	Elementary lesions definition					
	Glomeruli					
Globally sclerotic	Sclerotic remnant of glomerulus consisting of extracellular material.					
glomeruli						
Ischemic glomeruli	Glomerulus showing collapse of capillary tuft ± thickening of Bowman's capsule.					
Glomerular	Includes acute features: fibrinoid necrosis, mesangiolysis, fibrinoid thrombi in the					
thrombotic	glomerular capillaries, endothelial swelling, and chronic features: duplication of the					
microangiopathy	glomerular basement membrane.					
Focal and segmental	Presence of segmental scarring that involves a part of the glomerulus.					
glomerulosclerosis						
0	Vessels					
Arteriolar	Accumulation of eosinophilic, amorphous material in arteriolar wall. The extent of					
hyalinosis	arteriolar hyalinosis is evaluated according to the Banff ah lesion:					
	ah0—No arteriolar hyalinosis					
	<b>ah1</b> —Hyalinosis in only 1 arteriole, without circumferential involvement.					
	<b>ah2</b> —Hyalinosis in more than 1 arteriole, without circumferential involvement.					
	<b>ah3</b> —Hyalinosis with circumferential involvement, independent of the number of					
Autovialau	arterioles involved.					
Arteriolar	footures: intimal fibrosis with fibrous actorialar acclusion					
thrombotic						
microangiopathy						
Arteriolar myöcyte	Vacuolization of the smooth muscle cells of the media of arterioles and small arteries.					
vacuolization						
Arteriosclerosis	Accumulation of fibrous tissue in the intima resulting in intimal thickening. May be					
	associated with intimal fibroelastosis. The extent of arterial intimal fibrosis is					
	<b>cv0</b> —No chronic vascular changes					
	<b>cv1</b> —Vascular narrowing of up to 25% luminal area by fibrointimal thickening.					
	<b>cv2</b> —Vascular narrowing of 26 to 50% luminal area by fibrointimal thickening.					
	cv3—Vascular narrowing of more than 50% luminal area by fibrointimal thickening.					
Fibrous arterial	Occlusion of the lumen of arteries may be related to severe intimal thickening or to					
occlusion	occlusive thrombosis.					
Arterial thrombosis	Includes recent or chronic recanalized thrombosis in arteries.					
Mucoid intimal	Accumulation of edematous extracellular matrix in intima.					
thickening						
	Tubulointerstitial compartment					
Interstitial fibrosis	Expansion of normal interstitial connective tissue by increased					
and tubular	collagen, usually accompanied by tubular atrophy. IF/TA is assessed as a percentage					
atrophy (IF/TA)	of the cortical area					
	<b>IF/TA 1</b> : $6\% \le CI \le 25\%$ and/or $0\% \le CI \le 25\%$					
	IF/TA 3: 50 <ci 50%<ct<="" and="" or="" th=""></ci>					
Inflammation (i)	Degree of inflammation in nonscarred areas of cortex.					
	<b>i0</b> —No inflammation or less than 10% of unscarred cortical parenchyma					
	i1—Inflammation in 10% to 25% of unscarred cortical parenchyma					
	i2—Inflammation in 26% to 50% of unscarred cortical parenchyma					
	i3—Inflammation in >50% of unscarred cortical parenchyma					
Total inflammation	Evaluates the extent of total cortical inflammation in scarred and unscarred cortical					
(ti)	parenchyma					
Inflammation in	Evaluates the extent of inflammation in scarred cortex					
fibrosis (i-IFTA)	i-IFTA0—No inflammation or less than 10% of cortical parenchyma with interstitial					
	TIDROSIS and tubular atrophy.					
	-irial minimution in 10% to 25% of cortical parenchyma with interstitial fibrosis					
	מות נתסתומו מנוסטווץ.					

