

## **SUPPLEMENTAL MATERIAL**

**Table S1. Basic characteristics of patients with Heart Failure with Preserved Ejection Fraction stratified by missed or documented BNP groups**

Variables	Missed BNP (n=2646)	Documented BNP (n=799)	P-value
Random to spironolactone, n (%)	1315 (49.7)	407 (50.9)	0.566
<b>Demographics</b>			
Age, years	68.00 (60.0, 75.0)	71.00 (64.0, 79.0)	<b>&lt;0.001</b>
Sex, male, n (%)	1260 (47.6)	410 (51.3)	0.073
Race, white, n (%)	2427 (91.7)	635 (79.5)	<b>&lt;0.001</b>
BMI, kg/m <sup>2</sup>	30.59 (27.10, 35.0)	32.14 (27.73, 37.8)	<b>&lt;0.001</b>
Smoking history, n (%)	1195 (45.2)	433 (54.2)	<b>&lt;0.001</b>
Alcohol drinking drinks/week, n (%)			
0	2086 (78.8)	601 (75.2)	<b>0.002</b>
1-5	444 (16.8)	136 (17.0)	
6-10	81 (3.1)	45 (5.6)	
10+	35 (1.3)	17 (2.1)	
<b>Physical examination</b>			
EF, %	56.0 (51.0, 61.0)	58.0 (53.50, 63.0)	<b>&lt;0.001</b>
NYHA(III-IV), n (%)	835 (31.6)	301 (37.7)	<b>0.001</b>
Heart rate, bpm	68.0 (62.0, 76.0)	68.0 (60.0, 76.0)	0.135
SBP, mmHg	130.0 (120.0, 140.0)	129.0 (118.0, 138.0)	<b>0.001</b>
DBP, mmHg	80.0 (70.0, 82.0)	70.0 (62.0, 80.0)	<b>&lt;0.001</b>
eGFR, ml/min*1.73m <sup>2</sup>	66.0 (54.92, 79.52)	63.1 (50.2, 76.7)	<b>&lt;0.001</b>
<b>Comorbidities, n (%)</b>			
Pervious	2131 (80.5)	361 (45.2)	<b>&lt;0.001</b>

hospitalization for CHF			
Pervious MI	703 (26.6)	190 (23.8)	0.126
Pervious stroke	181 (6.8)	84 (10.5)	<b>0.001</b>
Pervious CABG	293 (11.1)	150 (18.8)	<b>&lt;0.001</b>
Pervious PCI	320 (12.1)	180 (22.5)	<b>&lt;0.001</b>
COPD	274 (10.4)	129 (16.1)	<b>&lt;0.001</b>
Hypertension	2424 (91.6)	726 (90.9)	0.556
Peripheral artery disease	225 (8.5)	94 (11.8)	<b>0.007</b>
Dyslipidemia	884 (33.4)	330 (41.3)	<b>&lt;0.001</b>
AF			
Diabetes	782 (29.6)	336 (42.1)	<b>&lt;0.001</b>
<b>Medications, n (%)</b>			
Diuretic	2137 (80.8)	680 (85.1)	<b>0.006</b>
ACEI	1853 (70.0)	399 (49.9)	<b>&lt;0.001</b>
ARB	473 (17.9)	225 (28.2)	<b>&lt;0.001</b>
Beta blocker	2029 (76.7)	647 (81.0)	<b>0.012</b>
Calcium channel blocker	975 (36.8)	319 (39.9)	0.125
Aspirin	1751 (66.2)	499 (62.5)	0.058
Statin	1288 (48.7)	517 (64.7)	<b>&lt;0.001</b>
Warfarin	525 (19.8)	262 (32.8)	<b>&lt;0.001</b>

BMI: body mass index, EF: ejection fraction, NYHA: New York heart function class, bpm: beat per minutes, SBP: systolic blood pressure, DBP: diastolic blood pressure, GFR: estimated glomerular filtration rate, BNP: B-type natriuretic peptide, CHF: chronic heart failure, ,MI: myocardial infarction, CABG: coronary artery bypass grafting ,PCI: Percutaneous coronary intervention, COPD: chronic obstructive pulmonary disease, AF: Atrial fibrillation, ACEI: angiotensin converting enzyme inhibitor, ARB: angiotensin receptor blocker.

