

Supplementary Material

Supplementary Table 1. Baseline characteristics according to HF type.

Baseline characteristics	HFpEF (n=13)	HFmrEF/HFrEF (n=7)	p-value
General characteristics			
Age (years)	77 [58-84]	72 [64-82]	0.293
Male sex, n (%)	6 (46)	6 (86)	0.213
BMI (kg/m ²)	26.60[21.20-33.30]	23 [20.40-37.70]	0.536
<25	2 (15)	4 (57)	
≥25 to <30	8 (62)	1 (14)	
≥30	3 (23)	2 (29)	
SBP (mmHg)	135 [103-150]	125 [100-140]	0.062
DBP (mmHg)	70 [55-90]	69 [63-80]	0.873
HR (bpm)	61 [55-90]	67 [54-83]	0.781
6MWT (m)	390 [120-480]	420 [120-480]	0.604
Sat% O ₂ at basal time	97 [95-100]	96 [94-100]	0.840
Sat% O ₂ at 6 minutes	97 [95-98]	97 [88-99]	0.902
Smoker, n (%)	7 (54)	2 (29)	0.492
Dyslipidemia, n (%)	11 (85)	7 (100)	0.755
Diabetes, n (%)	3 (23)	1 (14)	1
Hypertension, n (%)	11 (85)	7 (100)	0.755
Prior Myocardial infarction, n (%)	4 (31)	4 (57)	0.503

Prior PCI, n (%)	6 (46)	4 (57)	1
Prior CABG, n (%)	3 (23)	2 (14)	1
CIED, n (%)	1 (8)	2 (29)	0.270
CKD, n (%)	2 (15)	3 (43)	0.290
COPD, n (%)	2 (15)	2 (29)	0.907
OSAS, n (%)	0 (0)	1 (14)	0.350
Atrial Fibrillation, n (%)	6 (46)	3 (43)	1
paroxysmal	4 (31)	1 (14)	
persistent	0 (0)	0 (0)	
permanent	2 (15)	2 (29)	
Drugs therapy			
Beta-blocker, n (%)	11 (85)	7 (100)	1
Calcium channel blockers, n (%)	0 (0)	1 (14)	0.350
ACEi, n (%)	7 (54)	4 (57)	1
ARB, n (%)	3 (23)	0 (0)	0.521
ARNI, n (%)	0 (0)	2 (29)	0.111
MRA, n (%)	2 (15)	3 (43)	0.417
Loop Diuretic, n (%)	6 (46)	6 (86)	0.213
Thiazide Diuretic, n (%)	1 (8)	0 (0)	1
SGLT2i, n(%)			0.120
Empaglifozin	5 (38)	6 (86)	
Dapaglifozin	8 (62)	1 (14)	
Biochemical parameters			
Hb (g/dL)	12.80 [9.60-14.60]	13.30[9.90-15.50]	0.570

HCT (%)	39.80[30.30-44.40]	40.80 [32.60-44.50]	0.692
Creatinine (mg/dL)	0.91 [0.75-2.04]	1.05 [1.00-1.46]	0.832
eGFR (mL/min/1.73m ²)	64 [30-89.10]	59.30 [36-90]	0.673
NT-proBNP (pg/mL)	870 [231-6631]	1759 [296-7287]	0.199
Fasting blood glucose (mg/dL)	88 [81-108]	94 [76-133]	0.453
Glycated hemoglobin (%)	6 [5.12-6.40]	5.60 [5.60-5.60]	0.495
Echocardiography parameters			
EDV (mL)	94.60 [62.60-155]	160 [78-219]	0.015
ESV (mL)	40.60[26.60-71.30]	78 [44-152]	0.005
LVMi (g/m ²)	90.45[52.50-121.50]	111 [76-158]	0.057
EF (%)	55.90 [51-60]	41 [23-49]	<0.001
LVGLS (%)	18.70 [15.80-22.90]	9.50 [3.30-18.50]	<0.001
E wave (cm/sec)	78.60 [47.20-130]	76.50 [25.20-112]	0.678
A wave (cm/sec)	87 [44.50-135]	80.20 [35-91.70]	0.253
E/A	0.80 [0.60-1.30]	0.80 [0.30-2.30]	0.843
EDT (msec)	164 [85-217]	195 [145-235]	0.361
Sept E'(cm/sec)	7.62 [5.33-17.70]	5 [3.10-10.60]	0.220
Lat E'(cm/sec)	8.95 [3.92-12.40]	8.60 [5.20-13.10]	0.782
E/E'	9.20 [6.30-17.60]	9.70 [6.30-26]	0.325
LAVi (ml/m ²)	47 [27-69.40]	45.50 [38-58.60]	0.875
PALS (%)	21.70 [10-46.50]	17.85 [10.30-22.80]	0.094

