SUPPLEMENTAL MATERIAL

Table 1: Baseline clinical characteristics for the four hospital cohorts

	All N=3580	Mar N=1062	H St Pau N=464	Can Ruti N=1835	Bellvitge N=219	P value	N
Male	2232 (62.3)	603 (56.8)	315 (67.9)	1310 (71.4)	169 (77.2)	<0.001	3580
Age	68.2 (12.7)	72.4 (11.3)	67.6 (13.5)	66.8 (12.6)	61.0 (12.1)	<0.001	3580
LVEF	38.3 (16.0)	44.8 (17.0)	42.8 (17.0)	34.2 (13.8)	31.9 (11.7)	<0.001	3580
HF group according to LVEF:						<0.001	3580
HFrEF	2232 (62.3)	471 (44.4)	237 (51.1)	1339 (73.0)	185 (84.5)		
HFmrEF	504 (14.1)	158 (14.9)	75 (16.2)	251 (13.7)	20 (9.13)		
HFpEF	844 (23.6%)	433 (40.8)	152 (32.8)	245 (13.4)	14 (6.39)		
Aetiology:						<0.001	3579
ischemic	1600 (44.7)	419 (39.5)	163 (35.1)	928 (50.6)	90 (41.3)		
dilated	552 (15.4)	111 (10.5)	135 (29.1)	241 (13.1)	65 (29.8)		
hypertensive	592 (16.5)	365 (34.4)	50 (10.8)	173 (9.43)	4 (1.83)		
valvular	321 (8.97)	48 (4.52)	77 (16.6)	176 (9.59)	20 (9.17)		
other	514 (14.4)	119 (11.2)	39 (8.41)	317 (17.3)	39 (17.9)		
Heart rate	72.7 (14.8)	74.5 (15.0)	73.4 (14.3)	71.8 (14.8)	70.5 (13.9)	<0.001	3577
Hypertension	2485 (69.4)	857 (80.7)	351 (75.6)	1153 (62.8)	124 (56.6)	<0.001	3580
Diabetes mellitus	1547 (43.2)	503 (47.4)	182 (39.2)	771 (42.0)	91 (41.6)	0.008	3580
COPD	721 (20.1)	238 (22.4)	125 (26.9)	321 (17.5)	37 (16.9)	<0.001	3580
Dyslipidaemia	1843 (51.5)	589 (55.5)	238 (51.3)	918 (50.0)	98 (44.7)	0.007	3580
Atrial fibrillation	999 (27.9)	358	208 (44.8)	389 (21.2)	44 (20.2)	<0.001	3579

		(33.7)					
BMI, Kg/m2	27.8 (5.30)	28.3 (5.70)	28.4 (5.12)	27.4 (5.09)	26.5 (4.80)	<0.001	3528
Sodium, mmol/L	139 (4.33)	140 (3.49)	140 (3.32)	138 (3.63)	139 (9.96)	<0.001	3556
Anaemia	1104 (31.3)	420 (39.5)	127(27.4)	603 (33.8)	81 (37.0)	<0.001	3526
NT-proBNP, ng/L	1638 (697;3937)	1577 (688;3996)	1618 (753;3701)	1750 (704;4210)	1420 (572;3198)	0.217	2705
eGFR, mL/min/1.73m2	60.4 (25.4)	56.0 (22.5)	60.4 (25.7)	62.2 (26.4)	67.7 (25.2)	<0.001	3562
NYHA class III–IV	1293 (36.1)	452 (42.6)	172 (37.1)	573 (31.2)	96 (44.0)	<0.001	3579
Treatment:							
ACEI or ARB	2992 (83.9)	793 (74.7)	397 (85.6)	1597 (87.0)	205 (99.5)	<0.001	3567
Beta-blockers	3094 (86.4)	922 (86.8)	373 (80.4)	1611 (87.8)	188 (85.8)	0.001	3580
MRA	1890 (52.8)	406 (38.2)	232 (50.0)	1107 (60.3)	145 (66.2)	<0.001	3580
Loop diuretics	3189 (89.1)	959 (90.3)	385 (83.0)	1654 (90.1)	191 (87.2)	<0.001	3580
Digoxin	959 (27.7)	137 (12.9)	24 (6.84)	732 (39.9)	66 (30.1)	<0.001	3467
ICD	396 (11.1)	24 (2.26)	74 (16.0)	232 (12.6)	66 (30.1)	<0.001	3578
CRT	234 (6.54)	11 (1.04)	33 (7.11)	153 (8.34)	37 (16.9)	<0.001	3580
Anticoagulants	1684 (47.0)	504 (47.5)	210 (45.3)	873 (47.6)	97 (44.3)	0.673	3580

