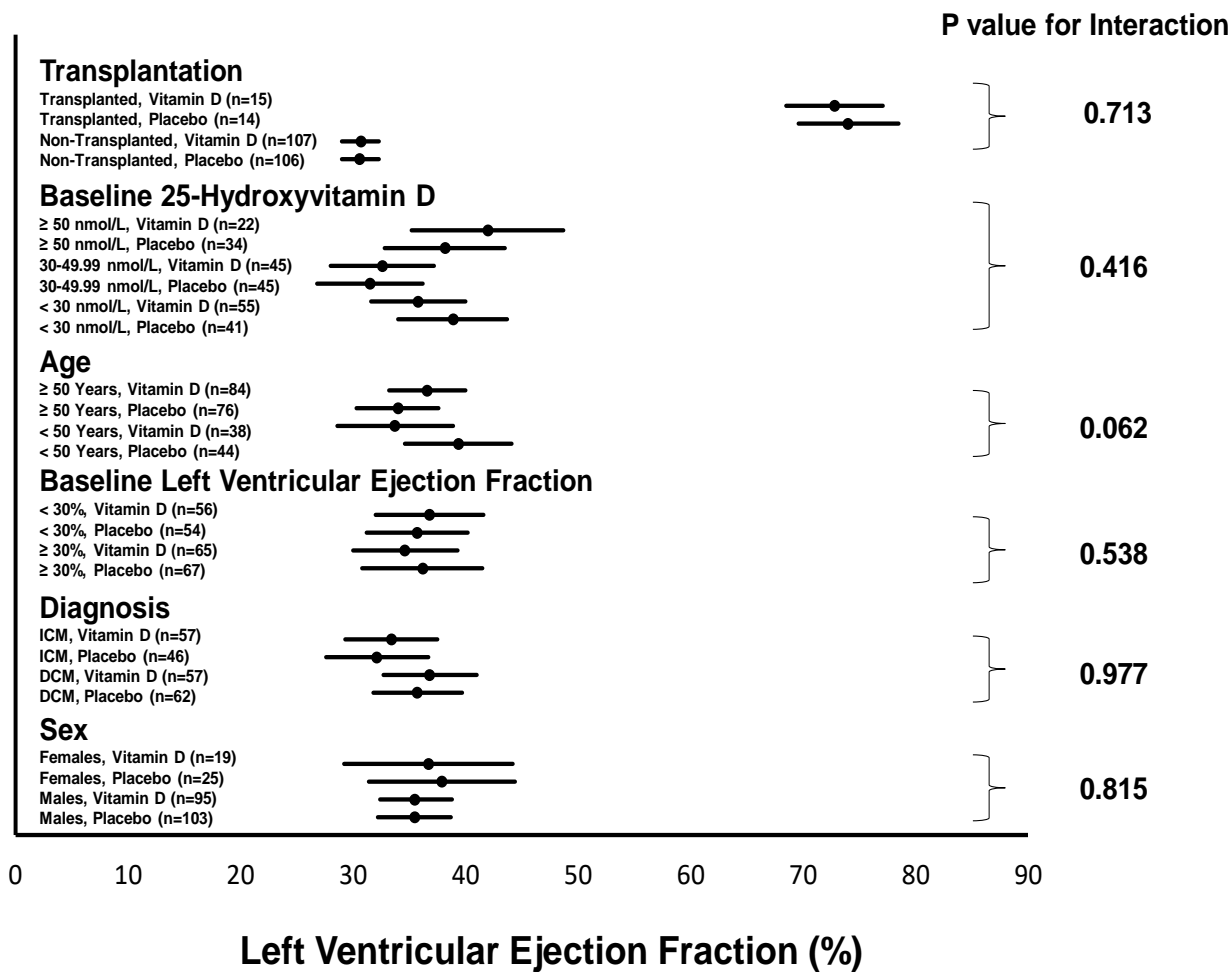


Supplemental Figure 1:

Plasma concentrations of 25-hydroxyvitamin D, calcium, and creatinine are illustrated at baseline, and 12 and 36 months post-randomization. The boxes express the upper and lower quartiles, and the central lines show the median. Whiskers indicate the 5%-95% range, circles designate outliers and stars denote extremes. Trend analysis in total sample show: significant group differences in creatinine ($P=0.030$) and circulating 25-hydroxyvitamin D ($P=0.042$), but no group differences in plasma calcium ($P=0.703$); significant time effects on circulating 25-hydroxyvitamin D ($P<0.001$), and plasma calcium ($P<0.001$), but no time effects on creatinine ($P=0.215$); significant time x treatment interactions on circulating 25-hydroxyvitamin D ($P<0.001$) and plasma calcium ($P=0.011$), but no time x treatment interactions on creatinine ($P=0.251$).