## Supplementary Table S1: Definition of elementary histological lesions and main diagnosis

	i-IFTA2—Inflammation in 26% to 50% of cortical parenchyma with interstitial fibrosis
	and tubular atrophy.
	I-IFIA3—Inflammation in >50% of cortical parenchyma with interstitial fibrosis and
Tubulitis (t)	Presence of mononuclear cells in the basolateral aspect of the renal tubule
	epithelium. Lesion score t should only be scored in "preserved" areas of cortex.
	defined as areas without interstitial fibrosis, in non-atrophic, mildly atrophic and
	moderately atrophic tubules.
	t0—No mononuclear cells in tubules or single focus of tubulitis only.
	t1-2 or more foci with 1 to 4 mononuclear cells/tubular cross section (or 10 tubular
	cells).
	t2–2 or more foci with 5 to 10 mononuclear cells/tubular cross section (or 10 tubular
	cells). $12 - 2$ and $5 - 2$ is the 10 mean and $1 - 2$ is the large set in the second set in the second set in the second set is $1 - 2$ is the second set in the second set is $1 - 2$ is t
	$t_3$ – 2 or more foci with >10 mononuclear cells/tubular cross section or the presence
	of 22 areas of tubular basement membrane destruction accompanied by 12/13
Pyl (nolyoma virus	Evaluates the percentage of tubules in the bionsy with at least one viral inclusion
	and/or positive staining for SV40 antigen.
1000)	<b>pvl 1</b> : <1% of the tubules
	pvl 2:1-10% of the tubules
	pvl 3: >10% of the tubules
Crystals	Crystals were observed with polarization and classified as refringent or non-refringent
	crystals. The number of crystals per x20 power field was given and corresponded to
	the ratio of the total number of crystals observed on the number of x20 power fields
NA	In the biopsy.
Iviacrovacuolizations	with picpotic puclei. The extent of macrovacuolization was scored according to the
	fraction of tubules with vacuoles at x10 magnification
	0: absent
	1: <25%
	2: 25-50%
	3: >50%
Microvacuolizations	Microvacuolizations were defined as small isometric vacuoles. The extent of
	microvacuolization was scored according to the fraction of tubules with vacuoles at
	x10 magnification
	0: absent
	2. 25.50%
	3: >50%
Acute tubular	ATN was defined as tubular luminal dilatation, simplification of the lining epithelium
necrosis (ATN)	and loss of the brush border in proximal tubules with sometimes denudation of the
	basement membrane. ATN extent was scored according to the percentage of cortical
	surface with lesions:
	0: absent
	1: <25% 2: 2E E0%
	2: 25-50% 3: >50%
	Definition of main diagnosis
Diabetes: diagnosed a	as the presence of nodular PAS positive lones positive glomerulosclerosis with
negative immunofluor	escence
IgA nephropathy: diag	prosed in the presence of predominant IgA mesangial deposits by
immunofluorescence	hosed in the presence of predominant ign mesanglar deposits by
Thrombotic microangi	iopathy: diagnosed in the presence of glomerular and/or arteriolar TMA lesions
Amvloidosis: diagnose	ed in the presence of Congo red positive deposits
BK virus nephronathy	: diagnosed in the presence of BK viral inclusions and/or SV40 positive staining
Arteriosclerosis: defin	ed as the presence of cylesions of 2 or 3
Acuto tubular norradi	re defined as the presence of ATN locions of 2 or 2

Acute tubular necrosis: defined as the presence of ATN lesions of 2 or 3 Acute CNI toxicity: was arbitrary defined as the presence of microvacuolizations lesions of 2 or 3 **Crystalline nephropathy:** defined as the presence of at least one crystal **No specific chronic lesions:** defined as the presence of isolated grade 2/3 IFTA and/or grade 2/3 ah lesions without significant arteriosclerosis (cv0 or 1) or other diagnosis **Subnormal kidney:** biopsy not fulfilling the above criteria