Data are mean ± standard deviation, median (interquartile range) or n (%). P-values for the comparison of all four groups (null hypothesis: all three groups have the same characteristics). Anaemia was defined as a haemoglobin < 12 g/dL, ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin II receptor blocker; BMI, body mass

index; COPD, chronic obstructive pulmonary disease; CRT, cardiac resynchronization therapy; eGFR, estimated glomerular filtration rate (CKD-EPI equation); ICD, implantable cardioverter defibrillator; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonists; NYHA, New York Heart Association; NT-proBNP, N-terminal pro-brain natriuretic peptide. HFrEF, heart failure with reduced left ventricle ejection fraction; HFmrEF, heart failure with mid-range left ventricle ejection fraction; HFpEF, heart failure with preserved left ventricle ejection fraction.

Table 2: Baseline clinical characteristics of patients with HFmrEF according to the change of HF category at 1-year follow up.

	All N=269	Mid-range to reduced N=64	Mid-range to mid-range N=117	Mid-range to preserved N=88	P value overall	N
Male	197 (72.1)	52 (81.2)	87 (74.4)	55 (62.5)	0.030	269
Age	65.2 (12.2)	67.0 (10.6)	64.4 (12.5)	64.8 (12.9)	0.380	269
LVEF	42.9 (2.72)	41.9 (2.28)	42.8 (2.51)	44.0 (2.96)	<0.001	269
Aetiology:					0.005	269
ischemic	144 (53.5)	44 (68.8)	67 (57.3)	33 (37.5)		
dilated	36 (13.4)	5 (7.8)	18 (15.4)	13 (14.8)		
hypertensive	26 (9.7)	5 (7.8)	9 (7.7)	12 (13.6)		
valvular	24 (8.9)	6 (9.4)	10 (8.6)	8 (9.1)		
other	39 (14.5)	4 (6.3)	13 (11.1)	22 (25.0)		
Heart rate	70.0 (13.9)	69.5 (14.3)	69.5 (13.8)	71.1 (13.9)	0.695	269
Hypertension	180 (66.9)	50 (78.1)	76 (65.0)	54 (61.4)	0.080	269
Diabetes mellitus	112 (41.6)	26 (40.6)	50 (42.7)	36 (40.9)	0.949	269
COPD	43 (16.0)	8 (12.5)	19 (16.2)	16 (18.2)	0.637	269
Dyslipidaemia	156 (58.0)	41 (64.1)	67 (57.3)	48 (54.5)	0.491	269
Atrial fibrillation	81 (30.1)	18 (28.1)	31 (26.5)	32 (36.4)	0.289	269
BMI, Kg/m2	28.4 (5.1)	27.9 (5.1)	28.2 (4.7)	29.1 (5.7)	0.323	263
Sodium, mmol/L	140 (3.2)	140 (3.4)	140 (3.2)	140 (3.2)	0.887	265
Anaemia	84 (31.8)	24 (38.1)	35 (30.4)	25 (29.1)	0.462	264
NT-proBNP, ng/L	1037 [502;3304]	2186 [933;4456]	1000 [482;4287]	901 [450;1690]	0.005	190
eGFR, mL/min/1.73m2	65.3 (26.2)	60.7 (27.0)	64.2 (27.4)	70.2 (23.5)	0.078	264
NYHA class III–IV	74 (27.5)	18 (28.1)	31 (26.5)	25 (28.4)	0.947	269
Treatment:						
ACEI or ARB	224 (83.3)	50 (78.1)	101 (86.3)	73 (83.0)	0.367	269
Beta-blockers	251 (93.3)	56 (87.5)	111 (94.9)	84 (95.5)	0.135	269

MRA	130 (48.3)	40 (62.5)	54 (46.2)	36 (40.9)	0.026	269
Loop diuretics	218 (81.0)	53 (82.8)	96 (82.1)	69 (78.4)	0.739	269
Digoxin	65 (24.9)	17 (27.0)	25 (22.3)	23 (26.7)	0.704	261
ICD	17 (6.3)	10 (15.6)	5 (4.3)	2 (2.3)	0.003	269
CRT	11 (4.1)	4 (6.3)	6 (5.1)	1 (1.1)	0.212	269
Anticoagulants	138 (51.3)	27 (42.2)	64 (54.7)	47 (53.4)	0.243	269

Data are mean ± standard deviation, median (interquartile range) or n (%). P-values for the comparison of all four groups (null hypothesis: all three groups have the same characteristics). Anaemia was defined as a haemoglobin < 12 g/dL, ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin II receptor blocker; BMI, body mass index; COPD, chronic obstructive pulmonary disease; CRT, cardiac resynchronization therapy; eGFR, estimated glomerular filtration rate (CKD-EPI equation); ICD, implantable cardioverter defibrillator; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonists; NYHA, New York Heart Association; NT-proBNP, N-terminal pro-brain natriuretic peptide.