Supplemental Figure 2:

Results of subgroup analyses. Shown are left ventricular ejection fraction values 36 months post-randomization within specific subgroups. Squares denote mean values within each group; horizontal lines represent 95% confidence intervals. Results were stratified according to age category, sex, diagnosis, baseline 25OHD category, and transplantation status and were adjusted for baseline left ventricular ejection fraction values.

Supplemental Table 1: Baseline characteristics of the entire study cohort by age group

Parameter	Age < 50 years (n=116)	Age ≥ 50 years (n=284)	P-value
Age, years	40.4±7.5	58.8±5.9	<0.001
Males, number (%)	90 (78)	242 (85)	0.065
Heart Failure Etiology, number (%)			
Dilated Cardiomyopathy	67 (58)	125 (44)	0.015
Ischemic Cardiomyopathy	35 (30)	144 (51)	<0.001
Others	14 (12)	15 (5)	0.027
Diabetes Mellitus, number (%)	12 (10)	85 (30)	<0.001
Body Mass Index, kg/m ²	28.7±5.6	28.3±5.0	0.495
NYHA Functional Class, number (%)			
II	99 (85)	193 (68)	<0.001
III	17 (15)	91 (32)	<0.001
LVEF, %	31.3±11.3	30.1±9.8	0.275
LVEDD, mm	67.5±11.7	67.4±10.0	0.969
LVESD, mm	58.9±13.1	58.9±11.5	0.988
Systolic Blood Pressure, mmHg	115±22	118±22	0.207
Diastolic Blood Pressure, mmHg	73±14	73±11	0.538
Atrial Fibrillation, number (%)	22 (19)	53 (19)	0.973
Pacemaker Implant, number (%)	95 (82)	229 (81)	0.770
25-hydroxyvitamin D, nmol/L	36.7±17.2	36.2±16.7	0.804
Calcium, mmol/L	2.38±0.12	2.40±0.11	0.394
Creatinine, µmol/L	93±23	112±35	<0.001
BNP (ng/l) ^a	533±574	568±768	0.662
Renin (mIU/l) ^a	970±1599	842±1749	0.068
Aldosterone (ng/l) ^a	22.8±20.9	19.1±15.4	0.300
<i>Medications, number (%)</i>			
Aldosterone-Antagonists	107 (92)	222 (78)	0.001
Loop Diuretics	95 (82)	244 (86)	0.310
Thiazide Diuretics	30 (26)	105 (37)	0.033
Beta-Blockers	109 (94)	273 (96)	0.344
ACE-Inhibitors/ARB-Blockers	111 (96)	273 (96)	0.840
Digoxin	39 (34)	113 (40)	0.249

^aBased on 268 BNP values, 163 renin values, and 163 aldosterone values.

Abbreviations: NYHA, New York Heart Association; LVEF, left ventricular ejection fraction, LVEDD, left ventricular end-diastolic diameter, LVESD, left ventricular end-systolic diameter; BNP, brain natriuretic peptide; ACE, angiotensin converting enzyme; ARB, angiotensin II receptor blocker

Supplemental Table 2: Spearman's rank correlation coefficient between changes (Δ) in circulating 25-hydroxyvitamin D and changes (Δ) in echocardiographic parameters or hormone concentrations

	Δ 25OHD 12-month visit	Δ 25OHD 36-month visit
Age group < 50 years¹		
Δ LVEF	-0.164	-0.147
Δ LVEDD	0.103	0.045
Δ LVESD	0.087	0.021
Δ BNP	-0.076	0.157
Δ Renin	-	0.099
Δ Aldosterone	-	-0.051
Age group \geq 50 years¹		
Δ LVEF	0.118	0.213*
Δ LVEDD	-0.112	0.081
Δ LVESD	-0.107	0.050
Δ BNP	-0.044	0.091
Δ Renin	-	-0.042
Δ Aldosterone	-	0.183

¹ Δ values are based on the data at the 12-month visit or the 36-month visit, where appropriate; -no data available; *P<0.05