

Supplementary table 1: Baseline characteristics of patients with acute decompensated chronic heart failure and a left ventricular ejection fraction <40%, on beta-blockers on admission

	Patients with ADCHF with a LVEF <40% and beta-blockers on admission N=1018	Beta-blockers maintained during hospitalization N=926	Beta-blockers withdrawn during hospitalization N=92	p value
Age (years)	61.0±13.9	61.1±13.7	60.3±15.8	0.64
Male gender	751(73.8%)	689(74.4%)	62(67.4%)	0.14
BMI (kg/m ²)	27.7±5.8	27.6±5.8	28.3±5.7	0.28
Hypertension	673(66.1%)	620(67.0%)	53(57.6%)	0.07
Diabetes Mellitus	569(55.9%)	518(55.9%)	51(55.4%)	0.92
Hyperlipidemia	464(45.6%)	419(45.2%)	45(48.9%)	0.50
Smoking	162(15.9%)	149(16.1%)	13(14.1%)	0.62
Race				
Arabs	937 (92.0%)	852(92.0%)	85(92.4%)	0.37
Asians	77(7.6%)	71(7.7%)	6(6.5%)	
Others	4(0.4%)	3(0.3%)	1(1.1%)	
Past – medical history				
Known CAD	676(66.4%)	617(66.6%)	59(64.1%)	0.62
Stroke /TIAs	96(9.4%)	89(9.6%)	7(7.6%)	0.53
Valvular heart disease	154(15.1%)	139(15.0%)	15(16.3%)	0.74
Atrial fibrillation	170(16.7%)	157(17.0%)	13(14.1%)	0.48
CKD	215(21.1%)	192(20.7%)	23(25.0%)	0.33
Etiology				
Non-Compliance Medication	300(29.5%)	281(30.3%)	19(20.7%)	0.052
IHD	204(20,0%)	184(19.9%)	20(21.7%)	0.66
HTN	46(4.5%)	44(4.8%)	2(2.2%)	0.42
Arrhythmia	61(6.0%)	57(6.2%)	4(4.3%)	0.48
Anemia	23(2.3%)	20(2.2%)	3(3.3%)	0.45
Renal failure	58(5.7%)	50(5.4%)	8(8.7%)	0.19
Clinical and biochemical parameters				

HR, b.p.m	94.4±22.4	94.8±22.5	91.1±21.2	0.14
SBP, mmHg	126.6±30.6	127.8±30.3	114.2±31.3	<0.001
DBP, mmHg	76.4±17.9	77.2±17.8	67.8±17.2	<0.001
LVEF (%)	26.6±7.1	26.7±7.1	25.6±7.6	0.16
BNP, pg/mL	6847±9679	6851±9831	6777±7271	0.97
Creatinin, mmol/L	137.7±116.3	135.7±113.4	158.5±141.4	0.07
Medications				
Carvedilol	649(63.8%)	589 (63.6%)	60(65.2%)	0.75
Bisoprolol	286 (28.1%)	265(28.6%)	21(22.8%)	0.23
Metoprolol	64 (6.3%)	57(6.2%)	7(7.6%)	0.58
Atenolol	19 (1.9%)	15(1.6%)	4(4.3%)	0.08
ACE-inhibitors	652(64.0%)	600(64.8%)	52(56.5%)	0.11
ARBs	180(17.7%)	167 (18.0%)	13(14.1%)	0.34
Statins	751 (73.8%)	694(74.9%)	57(62.0%)	0.007
Aspirin	832 (81.7%)	768(82.9%)	64(69.6%)	0.002
VKA	221(21.7%)	196 (21.2%)	25(27.2%)	0.18
Ibravadine	48(4.7%)	42 (4.5%)	6(6.5%)	0.43
Aldosterone antagonists	419(41.2%)	383 (41.4%)	36 (39.1%)	0.67
Clopidogrel	301(29.6%)	274 (29.6%)	27(29.3%)	0.96
Diuretics	920(90.4%)	835(90.2%)	85(92.4%)	0.49
Inotrops use during hospitalization	156 (15.3%)	110 (11.9%)	46 (50.0%)	<0.001*

All values are given as n (%) or mean ±SD. ADCHF = Acute decompensated chronic heart failure, BMI=body mass index, CAD= coronary artery disease, TIAs=transient ischemic attacks, CKD=chronic kidney disease, HR=heart rate, SBP= systolic blood pressure, DBP= diastolic blood pressure, LVEF = Left ventricular ejection fraction, VKA= Vitamin K antagonists, ARBs= Angiotensin receptor blockers.

Supplementary table 2: Baseline characteristics of patients with acute de-novo heart failure and a left ventricular ejection fraction <40%, on beta-Blockers on admission.

