

SUPPLEMENTARY DATA

Table S1. Genotype distribution in patients with ATTRv

Genotype	n	Percentage
Asp38Asn	1	2.86%
Glu109Gln	8	22.86%
Glu109Lys	1	2.86%
Glu45Gln	1	2.86%
Glu73Lys	1	2.86%
Glu89Lys	1	2.86%
Gly73Ala	1	2.86%
Ile88Leu	3	8.57%
Ser43Asn	5	14.29%
Ser97Tyr	1	2.86%
Thr79Lys	1	2.86%
Val142Ile	6	17.14%
Val142del	4	11.43%
Val50Met	1	2.86%

Table S2. Clinical characteristics of HT recipients: variables at diagnosis, variables at the latest ambulatory evaluation before HT, and post-transplant infectious complications

Variables at diagnosis	Total (N = 113)	ATTR (n = 57)	AL (n = 56)	P
Hypertension, n (%)	20/113 (18%)	13/57 (23%)	7/56 (13%)	.20
Diabetes, n (%)	6/113 (5.3%)	5/57 (8.8%)	1/56 (1.8%)	.20
Coronary artery disease, n (%)	6/113 (5.3%)	5/57 (8.8%)	1/56 (1.8%)	.20
Carpal tunnel syndrome, n (%)	43/113 (38%)	32/57 (56%)	11/56 (20%)	< .001
Lumbar spinal stenosis, n (%)	8/113 (7.1%)	7/57 (12%)	1/56 (1.8%)	.061
NYHA class at diagnosis, n (%)				.021
1	9/113 (8.0%)	7/57 (12%)	2/56 (3.6%)	
2	47/113 (42%)	29/57 (51%)	18/56 (32%)	
3	49/113 (43%)	19/57 (33%)	30/56 (54%)	
4	8/113 (7.1%)	2/57 (3.5%)	6/56 (11%)	
Maximal left ventricular wall thickness at diagnosis, mm, median [IQR]	17.0 [14.0-19.0]	17.0 [15.5-20.0]	15.0 [14.0-17.0]	.022
Ejection fraction at diagnosis, %, median [IQR]	44.0 [35.0-53.0]	44.0 [36.0-51.0]	43.5 [35.0-53.8]	> .90
Glomerular filtration rate (MDRD) at diagnosis, mL/min/1.73 m ²	71.9 [58.6-84.0]	67.0 [56.0-83.0]	76.0 [60.0-88.0]	.40
Troponin I at diagnosis, pg/mL, median [IQR]	20.0 [14.0-88.8]	19.0 [12.0-35.0]	95.0 [16.0-191.8]	.11
Troponin T at diagnosis, pg/mL, median [IQR]	80.0 [38.5-122.0]	73.0 [41.8-85.0]	100.0 [39.5-155.5]	.30
NT-proBNP at diagnosis, ng/mL, median [IQR]	3337.0 [1573.0-5214.0]	2988.0 [1497.0-4215.0]	3839.0 [2129.0-7399.8]	.14
Variables at the latest ambulatory evaluation before HT				
Systolic blood pressure, mmHg, median [IQR]	101.5 [95.0-110.3]	106.0 [95.0-115.0]	100.0 [93.5-106.5]	.026
Heart rate, bpm, median [IQR]	82.0 [71.0-95.0]	75.0 [70.0-89.0]	90.0 [80.0-98.0]	.026
Atrial fibrillation, n (%)	32/107 (30%)	18/56 (32%)	14/51 (27%)	.60
PR, ms, median [IQR]	186.0 [160.0-208.5]	196.0 [170.0-212.0]	173.0 [149.0-200.0]	.11
QRS, ms, median [IQR]	114.0 [94.8-134.3]	118.0 [98.0-140.0]	110.0 [92.5-127.0]	.20
QTc, ms, median [IQR]	453.5 [427.0-485.3]	456.0 [430.8-487.5]	452.5 [421.5-468.3]	.40
Low voltage pattern, n (%)	42/113 (37%)	19/57 (33%)	23/56 (41%)	.40
Pseudoinfarct pattern, n (%)	48/113 (42%)	27/57 (47%)	21/56 (38%)	.30
Pacemaker, n (%)	19/113 (17%)	10/57 (18%)	9/56 (16%)	.80
Cardiac resynchronization therapy, n (%)	4/113 (3.5%)	3/57 (5.3%)	1/56 (1.8%)	.60
ICD, n (%)	20/113 (18%)	14/57 (25%)	6/56 (11%)	.054
End-diastolic diameter, mm, median [IQR]	42.0 [38.0-48.0]	46.0 [40.0-49.3]	40.0 [35.0-45.5]	.007
Ejection fraction, %, median [IQR]	42.0 [32.0-	43.0 [34.5-	40.0 [32.0-	.60