**Table S2. Baseline echocardiographic characteristics of Heart Failure with Preserved Ejection Fraction patients stratified by stroke post randomization**

Variables	Non-stroke	Stroke	P-value
Eccentric mitral regurgitation (n=232)	4 (1.8%)	1 (14.3%)	0.143
Moderate or greater mitral regurgitation (n=232)	36 (16.0%)	1 (14.3%)	1.000
Interventricular septum thickness (n=315)	1.19 (1.05, 1.32)	1.26 (1.16, 1.39)	0.903
Posterior wall thickness (n=315)	1.13 (1.02, 1.27)	1.23 (1.15, 1.43)	0.048
End-diastolic left ventricular diameter (n=315)	4.83±0.60	4.71±0.53	0.520
Maximal left atrial anterior-posterior diameter (n=315)	4.33 (3.98, 4.80)	4.15 (3.95, 4.80)	0.772
Peak E wave velocity (n=284)	92.78±30.36	106.81±35.91	0.176
Peak A wave velocity (n=209)	74.24±25.61	66.48±28.62	0.505
Lateral early diastolic myocardial velocity (n=200)	7.47 (5.81, 9.91)	8.30 (7.67, 9.42)	0.235
Lateral late diastolic myocardial velocity (n=157)	8.20 (5.82, 10.28)	6.09 (3.87, 16.90)	0.445
Mitral regurgitation jet area (n=247)	0.95 (0.00, 2.78)	0.00 (0.00, 2.04)	0.327
E wave deceleration time (n=282)	193.33 (156.67, 236.67)	203.33 (195.00, 223.33)	0.394
Peak tricuspid regurgitation velocity (n=197)	271.91 (244.63, 306.89)	236.73 (211.50, 305.39)	0.113
E/A ratio (n=208)	1.12 (0.82, 1.57)	1.75 (0.75, 3.40)	0.294
End-systolic left ventricular diameter (n=315)	3.36 (3.00, 3.69)	3.27 (2.94, 3.58)	0.489
Septal early diastolic myocardial velocity(n=223)	5.67 (4.53, 7.24)	6.95 (6.12, 8.17)	0.059
Septal late diastolic myocardial velocity (n=162)	7.03 (5.15, 8.45)	4.74 (4.53, -)	0.071
RV end diastolic area (n=237)	19.78 (16.03, 24.03)	17.64 (17.01, 21.29)	0.563
RV end systolic area (n=237)	9.76 (7.72, 12.89)	8.77 (8.01, 11.78)	0.651
Lateral systolic myocardial velocity (n=199)	6.44 (5.45, 7.58)	6.15 (4.88, 8.70)	0.707
Septal systolic myocardial velocity (n=222)	5.65 (4.82, 6.69)	5.40 (4.57, 6.11)	0.509

