Table S1. Comparison of patients with new onset acute heart failure (NO-AHF) and decompensation of heart failure (ADHF).

	NO-AHF n = **39**	ADHF n = **58**	p
Age, years, mean (SD)	59 (16.8)	69 (13.3)	0.001
Male gender, n (%)	26 (66.7)	44 (75.9)	0.32
BMI, kg/m^2, mean (SD)	30.4 (6.3)	30.3 (7.5)	0.61
SBP, mmHg, mean (SD)	158 (38.4)	132 (35.4)	0.004
HR, bpm, median (IQR)	113 (100-127)	90 (78-160)	0.007
Duration of index hospitalization, days, median (IQR)	14 (10-22)	19 (13-27)	0.13
Nicotine addiction, n (%)	13 (33.3)	20 (34.5)	0.90
Past medical history			
Hypertension, n (%)	22 (56.4)	47 (81)	0.009
MI, n (%)	2 (5.1)	22 (37.9)	<0.001
Stroke, n (%)	1 (2.6)	5 (8.6)	0.23
DM, (%)	8 (20.5)	25 (43.1)	0.02
COPD, n (%)	2 (5.1)	10 (17.4)	0.08
CKD, n (%)	4 (10.3)	23 (39.7)	0.002
AF, n (%)	13 (33.3)	41 (70.7)	<0.001
Hypercholesterolemia, n (%)	10 (25.6)	28 (48.3)	0.03
Previous PCI, n (%)	1 (2.6)	22 (37.9)	<0.001
Previous CABG, n (%)	0	14 (24.1)	<0.001
Laboratory and echocardiographic parameters			
NTproBNP, pg/ml, median (IQR)	3782 (2035-6265)	6457.5 (3389.3- 14500.3)	0.15
Troponin, ng/L, median (IQR)	67 (27.1-120.5)	39 (25-92.9)	0.86

	NO-AHF n = **39**	ADHF n = **58**	p
CK-MB, ng/mL, median (IQR)	5 (3.4-7.6)	3.6 (2.6-5.5)	0.46
Creatinine, mg/dl, median (IQR)	1.1 (0.9-1.2)	1.3 (1.0-1.7)	0.001
LVEDd, mm, mean (SD)	59 (8.6)	70.5 (76)	0.35
LVESd, mm, mean (SD)	47 (8.8)	74 (105.1)	0.22
LVEF, %, mean (SD)	33 (14.5)	32.5 (16.6)	0.44
Hospitalization data			
Ablation, n (%)	1 (2.6)	4 (6.9)	0.34
CRT/ICD/pacemaker, n (%)	4 (10.3)	10 (17.2)	0.34
Coronarography, n (%)	26 (66.7)	24 (41.4)	0.02
PCI, n (%)	3 (7.7)	4 (6.9)	0.80
CABG, n (%)	1 (2.6)	0	0.22
Bleeding complications, n (%)	1 (2.6)	4 (6.9)	0.34
Acute renal failure, n (%)	2 (5.1)	7 (12.1)	0.25
Acute hepatic failure, n (%)	(0)	3 (5.2)	0.15
Cardiogenic shock, n (%)	1 (2.6)	1 (1.7)	0.78
Cardiac arrest, n (%)	0	6 (10.3)	0.04
In-hospital mortality, n (%)	0	7 (12.1)	0.02
Etiology of AHF			
Ischemic, n (%)	3 (7.7)	24 (41.4)	0.009
Inflammatory, n (%)	11 (28.2)	5 (8.6)	0.009
Valve disease, n (%)	6 (15.4)	12 (20.7)	0.009
Arrhythmic, n (%)	5 (12.8)	4 (6.9)	0.009
Dilated cardiomyopathy, n (%)	2 (5.1)	5 (8.6)	0.009
Puerperal cardiomyopathy, n (%)	2 (5.1)	0	0.44
Takotsubo cardiomyopathy, n (%)	1 (2.6)	0	0.44
Pharmacotherapy at discharge			
ASA, n (%)	15 (38.5)	17 (33)	0.35
Clopidogrel, n (%)	3 (7.7)	7 (12.1)	0.49