Before surgery	Patients (n=100)	MD
Sex (females), n (%)	45 (45)	0
Location of transplantation, n (%)		0
Center 1	33 (33)	
Center 2	35 (35)	
Center 3	22 (22)	
Center 4	10 (10)	
Year of transplantation, n (%)		0
Before 2000	2 (2)	
2000-2004	7 (7)	
2005-2009	19 (19)	
2010-2014	31 (31)	
2015-2019	36 (36)	
2020-2021	5 (5)	
Pathologies leading to transplantation, n (%)		0
Cystic fibrosis	45 (45)	
Pulmonary fibrosis	20 (20)	
Emphysema after tobacco exposure	19 (19)	
Other*	16 (16)	
Age (years) median [IOR] (min-max)	40 4 [25 8-54 5] (13-66)	Ο
BMI median [IQR]	20 3 [18 0-23 0]	1/
Diabatas mellitus n (%)	19 (19 6)	2
Arterial hypertension n (%)	13 (14 3)	9
eGER (ml/min/1 73 $m^2$ ) median [IOR]	112 [98 5-129]	8
Presence of donor specific antibody (MEI>500) n (%)	34 (57 6)	<u>4</u> 1
	01(0)10)	
Super-emergency procedure n (%)	16 (16)	0
Bi-nulmonary graft n (%)	91 (91)	0
Max graft ischemia time (mins) mean (SD)	380 9 (125)	7
Extra-corporeal circulation, n (%)	00010 (110)	9
СРВ	28 (30.8)	-
ECMO**	34 (37.4)	
None	30 (32.9)	
Post-surgery	, , , , , , , , , , , , , , , , , , ,	
Extubation before 72 hours, n (%)	46 (48.9)	7
Acute Kidney Injury, n (%)	- ( )	12
Νο	17 (19.3)	
KDIGO 1	31 (35.2)	
KDIGO 2	13 (14.8)	
KDIGO 3 (Including hemodialysis)	27 (30.7)	
Hemodialysis, n (%)	13 (13.7)	5
Immunosuppressive treatment		
Induction therapy, n (%)	52 (56.5)	8
rATG	36 (69.0)	
Basiliximab	16 (31.0)	
Maintenance treatment, n (%)		3
Steroids	97 (100)	
Tacrolimus	80 (82.5)	
Cyclosporine	17 (17.5)	
Mycophenolate	88 (90.7)	
Azathioprine	8 (8.3)	
M-Tor inhibitors	2 (2.1)	

# Supplementary Table S2: Characteristics of the population at the time of lung transplantation

MD: Missing data. \* Alpha1 antitrypsin deficit (n=3), Pulmonary arterial hypertension (n=5), bronchiectasis (n=3), bronchiolitis (n=3), hemosiderosis (n=1), pleuroparenchymal fibroelastosis (n=1). IQR: Interquartile range. BMI: Body mass index. eGFR<sup>:</sup>

Estimated Glomerular rate filtration by CKD EPI 2021 or SCHWARTZ formula. MFI: Mean fluorescence intensity. rATG: Rabbit anti thymocyte globulin. CBP: Cardiopulmonary bypass, \*\*ECMO: Extra corporal membrane oxygenation (initiated on pre-operative for transplantation in super-emergency for 6 patients).

### Supplementary Table S3: Histopathological finding on the kidney biopsy

Glomerular involvement	n	MD	Vascular involvement	n	MD
% of glomerulosclerosis ≤5	31	0	Arteriolar hyalinosis	85	2
5-25	33		Mild	28	
25-50	18		Moderate	32	
> 50	18		Severe	25	
Focal segmental glomerulosclerosis	29	0			
Diabetes	6	1	Vascular fibrous intimal thickening	79	8
AA Amyloidosis	2	0	Mild (narrowing <= 25%)	30	
Glomerular ischemia (>1)	66	0	Moderate (26 and 50%)	36	
		-	Severe (narrowing > 50%)	13	
			Combined moderate to severe	36	9
			arteriolar and arterial lesions		-
Glomerular TMA	16	0	Arteriolar TMA	17	0
Acute	15		Acute	10	
Acute and chronic	1		Chronic	3	
			Acute and chronic	4	
Immunofluorescence IgA staining	2	7	Myocytes vacuolization	9	1
Tubulointerstitial involvement	n	MD	Final diagnoses		n
Acute Tubular Necrosis	72	2			
Mild	49				
Moderate to severe	23				
IF/TA	96	0	Arteriosclerosis		49
Mild (5-25% of the cortical surface)	35	-			
Moderate (25-50%)	33		ТМА	2	24
Severe (>50% of the cortical surface)	28				
	-		Acute CNI toxicity		18
		-		-	
Inflammation in fibrous areas > 10%	32	0	Acute tubular pecrosis		22
- Associated with Inflammation in	2		Acute tubular necrosis	4	25
non-fibrous areas > 10%			Diskatas		c
- Total inflammation representing	11		Diabetes		6
>10% of cortical area					
Division and have a the	4	0	BK-virus nephropathy		4
BK VIrus nephropathy	4	0			
The level to be		0	AA amyloidosis		2
	11	0			
Crystals	18	0	IgA nephropathy		2
Calcium oxalate	6				
Calcium phosphate	12		Nonspecific chronic lesions		11
Tubular macrovacuolization	15	2		-	-
Tubular isovolumetric vacuolization	52	2	"Subnormal" biopsy		10
Mild	34		Subilorniai biopsy	-	10
Moderate to severe	18				