Left atrial area (n=286)	19.55 (16.48, 23.51)	22.13 (18.98, 24.05)	0.233
Mean LV wall thickness (n=315)	1.16 (1.03, 1.28)	1.26 (1.15, 1.43)	0.061
Lv mass (n=315)	210.87 (167.28, 270.55)	210.66 (195.87, 266.71)	0.564
Ejection Fraction (n=319)	59.89 (55.98, 65.18)	57.54 (56.18, 66.55)	0.618
E/Em septal ratio (n=217)	15.30 (11.97, 19.78)	16.82 (13.66, 18.74)	0.797
RV fractional area change (n=237)	0.50 (0.43, 0.54)	0.48 (0.44, 0.54)	0.981
E/Em lateral ratio (n=195)	10.94 (8.29, 15.46)	13.22 (8.48, 16.70)	0.692
Simpson Ejection fraction (n=298)	60.46 (56.34, 65.35)	58.34 (56.46, 66.59)	0.992
Teicholtz end-diastolic volume (n=315)	110.50 (88.92, 129.87)	105.96 (73.08, 126.07)	0.526
Teicholtz end-systolic volume (n=315)	46.27 (35.04, 57.69)	43.06 (33.40, 53.70)	0.489
Teicholtz Ejection fraction (n=315)	58.01 (53.19, 60.97)	59.44 (55.23, 60.94)	0.583
End-diastolic volume (n=298)	96.08 (72.87, 120.72)	96.32 (88.19, 134.08)	0.290
End-systolic volume (n=298)	37.00 (25.84, 48.36)	40.13 (34.97, 50.14)	0.357
LA volume (n=293)	57.15 (45.59, 74.84)	67.96 (56.11, 73.07)	0.306
LV relative wall thickness (n=315)	0.47 (0.42, 0.53)	0.51 (0.49, 0.57)	0.015
MR jet area-to-left atrial area ratio (n=232)	0.05 (0.00, 0.13)	0.00 (0.00, 0.10)	0.445
Stroke volume (n=298)	57.28 (44.88, 71.32)	63.09 (49.62, 86.63)	0.259
Abnormal E' (n=248)	170 (71.1%)	5 (55.6%)	0.526
Diastolic dysfunction grade (n=209)	1.00 (0.00, 2.00)	0.00 (0.00, 2.25)	0.327
Diastolic dysfunction grade (modified Olmsted criteria) (n=167)	2.00 (1.00, 2.00)	2.50 (1.25, 3.00)	0.374
Longitudinal Strain (n=205)	-15.49±3.49	-14.80±1.43	0.693
Abnormal Longitudinal Strain (n=205)	105 (52.2%)	3 (75.0%)	0.691
Quartile of Longitudinal Strain (n=205)	3.00 (1.00, 4.00)	2.50 (2.00, 3.75)	0.692
Moderate or greater aortic stenosis (n=259)	3 (1.2%)	0 (0.0%)	1.000
Moderate aortic regurgitation (n=306)	5 (1.7%)	0 (0.0%)	1.000

Prosthetic valve (n=319)	13 (4.2%)	1 (9.1%)	0.395
Was color doppler missing in study (n=319)	12 (3.9%)	0 (0.0%)	1.000
AV peak velocity (n=259)	139.23 (116.30, 173.48)	140.09 (120.97, 164.89)	0.931
Right ventricular outflow tract velocity time integral (n=189)	16.59 (13.88, 19.67)	21.92 (16.71, 23.88)	0.050
Abnormal relative wall thickness(n=315)	230 (75.7%)	11 (100%)	0.131
Pulmonary vascular resistance (n=148)	1.80 (1.57, 2.21)	1.64 (1.14, 1.99)	0.183
Significant valvular disease (n=309)	51 (17.1%)	2 (18.2%)	1.000

E = Early wave of mitral inflow, E' = early diastolic mitral annular velocity, LV = Left ventricle, ESV = end systolic volume, EDV = end diastolic volume.

**Table S3. Basic characteristics of patients with Heart Failure with Preserved Ejection Fraction stratified by BNP groups**

Variables	BNP≤278 pg/mL		P-value
	(n=438)	(n=361)	
Random to spironolactone	217 (49.5)	190 (52.6)	0.385
<b>Demographics</b>			
Age, years	70.0 (62.0, 78.0)	73.0 (65.0, 81.0)	<b>&lt;0.001</b>
Sex, male	209 (47.7)	201 (55.7)	<b>0.025</b>
Race, white	345 (78.8)	290 (80.3)	0.586
BMI, kg/m <sup>2</sup>	33.1 (28.3, 38.6)	31.18 (26.4, 37.2)	<b>0.004</b>
Smoking history	228 (52.1)	206 (57.1)	0.157
Alcohol drinking drinks/week			0.791
0	328 (74.9)	273 (75.6)	
1-5	75 (17.1)	61 (16.9)	
6-10	25 (5.7)	20 (5.5)	
10+	10 (2.3)	7 (1.9)	
<b>Physical examination</b>			
EF, %	60.0 (55.0, 64.0)	55.0 (50.0, 61.0)	<b>0.001</b>
NYHA(III-IV)	170 (38.8)	131 (36.3)	0.464
Heart rate, bpm	67.0 (60.0, 76.0)	69.0 (62.0, 76.0)	0.095
SBP, mmHg	128.0 (118.0, 138.0)	130.0 (118.0, 139.0)	0.779
DBP, mmHg	70.0 (64.0, 80.0)	70.0 (62.0, 80.0)	0.203
GFR, ml/min*1.73m <sup>2</sup>	64.3 (51.5, 79.3)	61.2 (47.0, 74.8)	<b>0.005</b>
BNP, pg/ml	149.0 (116.0, 199.8)	483.0 (358.5, 720.5)	<b>&lt;0.001</b>
<b>Comorbidities, n (%)</b>			