	NO-AHF n = **39**	ADHF n = **58**	p
Ticagrelor, n (%)	1 (2.6)	1 (1.7)	0.78
LMWH, n (%)	4 (10.3)	11 (19)	0.25
VKA, n (%)	4 (10.3)	18 (31)	0.02
NOAC, n (%)	15 (38.5)	16 (27.6)	0.26
Diuretic, n (%)	36 (92.3)	48 (82.8)	0.18
Beta-blocker, n (%)	33 (84.6)	49 (84.5)	0.11
ACEI, n (%)	24 (61.5)	21 (36.2)	0.01
ARB, n (%)	5 (12.8)	5 (12.8)	0.18
ARNI, n (%)	5 (12.8)	8 (13.8)	0.90
Spironolactone, n (%)	12 (30.8)	20 (34.5)	0.70
Eplerenone, n (%)	20 (51.3)	18 (31.0)	0.05
CCB, n (%)	13 (33.3)	7 (12.1)	0.01
Ivabradine, n (%)	4 (10.3)	6 (10.3)	0.99
Digoxin, n (%)	7 (17.9)	16 (27.6)	0.27
Amiodarone, n (%)	4 (10.3)	10 (17.2)	0.34
Insulin, n (%)	4 (10.3)	10 (17.2)	0.34
Oral hypoglycemic medications, n (%)	9 (23.1)	17 (29.3)	0.50
Statin, n (%)	22 (56.4)	39 (67.2)	0.28
PPI, n (%)	23 (59.0)	37 (63.8)	0.63
Discharge data and follow-up			
NYHA class during discharge			
≤ II, n (%)	37 (94.9)	34 (66.7)	<0.001
> II, n (%)	2 (5.1)	17 (33.3)	
12-month mortality including in-hospital deaths, n (%)	2 (5.1)	20 (34.5)	<0.001
12-month mortality after discharge, n (%)	2 (5.1)	13 (25.5)	0.02
12-month cardiovascular readmissions, n (%)	9 (5.7)	7 (12.1)	0.15
12-month death or cardiovascular readmission after discharge	3 (7.7)	17 (29.3)	0.01
12-month death or cardiovascular readmission from the	3 (7.7)	24 (41.4)	<0.001

	NO-AHF n = **39**	ADHF n = **58**	p
day of admission			
LVEF* after 12 month follow up, %, mean (SD)	50.2 (9.8)	37.2 (15.6)	<0.001

*echocardiographic follow-up were performed in 32 patients with NO-AHF and 34 patients with ADHF

