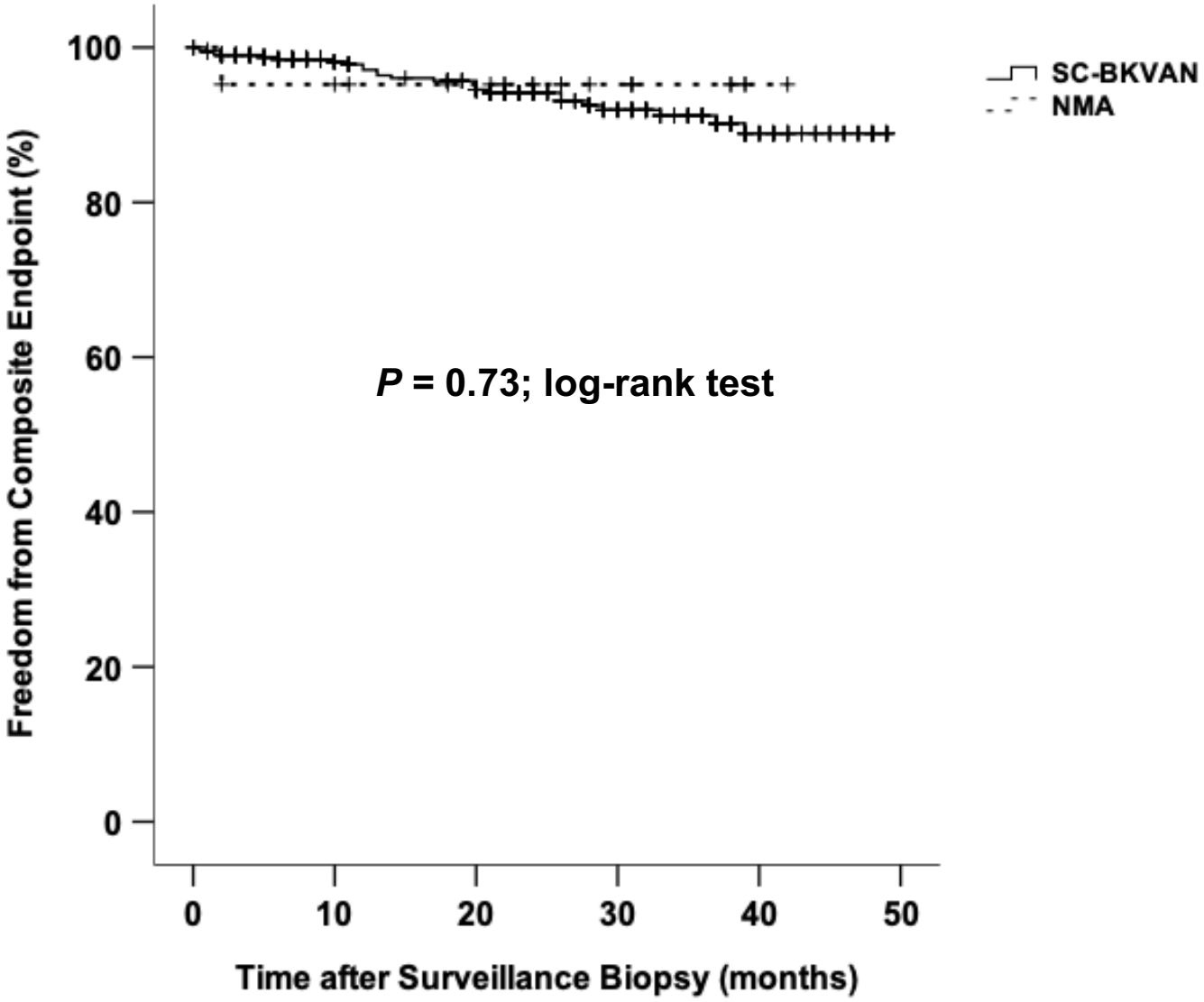

Figure S2. Sensitivity Analysis of the Time to Composite Endpoint According to Presence of Subclinical Inflammation. Kaplan-Meier plot comparing time to the composite endpoint between the subclinical inflammation group (SCI) and the no major surveillance abnormalities group (NMA) using the log-rank test, after excluding all subclinical BK virus-associated nephropathy (SC-BKVAN) cases in a sensitivity analysis. Hatch marks represent censored cases in each group.