Pervious hospitalization for CHF	188 (42.9)	173 (47.9)	0.158
Pervious MI	107 (24.4)	83 (23.0)	0.635
Pervious stroke	47 (10.7)	37 (10.2)	0.825
Pervious CABG	74 (16.9)	76 (21.1)	0.134
Pervious PCI	92 (21.0)	88 (24.4)	0.256
COPD	72 (16.4)	57 (15.8)	0.804
Hypertension	397 (90.6)	329 (91.1)	0.808
Peripheral artery disease	48 (11.0)	46 (12.7)	0.436
Dyslipidemia	324 (74.0)	265 (73.4)	0.857
AF	160 (36.5)	170 (47.1)	<b>0.003</b>
Diabetes	171 (39.0)	165 (45.7)	0.058
<b>Medications, n (%)</b>			
Diuretic	355 (81.1)	325 (90.0)	<b>&lt;0.001</b>
ACEI	209 (47.7)	190 (52.6)	0.167
ARB	124 (28.3)	101 (28.0)	0.917
Beta blocker	341 (77.9)	306 (84.8)	<b>0.013</b>
Calcium channel blocker	186 (42.5)	133 (36.8)	0.106
Aspirin	284 (64.8)	215 (59.6)	0.125
Statin	286 (65.3)	231 (64.0)	0.700
Warfarin	133 (30.4)	129 (35.7)	0.108
<b>Scores</b>			
CHADS2	3 (2-3)	3 (2-3)	<b>0.033</b>
CHA2DS2-VASc	4 (4-5)	5 (4-5)	0.181

R2CHADS2	4 (3-5)	4 (3-5)	<b>0.008</b>
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BMI: body mass index, EF: ejection fraction, NYHA: New York heart function class, bpm: beat per minutes, SBP: systolic blood pressure, DBP: diastolic blood pressure, GFR: estimated glomerular filtration rate, BNP: B-type natriuretic peptide, CHF: chronic heart failure, ,MI: myocardial infarction, CABG: coronary artery bypass grafting ,PCI: Percutaneous coronary intervention, COPD: chronic obstructive pulmonary disease, AF: Atrial fibrillation, ACEI: angiotensin converting enzyme inhibitor, ARB: angiotensin receptor blocker.

**Table S4. Baseline echocardiographic characteristics of Heart Failure with Preserved Ejection Fraction patients stratified by BNP groups**