	49.3]	49.5]	48.0]	
Left atrial diameter, mm, median [IQR]	45.0 [40.0-49.0]	46.0 [43.0-49.8]	42.5 [36.8-47.5]	.015
Maximal left ventricular wall thickness, mm, median [IQR]	17.0 [14.0-19.0]	18.0 [16.0-20.0]	15.0 [14.0-17.0]	< .001
Posterior wall, mm, median [IQR]	15.0 [2.1-17.3]	15.5 [12.0-18.0]	14.0 [1.7-16.3]	.048
TAPSE, mm, median [IQR]	12.0 [10.0-16.0]	12.0 [11.0-18.0]	12.0 [9.0-15.0]	.30
E/A ratio, median [IQR]	2.7 [1.8-3.9]	3.7 [2.0-4.5]	2.2 [1.7-3.4]	.10
Complications after HT				
Infection type, n (%)				.20
Pneumonia	20/47 (43%)	8/23 (35%)	12/24 (50%)	
Sepsis	5/47 (11%)	4/23 (17%)	1/24 (4.2%)	

HT, heart transplantation; ICD, implantable cardioverter-defibrillator; NT-proBNP, N-terminal pro-B-

type natriuretic peptide; NYHA, New York Heart Association; TAPSE, tricuspid annular plane systolic excursion.

Data are expressed as no. (%) or median [interquartile range].

Table S3. Clinical characteristics of patients with ATTR

Characteristics	ATTRv (n = 35)	ATTRwt (n = 22)	P
Height, cm, median [IQR]	170.0 [163.5-174.0]	177.0 [173.0-182.0]	< .001
Weight, kg, median [IQR]	70.0 [61.5-81.0]	83.5 [77.0-92.3]	.003
Male sex, n (%)	27/35 (77%)	20/22 (91%)	.30
Race, n (%)			.30
White	30/35 (86%)	22/22 (100%)	
Black	3/35 (8.6%)	0/22 (0%)	
Asian	2/35 (5.7%)	0/22 (0%)	
Age, y, median [IQR]	54.8 [49.0-61.4]	64.1 [62.2-66.2]	< .001
Age at diagnosis, y, median [IQR]	51.3 [46.5-58.6]	60.8 [58.5-63.2]	< .001
Time from diagnosis to transplant, mo, median [IQR]	4.1 [1.6-8.0]	2.4 [1.4-4.9]	.30
Time from enlistment to transplant, mo, median [IQR]	25.7 [11.2-35.8]	37.6 [27.3-53.0]	.046
Follow-up, y, median [IQR]	4.3 [1.0-8.8]	5.3 [3.2-7.0]	.40
Variables at diagnosis			
NYHA class at diagnosis, n (%)			.50
1	5/35 (14%)	2/22 (9.1%)	
2	15/35 (43%)	14/22 (64%)	
3	13/35 (37%)	6/22 (27%)	
4	2/35 (5.7%)	0/22 (0%)	
Maximal left ventricular wall thickness at diagnosis, mm, median [IQR]	18.0 [16.0-21.0]	17.0 [5.2-18.0]	.11
Ejection fraction at diagnosis, %, median [IQR]	44.5 [34.3-49.5]	44.0 [37.0-51.0]	.80
Creatinine at diagnosis, mg/dL, median [IQR]	1.1 [0.9-1.2]	1.2 [1.0-1.4]	.30
Glomerular filtration rate (MDRD) at diagnosis, mL/min/1.73 m ²	76.9 [54.5-86.3]	61.0 [59.0-80.0]	.50
NT-proBNP at diagnosis, ng/mL, median [IQR]	3618.0 [2779.3-4767.3]	1497.0 [1183.0-2469.0]	.041
Hypertension, n (%)	11/35 (31%)	2/22 (9.1%)	.050
Diabetes, n (%)	3/35 (8.6%)	2/22 (9.1%)	> .90
Coronary artery disease, n (%)	2/35 (5.7%)	3/22 (14%)	.40
Carpal tunnel syndrome, n (%)	20/35 (57%)	12/22 (55%)	.80
Lumbar spinal stenosis, n (%)	4/35 (11%)	3/22 (14%)	> .90
Renal involvement, n (%)	1/35 (2.9%)	3/22 (14%)	.30
Neuropathy, n (%)	23/35 (66%)	2/22 (9.1%)	< .001
Orthostatic hypotension, n (%)	7/35 (20%)	2/22 (9.1%)	.50
Dysautonomia, n (%)	17/35 (49%)	0/22 (0%)	< .001
Hepatic involvement, n (%)	7/35 (20%)	1/22 (4.5%)	.13
Gastrointestinal involvement, n (%)	4/35 (11%)	0/22 (0%)	.20
Macroglossia, n (%)	0/35 (0%)	0/22 (0%)	
Variables at the latest ambulatory evaluation before HT			
Systolic blood pressure, mmHg, median [IQR]	110.0 [97.5-	104.5 [96.0-114.5]	.40