MD: Missing data, TMA: Thrombotic microangiopathy, IF/TA: Interstitial fibrosis Tubular atrophy, CNI: Calcineurin Inhibitors

	Early kidney biopsy	Middle-term kidney biopsy	Late kidney biopsy	P value
	(< 2 years)	(2 – 5 years)	(> 5 years)	
n N li liopì	46	22	32	
% of glomerulosclerosis, median [IQR]	5 [0-13]	10 [5-25]	52.8 [41-68]	p<0.001
FSGS, n (%)	6 (13)	4 (18.2)	19 (59.4)	p<0.0001
Histologic TMA, n (%)	16 (34.8)	4 (18.2)	4 (12.5)	p=0.020
Moderate to severe IF/TA, n (%)	22 (47.3)	15 (68.2)	24 (75)	p=0.013
IF/TA score, mean (SD)	1.6 (0.9)	2.0 (0.8)	2.1 (0.8)	P=0.01
Moderate to severe CV, n (%)	21 (45.7)	8 (36.4)	20 (62.5)	NS
CV score, mean (SD)	1.52 (0.9)	1.25 (1.0)	1.73 (0.8)	NS
Moderate to severe AH, n (%)	22 (47.8)	10 (45.4)	25 (78)	p=0.003
AH score, mean (SD)	1.5 (1)	1.3 (0.8)	2.3 (0.9)	P<0.001
Moderate to severe ATN, n (%)	12 (26.1)	6 (27.3)	5 (15.6)	NS
ATN score, mean (SD)	1 (0.8)	1.1 (0.7)	0.8 (0.7)	NS
Tubular microvacuolization, n (%)	30 (66.7)	10 (45.5)	12 (38.7)	P=0.013
Tubular macrovacuolization, n (%)	4 (8.9)	4 (18.2)	7 (22.6)	NS
Myocyte vacuolization, n (%)	7 (15.2)	0	2 (6.45)	NS
Presence of crystals, n (%)	10 (21.8)	4 (18.2)	4(12.5)	NS
Acute CNI toxicity, n (%)	11 (23.9)	4 (18.2)	3 (9.4)	NS
BK virus nephropathy, n (%)	1 (2.2)	2 (9.1)	1 (3.1)	NS
Diabetic nephropathy, n (%)	1 (2.2)	1 (4.6)	4 (12.9)	NS
eGFR (ml/min/1.73 m²), mean (SD)	34.1 (17.5)	36 (23.9)	41.3 (20.1)	NS
Therapeutic impact of KB, n (%)	26 (56.5)	11 (50)	10 (31.3)	p=0.03

Supplementary Table S4: Association between the delay of lung transplantation/kidney biopsy and clinical/histological parameters at kidney biopsy

\* p value for Chi2/T student for categorial value or Wilcoxon/ttest for continues values. IQR: Interquartile range. SD: Standard deviation. FSGS: Focal segmental glomeruosclerosis. TMA: Thrombotic microangiopathy IF/TA: Interstitial fibrosis tubular atrophy. CV: vascular fibrous intimal thickening. AH: Arteriolar hyalinosis. ATN: Acute tubular necrosis. CNI: Calcineurin inhibitors. BKV: BK virus. eGFR: Estimated Glomerular filtration rate by CDK EPI 2021. KB: Kidney biopsy Supplementary Table S5: Association between eGFR or PCR and histological parameters at kidney biopsy

	eGI (ml/min/1	FR at the Kl 73m <sup>2</sup> ), me	B ean (SD)	PCR (	g/g), median [	[IQR]
Histological Parameters	Absent	Present	pValue*	Absent	Present	pValue**
FSGS	36.5 (19.7)	37.7 (21.0)	p=0.80	0.38 [0.2- 1.2]	2.1 [0.8-3.7]	p<0.001
Moderate to severe IF/TA	43.8 (24.7)	32.7 (15.3)	p=0.007	0.6 [0.2- 1.30]	0.55 [0.3- 2.6]	p=0.56
Moderate to severe AH	38.2 (20.1)	35.9 (20.1)	p=0.58	0.6 [0.2- 2.1]	0.6 [0.2-2.4]	p=0.88
Moderate to severe CV	39.5 (23.0)	34.0 (15.8)	p=0.17	0.5 [0.2- 1.6]	0.7 [0.3-2.5]	p=0.18
Moderate to severe ATN	36.8 (16.8)	37.1 (29.0)	p=0.94	0.5 [0.2- 1.8]	1.0 [0.4-4.0]	p=0.026
Histological TMA	39.2 (20.1)	29.6 (18.4)	p=0.04	0.5 [0.2- 2.0]	1.0 [0.4-2.7]	p=0.11
Presence of crystals	37.7 (21.1)	33.3 (14.4)	p=0.41	0.5 [0.2- 2.3]	0.6 [0.2-1.2]	p=0.87