Variables	BNP≤278 pg/mL	BNP >278 pg/mL	P-value
Eccentric mitral regurgitation (n=232)	0 (0.0%)	5 (4.4%)	0.062
Moderate or greater mitral regurgitation (n=232)	9 (7.6%)	28 (24.8%)	0.000
Interventricular septum thickness (n=315)	1.15 (1.04, 1.28)	1.23 (1.08, 1.35)	0.009
Posterior wall thickness (n=315)	1.11 (1.01, 1.25)	1.19 (1.03, 1.30)	0.011
End-diastolic left ventricular diameter (n=315)	4.83±0.57	4.81±0.62	0.827
Maximal left atrial anterior-posterior diameter (n=315)	4.22 (3.95, 4.66)	4.46 (4.03, 4.87)	0.004
Peak E wave velocity (n=284)	87.60±29.50	99.53±30.63	0.001
Peak A wave velocity (n=209)	74.89±23.78	72.85±28.18	0.585
Lateral early diastolic myocardial velocity (n=200)	7.57 (6.01, 9.64)	7.44 (5.66, 10.54)	0.906
Lateral late diastolic myocardial velocity (n=157)	8.51 (6.25, 10.57)	7.62 (5.03, 9.80)	0.056
Mitral regurgitation jet area (n=247)	0.71 (0.00, 1.93)	1.37 (0.00, 3.81)	0.003
E wave deceleration time (n=282)	195.00 (163.33, 240.83)	193.33 (140.00, 226.67)	0.070
Peak tricuspid regurgitation velocity (n=197)	261.88 (241.89, 296.08)	277.30 (248.43, 318.27)	0.039
E/A ratio (n=208)	1.03 (0.82, 1.40)	1.34 (0.83, 1.92)	0.017
End-systolic left ventricular diameter (n=315)	3.23 (2.99, 3.64)	3.41 (3.01, 3.72)	0.398
Septal early diastolic myocardial velocity(n=223)	5.66 (4.54, 7.37)	5.79 (4.49, 7.20)	0.982
Septal late diastolic myocardial velocity (n=162)	7.60 (6.31, 9.16)	5.43 (4.48, 7.39)	0.000
RV end diastolic area (n=237)	18.98 (16.46, 23.01)	19.80 (15.96, 24.98)	0.343
RV end systolic area (n=237)	9.67 (7.65, 12.16)	9.97 (7.94, 13.25)	0.169
Lateral systolic myocardial velocity (n=199)	6.54 (5.55, 7.73)	6.22 (5.19, 7.54)	0.189
Septal systolic myocardial velocity (n=222)	6.12 (5.09, 6.74)	5.33 (4.57, 6.30)	0.004

Left atrial area (n=286)	18.71 (16.06, 22.90)	20.42 (17.51, 24.31)	0.006
Mean LV wall thickness (n=315)	1.13 (1.03, 1.25)	1.21 (1.06, 1.33)	0.009
Lv mass (n=315)	203.15 (165.63, 257.79)	217.17 (172.72, 277.64)	0.067
Ejection Fraction (n=319)	61.30 (56.31, 66.48)	58.88 (55.58, 63.44)	0.016
E/Em septal ratio (n=217)	14.83 (11.55, 18.57)	16.70 (13.35, 21.89)	0.015
RV fractional area change (n=237)	0.50 (0.44, 0.55)	0.49 (0.43, 0.54)	0.259
E/Em lateral ratio (n=195)	10.66 (7.91, 14.18)	12.05 (8.39, 16.68)	0.088
Simpson Ejection fraction (n=298)	61.57 (56.76, 66.62)	59.38 (56.03, 63.64)	0.032
Teicholtz end-diastolic volume (n=315)	107.52 (90.29, 129.99)	110.95 (85.88, 128.88)	0.972
Teicholtz end-systolic volume (n=315)	44.89 (34.81, 55.71)	47.83 (35.25, 58.79)	0.398
Teicholtz Ejection fraction (n=315)	58.73 (54.57, 61.49)	57.53 (52.88, 60.20)	0.052
End-diastolic volume (n=298)	97.54 (73.30, 121.41)	90.36 (73.37, 121.80)	0.991
End-systolic volume (n=298)	36.37 (25.37, 47.03)	38.83 (27.27, 49.96)	0.243
LA volume (n=293)	54.43 (42.39, 73.41)	62.16 (49.28, 76.74)	0.019
LV relative wall thickness (n=315)	0.46 (0.42, 0.52)	0.49 (0.44, 0.54)	0.023
MR jet area-to-left atrial area ratio (n=232)	0.04 (0.00, 0.10)	0.08 (0.00, 0.17)	0.006
Stroke volume (n=298)	59.15 (44.88, 74.43)	55.95 (44.98, 68.75)	0.419
Abnormal E' (n=248)	95 (72%)	80 (69.0%)	0.604
Diastolic dysfunction grade (n=209)	1.00 (0.00, 2.00)	1.00 (0.00, 2.00)	0.768
Diastolic dysfunction grade (modified Olmsted criteria) (n=167)	2.00 (1.00, 2.00)	2.00 (1.00, 3.00)	0.188
Longitudinal Strain (n=205)	-15.95±3.55	-14.85±3.25	0.024
Abnormal Longitudinal Strain (n=205)	52 (44.1%)	56 (64.4%)	0.004
Quartile of Longitudinal Strain (n=205)	2.00 (1.00, 3.00)	3.00 (2.00, 4.00)	0.013
Moderate or greater aortic stenosis (n=259)	2 (1.5%)	1 (0.8%)	1.000
Moderate aortic regurgitation (n=306)	2 (1.2%)	3 (2.2%)	0.836