	113.5]		
Heart rate, bpm, median [IQR]	77.0 [70.0-87.5]	75.0 [70.0-94.0]	> .90
Atrial fibrillation, n (%)	11/35 (31%)	7/21 (33%)	.90
PR, ms, median [IQR]	187.0 [170.0-208.0]	204.0 [200.0-225.3]	.20
QRS, ms, median [IQR]	116.0 [98.0-134.0]	132.5 [108.0-160.0]	.20
QTc, ms, median [IQR]	454.0 [432.0-487.0]	458.0 [427.5-508.5]	> .90
Low voltage pattern, n (%)	13/35 (37%)	6/22 (27%)	.40
Pseudoinfarct pattern, n (%)	19/35 (54%)	8/22 (36%)	.20
Pacemaker, n (%)	7/35 (20%)	3/22 (14%)	.70
Cardiac resynchronization therapy, n (%)	1/35 (2.9%)	2/22 (9.1%)	.60
ICD, n (%)	6/35 (17%)	8/22 (36%)	.10
End-diastolic diameter, mm, median [IQR]	45.0 [40.0-48.3]	47.0 [42.5-50.3]	.60
Ejection fraction, %, median [IQR]	43.0 [39.5-52.0]	37.0 [25.8-45.8]	.032
Left atrial diameter, mm, median [IQR]	45.0 [42.3-48.0]	51.0 [48.3-53.3]	.008
Maximal left ventricular wall thickness, mm, median [IQR]	18.0 [15.0-20.0]	18.0 [17.0-19.3]	.80
Posterior wall, mm, median [IQR]	15.0 [9.6-18.0]	16.5 [12.8-17.3]	.80
TAPSE, mm, median [IQR]	14.0 [10.8-19.3]	12.0 [11.0-16.0]	.40
E/A ratio, median [IQR]	3.3 [1.9-4.3]	4.0 [2.5-6.0]	.40
E/e' ratio, median [IQR]	20.5 [18.5-23.3]	18.0 [13.8-19.7]	.10
NYHA class before HT, n (%)			.50
I	2/35 (5.7%)	0/22 (0%)	
II	3/35 (8.6%)	5/22 (23%)	
III	25/35 (71%)	14/22 (64%)	
IV	5/35 (14%)	3/22 (14%)	
Creatinine, mg/dL, median [IQR]	1.1 [1.0-1.2]	1.4 [1.2-1.7]	< .001
Glomerular filtration rate (MDRD) before HT, median [IQR]	70.0 [59.0-79.9]	53.0 [42.5-63.5]	.006
Proteinuria, mg/24 h	40.0 [8.0-151.5]	0.0 [0.0-0.0]	.014
Total bilirubin, μ mol/L, median [IQR]	6.0 [1.9-18.0]	8.5 [1.3-12.5]	> .90
AST, U/L, median [IQR]	35.0 [23.3-48.5]	28.5 [26.5-36.3]	.70
ALT, U/L, median [IQR]	30.0 [18.5-35.5]	26.0 [15.0-31.0]	.40
Gamma-glutamyl transferase, U/L, median [IQR]	65.0 [48.3-139.0]	146.5 [114.5-221.0]	.070
Alkaline phosphatase, U/L, median [IQR]	116.0 [98.3-161.8]	149.0 [105.8-162.8]	.40
Troponin I, pg/mL, median [IQR]	70.0 [45.0-169.5]	131.1 [97.9-166.0]	.60
Troponin T, pg/mL, median [IQR]	66.0 [13.0-95.0]	64.0 [42.3-97.3]	> .90
NT-proBNP, ng/mL, median [IQR]	4310.5 [2656.0-5617.5]	4838.0 [3115.3-7182.0]	.50
Cardiac index, L/min/m ² , median [IQR]	2.2 [1.7-2.9]	1.8 [1.5-1.9]	.022
Mean right atrial pressure, mmHg, median [IQR]	15.0 [11.0-21.5]	21.0 [19.5-25.5]	.029
Pulmonary capillary wedge pressure, mmHg, median [IQR]	10.0 [4.5-18.0]	11.0 [10.0-16.0]	.30
Pulmonary artery systolic pressure, mmHg, median [IQR]	34.0 [25.0-45.5]	41.0 [36.5-48.5]	.11