Abbreviations: ACEI, angiotensin-converting enzyme inhibitor; AF, atrial fibrillation; ARB, angiotensin II receptor blocker; ARNI, angiotensin receptor-neprilysin inhibitor; ASA, acetylsalicylic acid; BMI, body mass index; CABG, coronary artery bypass graft;CCB, calcium channel blocker; CK-MB, creatine kinase – myocardial band; CKD, chronic kidney disease; COPD, chronic obstructive pulmonary disease; CRT, cardiac resynchronization therapy; DM, diabetes mellitus HR, heart rate; ICD, implantable cardioverter-defibrillator; LMWH, low molecular weight heparin; LVEDd, left ventricle end-diastolic dimension; LVESd, left ventricle end-systolic dimension; LVEF, left ventricle ejection fraction; MI, myocardial infarction; NOAC, non-vitamin K antagonist oral anticoagulant; NTproBNP, N-terminal prohormone of brain natriuretic peptide; NYHA, New York Heart Association; PCI, percutaneous coronary intervention; PPI, proton-pump inhibitor; SBP, systolic blood pressure; VKA, vitamin K antagonist
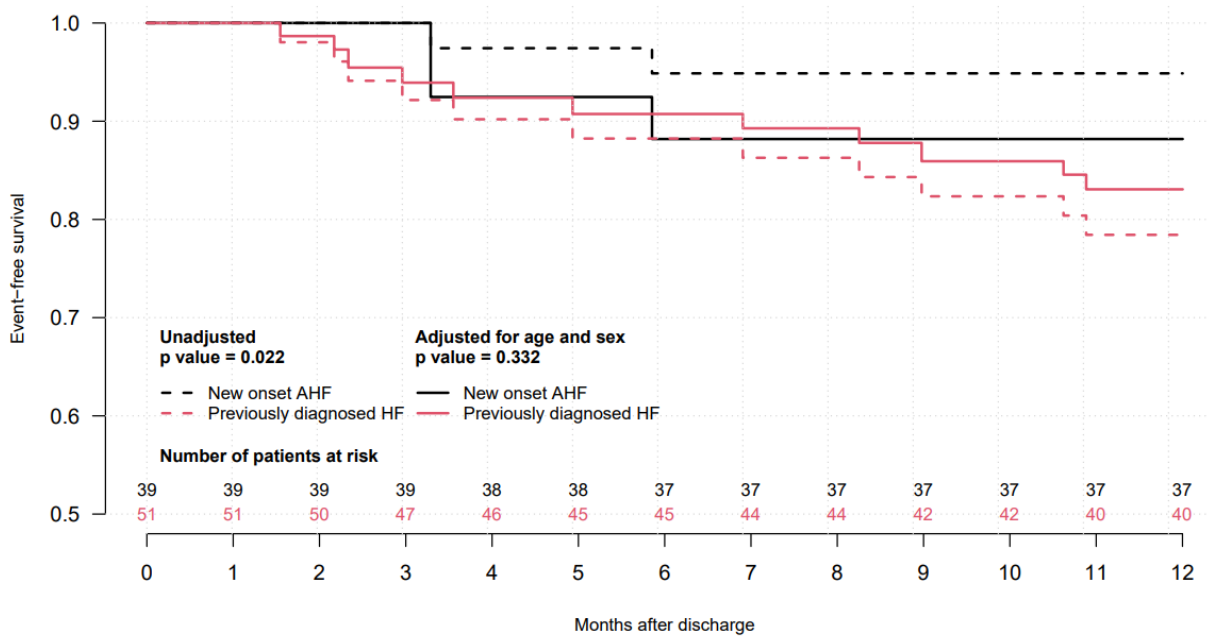
Figure S1. Kaplan-Meier analysis of rehospitalizations due to cardiovascular reasons during 12-month follow-up in patients with NO-AHF and ADHF.
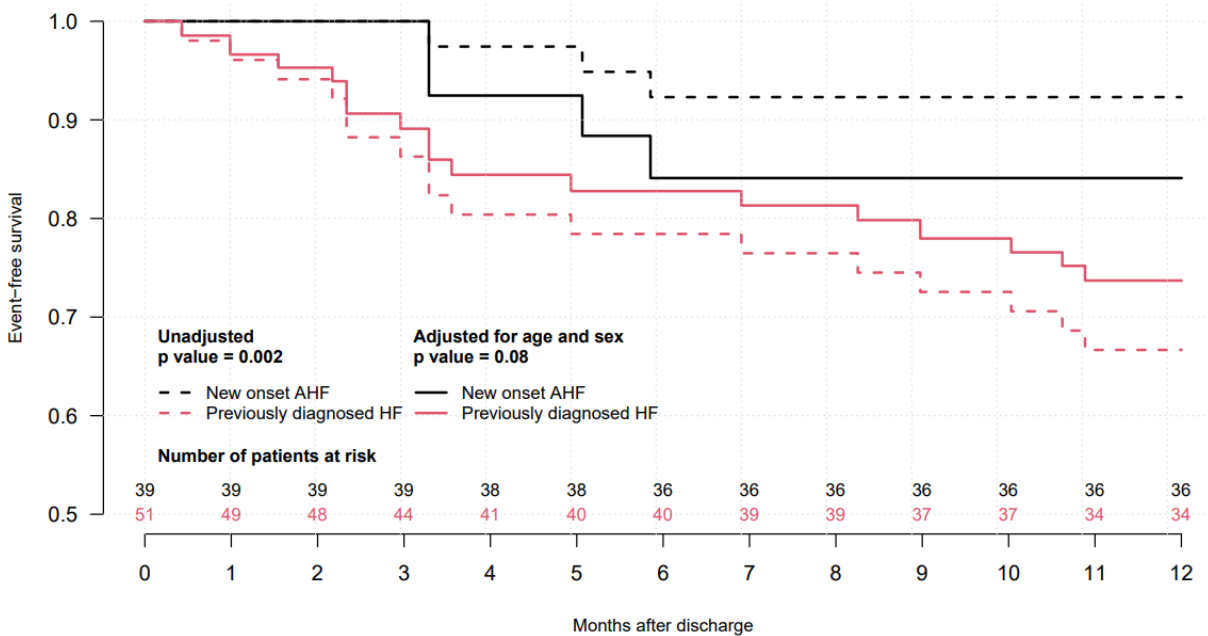