Prosthetic valve (n=319)	7 (4.1%)	7 (4.8%)	0.764
Was color doppler missing in study (n=319)	11 (6.4%)	1 (0.7%)	0.007
AV peak velocity (n=259)	141.04 (118.53, 173.48)	137.35 (112.63, 172.28)	0.283
Right ventricular outflow tract velocity time integral (n=189)	17.70 (14.42, 21.27)	16.22 (13.23, 19.35)	0.104
Abnormal relative wall thickness(n=315)	123 (72.8%)	118 (80.8%)	0.093
Pulmonary vascular resistance (n=148)	1.72 (1.47, 2.03)	1.94 (1.64, 2.32)	0.005
Significant valvular disease (n=309)	16 (9.8%)	37 (25.3%)	0.000

E = Early wave of mitral inflow, E' = early diastolic mitral annular velocity, LV = Left ventricle, ESV = end systolic volume, EDV = end diastolic volume.

**Table S5. C-index, NRI and IDI for evaluating improvement to predict stroke after adding BNP to scores of CHADS2, CHA2DS2-VASc, R2CHADS2 in different subgroups in patients with Heart Failure with Preserved Ejection Fraction**

Clinical model	Clinical model+BNP		Clinical model VS Clinical model+BNP				
	C-index (95%CI)	C-index (95%CI)	P value for C-index	Continuous NRI (%) (95%CI)	P value for NRI	IDI (%) (95%CI)	P value for IDI
<b>Excluding patients with AF (n=469)</b>							
<b>CHADS2</b>	0.71 (0.63, 0.79)	0.81 (0.73, 0.89)	0.1044	34.8 (0.4, 60.3)	<b>0.0270</b>	2.1 (0.3, 8.8)	<b>&lt;0.0001</b>
<b>CHA2DS2-VASc</b>	0.67 (0.54, 0.80)	0.77 (0.67, 0.87)	0.2649	35.6 (1.5, 61.2)	<b>0.0330</b>	1.3 (0.2, 9.4)	<b>0.0270</b>
<b>R2CHADS2</b>	0.73 (0.62, 0.84)	0.80 (0.69, 0.91)	0.3304	34.8 (0.3, 60.7)	<b>0.0330</b>	2.70 (0.3, 13.4)	<b>0.0070</b>
<b>Excluding patients from Georgia and Russia (n=695)</b>							
<b>CHADS2</b>	0.67 (0.61, 0.73)	0.78 (0.70, 0.85)	0.0126	36.0 (16.0, 52.3)	<b>&lt;0.0001</b>	3.0 (0.8, 6.0)	<b>0.0130</b>
<b>CHA2DS2-VASc</b>	0.64 (0.54, 0.73)	0.75 (0.68, 0.81)	0.0434	36.6 (12.0, 53.5)	<b>0.0070</b>	2.1 (0.5, 5.8)	<b>&lt;0.0001</b>
<b>R2CHADS2</b>	0.69 (0.61, 0.77)	0.78 (0.70, 0.86)	0.0503	36.0 (13.8, 52.3)	<b>0.0130</b>	3.2 (0.7, 7.1)	<b>&lt;0.0001</b>
<b>Excluding patients using warfarin (n=537)</b>							
<b>CHADS2</b>	0.69 (0.63, 0.76)	0.80 (0.74, 0.87)	0.0499	35.0 (4.3, 59.0)	<b>0.0130</b>	2.2 (0.4, 9.2)	<b>&lt;0.0001</b>
<b>CHA2DS2-VASc</b>	0.74 (0.63, 0.84)	0.81 (0.74, 0.89)	0.0170	35.7 (5.4, 59.2)	<b>0.0070</b>	1.8 (0.30, 10.9)	<b>0.0070</b>

<b>R2CHADS2</b>	0.73 (0.64, 0.82)	0.81 (0.73, 0.89)	0.1920	35.0 (4.3,59.0)	<b>0.0130</b>	2.7 (0.60,12.0)	<b>&lt;0.0001</b>
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BNP: B-type natriuretic peptide, CI: confidence interval, NRI: net reclassification improvement, IDI: the integrated discrimination improvement, AF: atrial fibrillation.