Pulmonary artery diastolic pressure, mmHg, median [IQR]	15.5 [10.3-27.8]	22.0 [19.0-28.5]	.093
Pulmonary artery saturation, %, median [IQR]	23.0 [17.0-56.9]	58.8 [31.8-66.1]	.025
Pulmonary vascular resistance, WU, median [IQR]	2.1 [1.3-3.2]	2.4 [1.6-2.8]	.70
Inotropic agents/vasopressors, n (%)	9/35 (26%)	9/22 (41%)	.20
Advanced support before HT, n (%)	5/35 (14%)	2/22 (9.1%)	.70
VAD, n (%)	3/35 (8.6%)	0/22 (0%)	.30
IABP, n (%)	2/35 (5.7%)	2/22 (9.1%)	.60
Impella, n (%)	1/35 (2.9%)	0/22 (0%)	> .90
ECMO, n (%)	0/35 (0%)	0/22 (0%)	
Artificial heart, n (%)	0/35 (0%)	0/22 (0%)	
Emergency HT, n (%)	5/35 (14%)	5/22 (23%)	.50
Transplant type, n (%)			< .001
Heart	16/35 (46%)	22/22 (100%)	
Heart/liver	18/35 (51%)	0/22 (0%)	
Heart/liver/kidney	1/35 (2.9%)	0/22 (0%)	
Complications after HT, n (%)	18/35 (51%)	20/22 (91%)	.002
ISHLT rejection, n (%)			.013
No episodes, n (%)	31/35 (89%)	14/22 (64%)	
1 episode, n (%)	1/35 (2.9%)	5/22 (23%)	
> 1 episodes, n (%)	1/35 (2.9%)	3/22 (14%)	
Antibody-mediated reaction, n (%)	2/35 (5.7%)	0/22 (0%)	
Infections, n (%)	13/35 (37%)	10/22 (45%)	.50
Pneumonia, n (%)	5/13 (38%)	3/10 (30%)	
Sepsis, n (%)	2/13 (15%)	2/10 (20%)	
Renal impairment after HT, n (%)	9/35 (26%)	11/22 (50%)	.061
Cardiac allograft vasculopathy, n (%)	1/35 (2.9%)	4/22 (18%)	.067
Stroke, n (%)	1/35 (2.9%)	0/22 (0%)	> .90
Cancer, n (%)	1/35 (2.9%)	3/22 (14%)	.30
Graft failure, n (%)	1/35 (2.9%)	0/22 (0%)	> .90
Disease progression, n (%)	20/35 (57%)	2/22 (9.1%)	< .001
New-onset neuropathy, n (%)	5/35 (14%)	1/22 (4.5%)	.40
Neuropathy progression, n (%)	12/35 (34%)	1/22 (4.5%)	.009
New-onset gastrointestinal involvement, n (%)	8/35 (23%)	0/22 (0%)	.018
New tenosynovial involvement, n (%)			.60
Carpal tunnel, n (%)	1/35 (2.9%)	0/22 (0%)	
Lumbar spinal stenosis, n (%)	0/35 (0%)	1/22 (4.5%)	
Amyloid deposits on endomyocardial biopsy, n (%)	2/35 (5.7%)	0/22 (0%)	.50
Severe dysautonomia, n (%)	5/35 (14%)	0/22 (0%)	.14
Death, n (%)	15/35 (43%)	1/22 (4.5%)	.002
Cause of death*			.40
Digestive bleeding, n (%)	1/13 (7.7%)	0/1 (0%)	
Disease progression, n (%)	1/13 (7.7%)	0/1 (0%)	
Graft failure, n (%)	1/13 (7.7%)	0/1 (0%)	
Multiorgan failure, n (%)	1/13 (7.7%)	0/1 (0%)	
Neuropathy progression, n (%)	2/13 (15%)	0/1 (0%)	