	Patients with ADCHF with a LVEF <40% and beta-blockers on admission N=260	Beta-blockers maintained during hospitalization N=224	Beta-blockers withdrawn during hospitalization N=36	p
Age (years)	59.8±13.8	60.1±13.8	57.9±13.9	0.35
Male gender	177(68.1%)	151(67.4%)	26(72.2%)	0.56
BMI (kg/m ²)	28.1±5.7	28.1±5.8	28.1±5.2	0.99
Hypertension	181(69.6%)	158(70.5%)	23(63.9%)	0.42
Diabetes Mellitus	147(56.5%)	123(54.9%)	24(66.7%)	0.18
Hyperlipidemia	106(40.8%)	92(41.1%)	14(38.9%)	0.80
Smoking	67 (25.8%)	60(26.8%)	7(19.4%)	0.35
Race				
Arabs	232(89.2%)	201 (89.7%)	31(86.1%)	0.56
Asians	28(10.8%)	23(10.3%)	5(13.9%)	
Others	-	-	-	
Past – medical history				
Known CAD	150(57.7%)	130(58.0%)	20(55.6%)	0.78
Stroke /TIAs	29(11.2%)	24(10.7%)	5(13.9%)	0.57
Valvular heart disease	19(7.3%)	16(7.1%)	3 (8.3%)	0.73
Atrial fibrillation	23(8.8 %)	19(8.5%)	4(11.1%)	0.53
CKD	28(10.8%)	22(9.8%)	6 (16.7%)	0.24
Etiology				
Non-Compliance Medication	40(15.4%)	37(16.5%)	3(8.3%)	0.20
IHD	117(45.0%)	100(44.6%)	17(47.2%)	0.77
HTN	12(4.6%)	11(4.9%)	1(2.8%)	0.99
Arrhythmia	11(4.2%)	8(3.6%)	3(8.3%)	0.18
Anemia	5(1.9%)	5(2.2%)	0(0.0%)	0.99
Renal failure	9(3.5%)	8(3.6%)	1(2.8%)	0.99
Clinical and biochemical				

parameters				
HR, b.p.m	94.6±22.3	94.6±21.2	94.7±28.7	0.99
SBP, mmHg	133.6±32.4	134.6±31.9	126.8±35.0	0.19
DBP, mmHg	80.5±19.3	81.0±18.8	77.6±22.4	0.34
LVEF (%)	28.8±7.2	29.0±7.2	27.5±7.4	0.23
BNP, pg/mL	5227±4924	5361±5046	3883±1614	0.52
Creatinin, mmol/L	128.5±121.9	124.9±123.5	151.1±110.2	0.23
Medications				
Carvedilol	100 (38.5%)	84(37.5%)	16(44.4%)	0.42
Bisoprolol	90 (34.6%)	82(36.6%)	8(22.2%)	0.09
Metoprolol	35 (13.5%)	25 (11.2%)	10(27.8%)	0.01
Atenolol	35 (13.5%)	33 (14.7%)	2(5.6%)	0.18
ACE-inhibitors	166(63.8%)	150(67.0%)	16(44.4%)	0.009
ARBs	23(8.8%)	18(8.0%)	5(13.9%)	0.33
Statins	180(69.2%)	154(68.8%)	26(72.2%)	0.67
Aspirin	204(78.5%)	176(78.6%)	28(77.8%)	0.91
VKA	19(7.3%)	16(7.1%)	3(8.3%)	0.73
Ibravadine	7(2.7%)	7(3.1%)	0(0.0%)	0.59
Aldosterone antagonists	45(17.3%)	38(17.0%)	7(19.4%)	0.71
Clopidogrel	81(31.2%)	69(30.8%)	12(33.3%)	0.76
Diuretics	113(43.5%)	98(43.8%)	15(41.7%)	0.81
Inotrops use during hospitalization	51 (19.6%)	32 (14.3%)	19 (52.8%)	<0.001

All values are given as n (%) or mean ±SD. ADNHF = Acute de-novo heart failure, BMI=body mass index, CAD= coronary artery disease, TIAs=transient ischemic attacks, CKD=chronic kidney disease, HR=heart rate, SBP= systolic blood pressure, DBP= diastolic blood pressure, LVEF = Left ventricular ejection fraction, VKA= Vitamin K antagonists, ARBs= Angiotensin receptor blockers.

Supplementary table 3: Variables after propensity score matching on inotropes in patients with acute decompensated chronic heart failure, a left ventricular ejection fraction <40% and on beta-blockers on admission.

	Beta-blockers continued N=92	Beta-blockers withdrawn N=92	p value
Age (years)	60.3±12.7	60.3±15.8	0.98
Male gender	74 (80.4%)	62(67.4%)	0.044*
Noncompliance with medication	51 (55.4%)	19 (20.7%)	<0.001*
SBP, mmHg	147.5±39.8	114.2±31.3	<0.001*
DBP, mmHg	95.9±23.4	67.8±17.2	<0.001*
LVEF (%)	28.3±6.7	25.6±7.6	0.011*
Creatinine, mmol/L	126.7±103.4	158.5±141.4	0.08
Statins	79 (85.9%)	57(62.0%)	<0.001*
Aspirin	92 (100.0%)	64(69.6%)	<0.001*
Inotropes	46 (50.0%)	46 (50.0%)	1.000

All values are given as n (%) or mean ±SD. SBP= systolic blood pressure, DBP= diastolic blood pressure, LVEF = Left ventricular ejection fraction.

Supplementary table 4: Variables after propensity score matching on inotrops in patients with acute de-novo heart failure, a left ventricular ejection fraction LVEF <40% and on beta-blockers on admission.

	Beta-blockers continued N=36	Beta-blockers withdrawn n=36	p value
Age	59.9±12.7	57.9±13.9	0.514
Male Gender	11 (30.6%)	10 (27.8%)	0.795
ACE-inhibitors	25 (69.4%)	16 (44.4%)	0.032*
Inotrops	19 (52.8%)	19 (52.8%)	1.000

All values are given as n (%) or mean ±SD.