Table 3: Baseline clinical characteristics of patients with an echocardiogram performed at 1-year follow up compared to those without.

	All N=3580	No follow-up echocardiogram N=1696	Follow-up echocardiogram N=1884	P value overall	N
Male	2397 (67.0%)	1062 (62.6%)	1335 (70.9%)	<0.001	3580
Age	68.2 (12.7)	71.1 (12.5)	65.6 (12.2)	<0.001	3580
LVEF	38.3 (16.0)	41.7 (17.3)	35.3 (14.0)	<0.001	3580
Aetiology:				<0.001	3579
ischemic	1600 (44.7%)	729 (43.0%)	871 (46.3%)		
dilated	552 (15.4%)	203 (12.0%)	349 (18.5%)		
hypertensive	592 (16.5%)	390 (23.0%)	202 (10.7%)		
valvular	321 (8.97%)	150 (8.84%)	171 (9.08%)		
other	514 (14.4%)	224 (13.2%)	290 (15.4%)		
Hypertension	2485 (69.4%)	1250 (73.7%)	1235 (65.6%)	<0.001	3580
Diabetes mellitus	1547 (43.2%)	785 (46.3%)	762 (40.4%)	<0.001	3580
COPD	721 (20.1%)	395 (23.3%)	326 (17.3%)	<0.001	3580
Atrial fibrillation	999 (27.9%)	532 (31.4%)	467 (24.8%)	<0.001	3579
BMI, Kg/m2	27.8 (5.30)	27.8 (5.52)	27.7 (5.09)	0.683	3528
Sodium, mmol/L	139 (4.33)	139 (3.80)	139 (4.75)	0.033	3556
Anaemia	1231 (34.9%)	686 (41.3%)	545 (29.3%)	<0.001	3526
NT-proBNP, ng/L	1638 [697;3937]	1790 [716;4432]	1502 [668;3392]	0.001	2705
eGFR, mL/min/1.73m2	60.4 (25.4)	56.0 (25.1)	64.5 (24.9)	<0.001	3562
NYHA class III–IV	1293 (36.1%)	745 (44.0%)	548 (29.1%)	<0.001	3579
Treatment:					
ACEI or ARB	2992 (83.9%)	1316 (78.0%)	1676 (89.2%)	<0.001	3567
Beta-blockers	3094 (86.4%)	1379 (81.3%)	1715 (91.0%)	<0.001	3580

MRA	1890 (52.8%)	744 (43.9%)	1146 (60.8%)	<0.001	3580
Loop diuretics	3189 (89.1%)	1513 (89.2%)	1676 (89.0%)	0.852	3580
Digoxin	959 (27.7%)	394 (24.0%)	565 (31.0%)	<0.001	3467
ICD	396 (11.1%)	109 (6.43%)	287 (15.2%)	<0.001	3578
CRT	234 (6.54%)	63 (3.71%)	171 (9.08%)	<0.001	3580
Anticoagulants	1684 (47.0%)	801 (47.2%)	883 (46.9%)	0.855	3580
1-year mortality	400 (11.2%)	364 (21.5%)	36 (1.91%)	<0.001	3580
Baseline Ejection Fraction:				<0.001	3580
Reduced	2232 (62.3%)	905 (53.4%)	1327 (70.4%)		
Mid-Range	504 (14.1%)	235 (13.9%)	269 (14.3%)		
Preserved	844 (23.6%)	556 (32.8%)	288 (15.3%)		

Data are mean ± standard deviation, median (interquartile range) or n (%). P-values for the comparison of all four groups (null hypothesis: all three groups have the same characteristics). Anaemia was defined as a haemoglobin < 12 g/dL, ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin II receptor blocker; BMI, body mass index; COPD, chronic obstructive pulmonary disease; CRT, cardiac resynchronization therapy; eGFR, estimated glomerular filtration rate (CKD-EPI equation); ICD, implantable cardioverter defibrillator; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonists; NYHA, New York Heart Association; NT-proBNP, N-terminal pro-brain natriuretic peptide.