Pneumonia, n (%)	1/13 (7.7%)	0/1 (0%)	
Sepsis, n (%)	6/13 (46%)	0/1 (0%)	
Sudden cardiac death, n (%)	0/13 (0%)	1/1 (100%)	
Ejection fraction after HT, %, median [IQR]	60.0 [54.5-64.0]	60.0 [54.5-60.0]	.50

AL, light chain amyloidosis; ALT, alanine aminotransferase; AST, aspartate aminotransferase; ATTRwt,

wild-type transthyretin amyloidosis; ATTRv, variant transthyretin amyloidosis; ECMO, extracorporeal

membrane oxygenation; IABP, intra-aortic balloon pump; LVAD, left ventricular assist device; NT-

proBNP, N-terminal pro-B-type natriuretic peptide; NYHA, New York Heart Association; TAPSE,

tricuspid annular plane systolic excursion.

Data are expressed as no. (%) or median [interquartile range].

*The cause of death of 2 patients is unavailable.

Table S4. Complications stratified by time of appearance as early, intermediate, and late

Complication	Early (≤ 1 mo)	Intermediate (2-6 mo)	Late (> 6 mo)
ISHLT rejection	9	12	15
Infection	7	14	26
Bleeding	1	2	4
Renal impairment	12	7	20
Cardiac allograft vasculopathy	0	0	8
Stroke	2	1	0
Cancer	0	0	11
Graft failure	0	1	3
Death	1	4	33

ISHLT, International Society for Heart and Lung Transplantation.

Table S5. Univariable Cox proportional hazards model for the overall population and subgroups (AL and ATTR amyloidosis)

Variable (whole population)	HR	95%CI	P	Variable (AL)	HR	95%CI	P	Variable (TTR)	HR	95%CI	P
Age	1.01	0.97-1.06	.50	Age	1.04	0.98-1.10	.20	Age	1.01	0.95-1.08	.70
Advanced support	5.11	2.37-11.0	< .001	Advanced support	5.59	2.07-15.1	< .001	Advanced support	4.05	1.08-15.2	.038
Systemic involvement				Systemic involvement				Systemic involvement			
1	2.49	1.01-6.12	.048	1	2.68	0.95-7.56	.062	1	1.33	0.19-9.54	.80
≥ 2	3.55	1.44-8.75	.006	≥ 2	3.59	0.95-13.5	.059	≥ 2	5.33	1.17-24.2	.030
				Hematological response before HT	0.91	0.38-2.20	.80	Targeted therapy before HT	0.65	0.08-5.17	.70
				Hematological response after HT	0.56	0.23-1.31	.20	Targeted therapy after HT	0.61	0.17-2.19	.40

CI, confidence interval; HR, hazard ratio.

For the “systemic involvement” variable (comprising renal, peripheral neuropathy, autonomic neuropathy, liver involvement, gastrointestinal involvement, and macroglossia), comparisons are made for 1 involved organ and ≥ 2 involved organs vs no involvement. Hematological response is categorized as no response/partial response (NR/PR) vs very good partial response/complete response (VGPR/CR).