Figure S2. Kaplan-Meier analysis of 12-month deaths or rehospitalizations due to cardiovascular reasons in patients with NO-AHF and ADHF from the day of discharge.
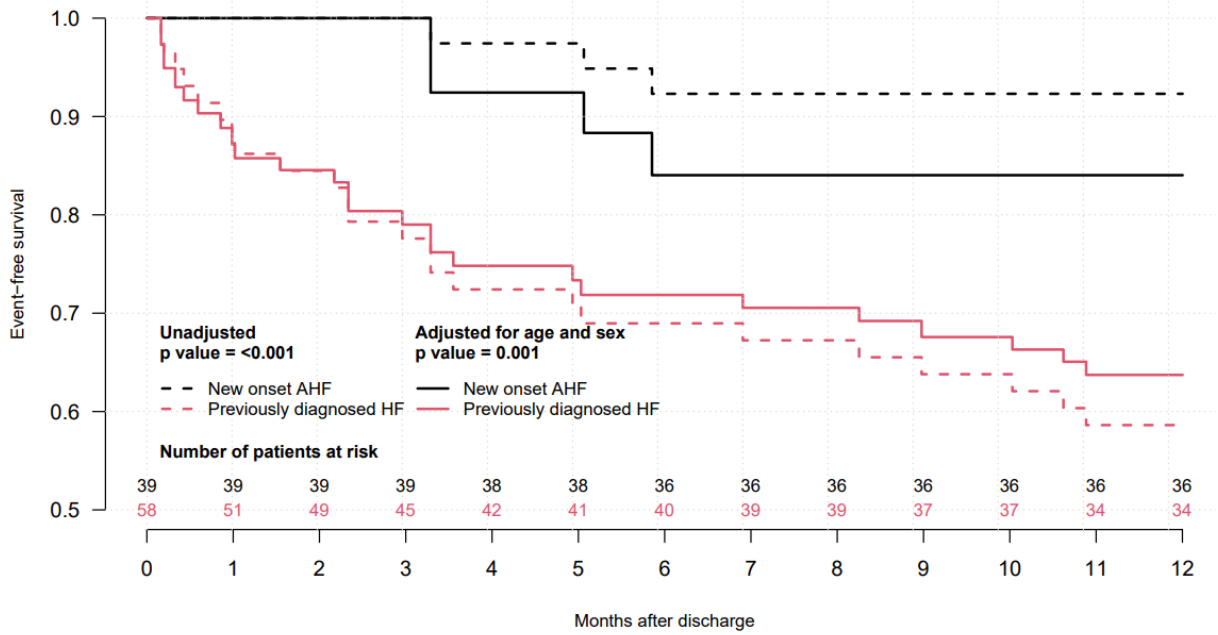
Figure S3. Kaplan-Meier analysis of 12-month deaths or rehospitalizations due to cardiovascular reasons in patients with NO-AHF and ADHF from the day of the admission.
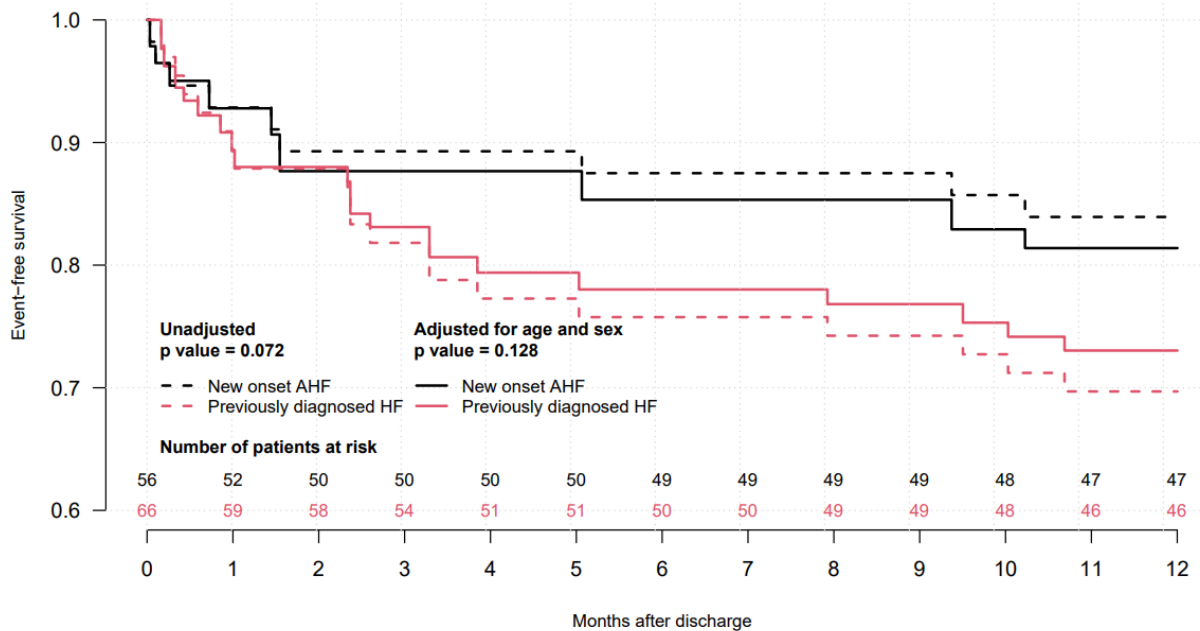

Figure S4. Kaplan-Meier analysis of 12-month deaths from the day of admission in the whole OP-AHF population of patients with NO-AHF and ADHF (patients with acute coronary syndrome as a cause of AHF included).