\* **p** value for t-tests. \*\* **p** value for Wilcoxon test. eGFR: Estimated Glomerular filtration rate by CKD EPI 2021. PCR: urinary protein/creatinine ratio. SD: Standard deviation. IQR: Interquartile range. IF/TA: Interstitial fibrosis tubular atrophy. AH: Arteriolar hyalinosis. CV: vascular fibrous intimal thickening. ATN: Acute tubular necrosis. TMA: Thrombotic microangiopathy

KB traitements	CNI-MMF/AZA- STEROIDS	CNI-mTORi +/- MMF/AZA +/- STEROIDS	OTHERS	P value
Patients, n	59	32	9	
eGFR (ml/min/1.73 m²), mean (SD)	36.4 (20.4)	39.7 (21.6)	29.8 (5.8)	NS
PCR (g/g), median [IQR]	0.5 [0.2-1.8]	1.0 [0.4-2.7]	0.6 [0.2-1.4]	NS
Systemic TMA, n (%)	8 (13.6)	7 (21.9)	0	NS
Glomerular TMA, n (%)	8 (13.6)	6 (18.8)	2 (22.2)	NS
Arteriolar TMA, n (%)	7 (11.9)	9 (28.1)	1 (11.1)	P=0.042
Total histologic TMA, n (%)	10 (17.0)	12 (37.5)	1 (22.2)	P=0.03
Acute CNI toxicity, n (%)	14 (23.7)	3(9.4)	1(11.1)	NS
Glomerulosclerosis percent, mean (SD)	21.5 (26.1)	26.9 (23.3)	40.7 (28.6)	NS
FSGS, n (%)	14 (23.7)	13 (40.6)	2 (22.2)	NS
Moderate to severe IF/TA, n (%)	35 (59.3)	20 (62.5)	6 (66.7)	NS
Moderate-severe CV, n (%)	31 (52.5)	15 (46.9)	3 (33.3)	NS
Moderate-severe AH, n (%)	34 (57.6)	19 (59.4)	4 (44.4)	NS
Moderate-severe ATN, n (%)	17 (28.8)	5 (15.6)	1 (11.1)	NS
Presence of crystals, n (%)	11 (18.6)	5 (15.6)	2 (22.2)	NS
Time between LT and KB (months),	41.3 (6.6)	57.2 (8.0)	81.2 (22.8)	P=0.045
mean (SD)				

Supplementary Table S6: Association between the immunosuppressive treatment and clinical/histological parameters at kidney biopsy

\* p value for Chi2/T student for categorial value or Wilcoxon/ttest for continues values. eGFR: Estimated Glomerular filtration rate by CDK EPI 2021. KB: Kidney biopsy. CNI: Calcineurin inhibitor. mTORi: mTOR inhibitors. SD: Standard deviation. IQR: Interquartile range. PCR: urinary protein/creatinine ratio. IQR: Interquartile range. TMA: Thrombotic microangiopathy. FSGS: Focal segmental glomeruosclerosis. IF/TA: Interstitial fibrosis tubular atrophy. AH: Arteriolar hyalinosis. CV: vascular fibrous intimal thickening. ATN: Acute tubular necrosis. LT: Lung transplantation.