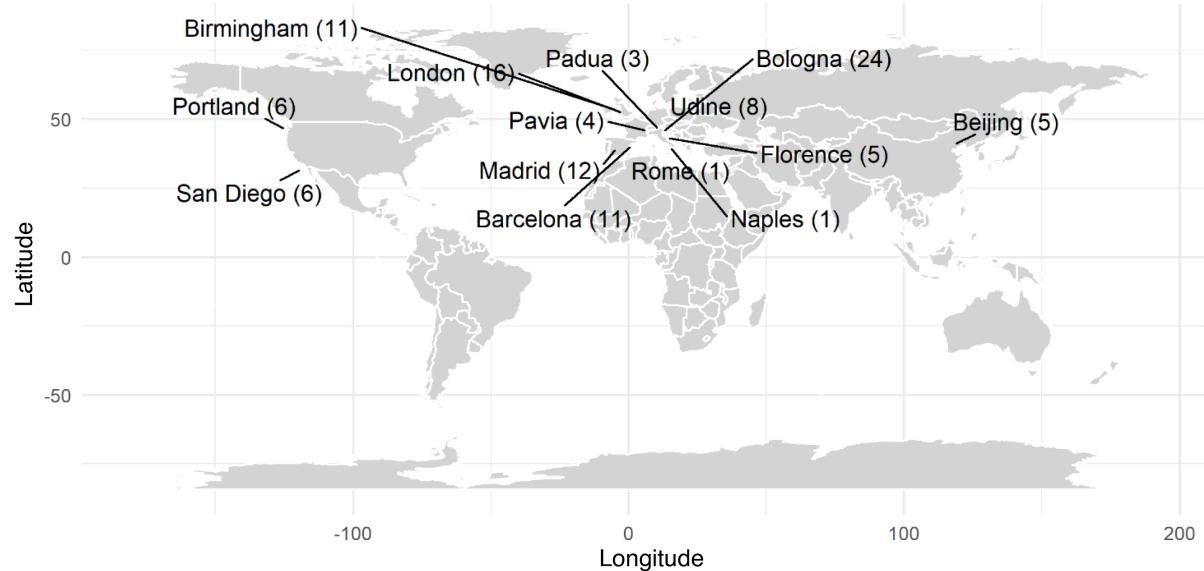


Figure S1. Participating centers.

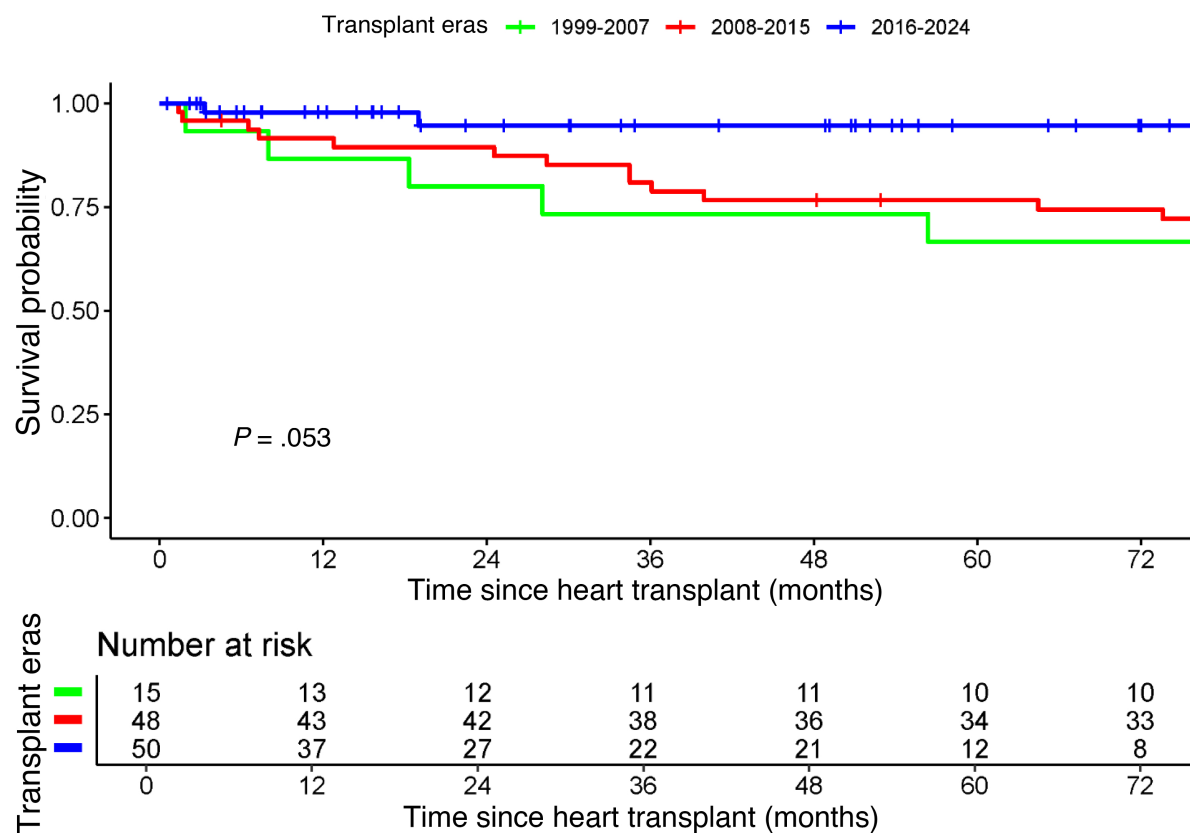


Figure S2. Survival analysis of HT recipients by transplant era.