**Table S6. Basic characteristics of patients with Heart Failure with Preserved Ejection Fraction stratified by BNP groups which matched basing propensity score**

Variables	BNP≤278 pg/mL		P-value
	(n=313)	(n=313)	
Random to spironolactone	151 (48.2)	170 (54.3)	0.15
<b>Demographics</b>			
Age, years	73 (65, 80)	72 (64, 79)	0.482
Sex, male	156 (49.8)	166 (53.0)	0.472
Race, white	251 (80.2)	246 (78.6)	0.693
BMI, kg/m <sup>2</sup>	33.25 (28.28, 37.59)	31.93 (27.31, 37.67)	0.295
Smoking history	166 (53.0)	173 (55.3)	0.630
Alcohol drinking drinks/week			0.681
0	233 (74.4)	240 (76.7)	
1-5	52 (16.6)	52 (16.6)	
6-10	21 (6.7)	14 (4.5)	
10+	7 (2.2)	7 (2.2)	
<b>Physical examination</b>			
EF, %	58.00 (53.00, 62.00)	58.00 (54.00, 62.00)	0.811
NYHA(III-IV)	124 (39.6)	114 (36.4)	0.459
Heart rate, bpm	68 (60, 75)	69 (62, 76)	0.201
SBP, mmHg	128 (118, 138)	130 (118, 139)	0.813
DBP, mmHg	70 (62, 80)	71 (62, 80)	0.615
GFR, ml/min*1.73m <sup>2</sup>	59.98 (50.05, 75.59)	63.44 (48.53, 75.59)	0.363
BNP, pg/ml	168.00 (130.00, 218.00)	475.00 (354.00, 717.00)	<0.001
<b>Comorbidities, n (%)</b>			

Pervious hospitalization for CHF	126 (40.3)	147 (47.0)	0.107
Pervious MI	77 (24.6)	75 (24.0)	0.926
Pervious stroke	37 (11.8)	35 (11.2)	0.900
Pervious CABG	63 (20.1)	61 (19.5)	0.920
Pervious PCI	72 (23.0)	78 (24.9)	0.640
COPD	54 (17.3)	49 (15.7)	0.666
Hypertension	286 (91.4)	285 (91.1)	1.000
Peripheral artery disease	40 (12.8)	39 (12.5)	1.000
Dyslipidemia	234 (74.8)	221 (70.6)	0.282
AF	141 (45.0)	139 (44.4)	0.936
Diabetes	133 (42.5)	147 (47.0)	0.296
<b>Medications, n (%)</b>			
Diuretic	281 (89.8)	278 (88.8)	0.796
ACEI	153 (48.9)	169 (54.0)	0.230
ARB	93 (29.7)	82 (26.2)	0.373
Beta blocker	259 (82.7)	259 (82.7)	1.000
Calcium channel blocker	128 (40.9)	120 (38.3)	0.567
Aspirin	200 (63.9)	185 (59.1)	0.250
Statin	210 (67.1)	193 (61.7)	0.182
Warfarin	113 (36.1)	108 (34.5)	0.738

BMI: body mass index, EF: ejection fraction, NYHA: New York heart function class, bpm: beat per minutes, SBP: systolic blood pressure, DBP: diastolic blood pressure, GFR: estimated glomerular filtration rate, BNP: B-type natriuretic peptide, CHF: chronic heart failure, ,MI: myocardial infarction, CABG: coronary artery bypass grafting ,PCI: Percutaneous coronary intervention, COPD: chronic obstructive pulmonary disease, AF: Atrial fibrillation, ACEI: angiotensin converting enzyme inhibitor, ARB: angiotensin

receptor blocker.