Details of treatments for patients identified as "Other immunosuppressive treatment"					
Patients ID	Maintenance immunosuppressive treatment				
3	Tacrolimus + Mycophenolate				
11	Steroids + Tacrolimus				
12	Tacrolimus + Mycophenolate				
13	Rapamycin + Mycophenolate				
14	Steroids + Mycophenolate + Everolimus				
25	Tacrolimus + Mycophenolate				
29	Steroids + Tacrolimus + Mycophenolate + Leflunomide				
30	Steroids + Tacrolimus + Leflunomide				
59	Steroids + Tacrolimus				

Covariates		N	HR	CI	p Value*		
Characteristics at the Lung transplantation							
eGFR (ml/min/1.73 m <sup>2</sup> )	129-225	24	-	-	-		
	112-129	23	1.2	0.5-2.8	0.8		
	98.7-112	22	1.3	0.5-3.3	0.6		
	<98.7	23	0.3	0.1-1.2	0.08		
Male sex		55	1.074	0.5-2.1	0.8		
Lung disease	Tobacco emphysema	19	-	-	-		
	Cystic fibrosis	45	1.61	0.6-4.3	0.34		
	Pulmonary fibrosis	20	0.94	0.25-3.5	0.93		
	Other	16	1.82	0.5-6.3	0.35		
Postoperative hemodialysis		13	2.7	1.1-6.2	0.023		
Acute kidney injury post LT	KDIGO 0	17	-	-	-		
	KDIGO 1	31	0.75	0.2-2.6	0.65		
	KDIGO 2	13	1.59	0.4-5.9	0.49		
	KDIGO 3	27	2.1	0.7-6.4	0.202		
Per operative cardiopulmonary bypass	natara at Kidnay hiana	28	1.55	0.7-3.3	0.26		
$\alpha$ CER > 20 ml/min/1 72 m <sup>2</sup>	neters at kidney blops	<b>y</b> 56	0.5	0210	0.07		
	< 21 T	25	0.5	0.3-1.0	0.07		
Age (years)	< 51.7 31 7 – <i>1</i> 7	25	11	0 5-2 7	0.8		
	47 – 56 5	25	1.1	0.5 2.7	0.0		
	> 56 5	25	0.5	0.2-1.6	0.1		
вмі	< 18.2	22	-	-	-		
	18.2 - 20.1	20	1.5	0.5-4.3	0.4		
	20.1-22.1	21	2.4	0.8-6.8	0.1		
	> 22.1	22	1.0	0.3-3.3	1.0		
Systemic TMA		15	0.15	0.02-1.1	0.07		
Proteinuria > 3 (g/g)		13	6.5	2.8-14.9	<0.001		
Diabetes		51	3.2	1.5-7.1	0.003		
Arterial hypertention		60	1.6	0.8-3.3	0.218		
CNI - mTor inhibitor combination		32	1.2	0.6-2.4	0.7		
Time between LT and KB, per year		100	1.08	1.0-1.2	0.01		
Time between first biological sign of renal injury and K	(B, per year	95	1.2	1.1-1.4	<0.001		
Histolog	ical characteristics	0.5	[	[	[		
% of glomerulosclerosis	0-4.4	25	-	-	-		
	4.4-13.4	25	2.0	0.5-8.1	0.3		
	13.4-43.5 \\12 E	25	4.Z	1.1-15.8	0.03		
Focal segmental glomerulosclerosis	243.3	20	22	2.0-3.5	<0.001		
Vascular Fibrous intimal thickening	Grade 0	13	-	-			
	Grade 1	30	0.7	0.2-2.3	0.5		
	Grade 2-3	49	1.4	0.5-4.1	0.5		
Arteriolar hyalinosis	Grade 0	13	-	-	-		
	Grade 1	28	2.0	0.4-9.5	0.4		
	Grade 2-3	57	3.4	0.8-14.6	0.1		
Moderate to severe interstitial fibrosis-tubular atroph	у	61	2.1	0.97-4.5	0.06		
Inflammation in fibrosis		32	1.8	0.9-3.5	0.10		
Moderate to Severe Acute tubular necrosis		23	2.19	0.95-5.03	0.06		
Histologic TMA		24	0.7	0.3-1.6	0.4		
Tubular macrovacuolization		15	0.8	0.3-2.2	0.6		
Tubular isovolumetric vacuolization	Grade 0	46	-	-	-		
	Grade 1	34	0.9	0.4-2.0	0.8		
	Grade 2-3	18	0.9	0.4-2.0	0.7		
Myocyte vacuolization		9	2.0	0.7-5.6	0.2		
Presence of crystals		18	0.6	0.2-1.6	0.3		
Diapetic nephropathy		ь	3.9	1.5-10.3	0.006		

#### Supplementary Table S7: Univariate Cox model for the kidney failure since the kidney biopsy

\* **p value for Cox test.** N: number of patients. HR: Hazard ratio. CI: Confidence Interval. eGFR: Estimated glomerular filtration rate by CKD EPI 2021. LT: Lung transplantation. BMI: Body Mass index. TMA: Thrombotic microangiopathy. CNI: Calcineurin inhibitor. KB: Kidney biopsy.