LACD(%)	10.50 [5-25.10]	9.55 [7.10-10.20]	0.019
LACT(%)	9.50 [0.60-21.40]	10.85 [8.20-12.90]	0.564
RAVi (ml/m ²)	20 [13-31]	23 [15-35]	0.063
Stroke volume (ml)	66.21 [52.97-118]	59 [46-89]	0.582
Stroke volume index (ml/m ²)	38.82[24.48-54.05]	32.18 [25.81-42.86]	0.209
RVLS free wall (%)	22.60[11.60-27.70]	14.10 [7.20-23.50]	0.010
RVLS Global (%)	19.30[10.30-22.90]	11.40 [5.80-18.10]	0.006
TAPSE (mm)	22 [18-28]	20.50 [18-24]	0.601
RV S' (cm/s)	12.60 [11.20-25]	13 [9.57-15]	0.650
FAC (%)	41 [36-49.60]	36 [31-42]	0.542
peak TR vel (m/sec)	2.61 [1.30-3.20]	2.57 [1.84-2.78]	0.885
PASP (mmHg)	32 [15-40]	35 [20-36]	0.821
TAPSE/PASP (mm/mmHg)	0.72 [0.53-1.49]	0.69 [0.51-0.92]	0.844
NICaS parameters			
MAP (mmHg)	94 [74-109]	91 [76-96]	0.393
CI (l/min/m ²)	2.10 [1.53-3.70]	1.85 [1.46-2.85]	0.628
CO (l/min)	3.77 [2.59-5.47]	3.83 [2.54-4.48]	0.979
Stroke volume (ml)	54.96[41.05-76.08]	57.17 [32.94-70.45]	0.909
Stroke volume index (ml/m ²)	32.82[23.06-48.69]	28.21 [18.95-44.55]	0.538
CPi (w/m ²)	0.44 [0.29-0.61]	0.39 [0.23-0.58]	0.436
TPR (dn*s/cm ⁵)	2073 [1082-2767]	1867 [1577-2475]	0.527
TPRi (dn*s/cm ³)	3681 [1600-5024]	3545 [2582-4611]	0.995

GGI	9.30 [5.83-17.70]	8.80 [6.85-15.35]	0.678
RR (l/min)	16 [11-21]	18 [14-20]	0.371
TBW (kg)	40.80[33.20-58.10]	50.63 [31.83-65]	0.155
TBW (% weight)	62 [49.40-77.50]	66.33 [51.45-74.45]	0.406
Basal impedance (ohm)	311 [226-385]	321 [226-391]	0.854

Values are expressed as median [min-max] or n (%)

Legend. BMI- body mass index; SPB – systolic blood pressure; DPB – diastolic blood pressure; HR-heart rate; 6MWT- 6-min walk test; PCI- percutaneous coronary intervention; CABG- coronary artery bypass graft surgery; CIED- cardiac implantable electronic device; CKD – chronic kidney disease; COPD- chronic obstructive pulmonary disease; OSAS- obstructive sleep apnea syndrome; ACEi – ACE inhibitor; ARB – angiotensin receptor blocker; ARNI – angiotensin receptor neprilisin inhibitor; MRA – mineralocorticoids receptor antagonists; SGLT2i- sodium-glucose co-transporter 2 inhibitors; Hb- hemoglobin; HCT- hematocrit; eGFR- estimated glomerular filtration rate; NT-pro-BNP- N-terminal pro b-type natriuretic peptide; EDV – end-diastolic volume; ESV – end-systolic volume; EF – ejection fraction; LVGLS- left ventricular global longitudinal strain; LVMI- Left Ventricular Mass Index; EDT – E-wave deceleration time ; LAVi – left atrial volume index; PALS- peak atrial longitudinal strain; LACD - left atrial conduit strain; LACT - left atrial contraction strain; RAVi – right atrial volume index; RV- right ventricle; RVLS- right ventricle longitudinal strain; PASP –pulmonary artery systolic pressure; TAPSE – tricuspid annular plane systolic excursion; FAC- fractional area change; TR-tricuspid regurgitation; MAP- mean arterial pressure; CI- cardiac index; CO- cardiac output; CPi- cardiac power index; TPR- total peripheral resistance; TPRi- total peripheral resistance index; GGI-Granov-Goor Index; RR-respiratory rate; TBW-total body water; HFpEF-heart failure with preserved ejection fraction; HFmrEF- heart failure with mildly reduced ejection fraction; HFrEF- heart failure with reduced ejection fraction.