## Reporting checklist for cohort study.

Based on the STROBE cohort guidelines.

#### Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

Upload your completed checklist as an extra file when you submit to a journal.

**Reporting Item** 

In your methods section, say that you used the STROBE cohortreporting guidelines, and cite them as:

von Elm E, Altman DG, Egger M, Pocock SJ, Gotzsche PC, Vandenbroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement: guidelines for reporting observational studies.

Title and abstract			
Title	<u>#1a</u>	Indicate the study's design with a commonly used term in	2
		the title or the abstract	
Abstract	<u>#1b</u>	Provide in the abstract an informative and balanced	2
		summary of what was done and what was found	
Introduction			
Background /	<u>#2</u>	Explain the scientific background and rationale for the	3
rationale		investigation being reported	
Objectives	<u>#3</u>	State specific objectives, including any prespecified	3
		hypotheses	

#### Methods

Study design	<u>#4</u>	Present key elements of study design early in the paper	4
Setting	<u>#5</u>	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	4
Eligibility criteria	<u>#6a</u>	Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up.	4
Eligibility criteria	<u>#6b</u>	For matched studies, give matching criteria and number of exposed and unexposed	n/a

Page

Number

Variables	<u>#7</u>	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	4
Data sources / measurement	<u>#8</u>	For each variable of interest give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group. Give information separately for for exposed and unexposed groups if applicable.	4
Bias	<u>#9</u>	Describe any efforts to address potential sources of bias	4
Study size	<u>#10</u>	Explain how the study size was arrived at	4
Quantitative variables	<u>#11</u>	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why	4
Statistical methods	<u>#12a</u>	Describe all statistical methods, including those used to control for confounding	5
Statistical methods	<u>#12b</u>	Describe any methods used to examine subgroups and interactions	5
Statistical methods	<u>#12c</u>	Explain how missing data were addressed	5
Statistical methods	<u>#12d</u>	If applicable, explain how loss to follow-up was addressed	n/a
Statistical methods	<u>#12e</u>	Describe any sensitivity analyses	5

Des las			
Results			
			,
Participants	<u>#13a</u>	Report numbers of individuals at each stage of study—eg	n/a
		numbers potentially eligible, examined for eligibility,	
		confirmed eligible included in the study completing	
		follow-up, and analysed. Give information separately for	
		for exposed and unexposed groups if applicable.	
Participants	#13b	Give reasons for non-participation at each stage	n/a
•			
Participants	#13c	Consider use of a flow diagram	n/a
		5	
Descriptive data	#14a	Give characteristics of study participants (eg demographic,	5-9
-		clinical social) and information on exposures and potential	
		conformation on exposition of a potential	
		confounders. Give information separately for exposed and	
		unexposed groups if applicable.	

Descriptive data	<u>#14b</u>	Indicate number of participants with missing data for each variable of interest	5-9
Descriptive data	<u>#14c</u>	Summarise follow-up time (eg, average and total amount)	8
Outcome data	<u>#15</u>	Report numbers of outcome events or summary measures over time. Give information separately for exposed and unexposed groups if applicable.	5-9
Main results	<u>#16a</u>	Give unadjusted estimates and, if applicable, confounder- adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	5-9
Main results	<u>#16b</u>	Report category boundaries when continuous variables were categorized	5-9
Main results	<u>#16c</u>	If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	8
Other analyses	<u>#17</u>	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	5-9
Discussion			
Key results	<u>#18</u>	Summarise key results with reference to study objectives	9-11
Limitations	<u>#19</u>	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias.	9-11
Interpretation	<u>#20</u>	Give a cautious overall interpretation considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.	9-11
Generalisability	<u>#21</u>	Discuss the generalisability (external validity) of the study results	9-11
Other Information			
Funding	<u>#22</u>	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	n/a

None The STROBE checklist is distributed under the terms of the Creative Commons Attribution License CC-BY. This checklist can be completed online using <u>https://www.goodreports.org/</u>, a tool made by the <u>EQUATOR Network</u> in collaboration with <u>Penelope.ai</u>