

Table 1: Baseline demographic and clinical characteristics

| | All patients n=175 | Group 1 n=154 | Group 2 n=21 | p-Value |
|--|-----------------------|------------------|-----------------|---------|
| Gender (female), n (%) | 68 (38.8) | 58 (37.6) | 10 (47.6) | 0.4 |
| Age, years (mean±SD) | 81.2±8.2 | 81.2±8 | 80.6±0.6 | 0.8 |
| BMI, kg/m² (mean±SD) | 25.7±4.3 | 25.7±4.3 | 26.2±4.1 | 0.7 |
| Logistic EuroSCORE, % (mean±SD) | 17.8±5.2 | 18.8±6.3 | 16.6±7.8 | 0.7 |
| NYHA class ≥II, % | 100 | 100 | 100 | 1 |
| <i>Class III, n (%)</i> | 119 (68) | 102 (66.3) | 17 (81) | 0.3 |
| <i>Class IV, n (%)</i> | 56 (32) | 52 (33.7) | 4 (19) | 0.06 |
| CHF, n (%) | 140 (80) | 126 (81.8) | 14 (66.6) | 0.1 |
| CAD, n (%) | 129 (73.7) | 115 (74.6) | 14 (66.6) | 0.3 |
| Arterial hypertension, n (%) | 118 (67.4) | 104 (67.5) | 14 (66.6) | 0.6 |
| Atrial fibrillation or flutter, n (%) | 101 (57.7) | 90 (58.4) | 11 (52.4) | 0.4 |
| History of stroke, n (%) | 4 (2.3) | 3 (1.9) | 1 (4.8) | 0.1 |
| PAD, n (%) | 21 (12) | 18 (11.6) | 3 (14.3) | 0.7 |
| Diabetes mellitus, n (%) | 68 (38.8) | 62 (40.3) | 6 (28.5) | 0.1 |
| Hyperlipidemia, n (%) | 69 (39.4) | 62 (40.3) | 7 (33.3) | 0.5 |
| Smoking, n (%) | 42 (24) | 37 (24) | 5 (23.8) | 0.5 |
| CKD, n (%) | 42 (24) | 28 (18.8) | 14 (66.6) | 0.09 |
| NT-proBNP, pg/ml (mean±SD) | 4300.5±3165.5 | 4121.9±3955 | 6121.5±8864.7 | 0.1 |
| Heart rate, bpm (mean±SD) | 74.5±16.1 | 73.9±15.7 | 75.3±17.1 | 0.6 |
| Systolic blood pressure, mmHg (mean±SD) | 122.1±20 | 120.9±19.2 | 125.8±2.4 | 0.1 |
| Diastolic blood pressure, mmHg (mean±SD) | 71.6±11.4 | 71.7±11.4 | 72.1±1.4 | 0.7 |
| Medication | | | | |
| <i>Beta-blocker, n (%)</i> | 136 (77.7) | 120 (77.9) | 16 (76.1) | 0.3 |
| <i>ACEI/ARB, n (%)</i> | 113 (64.5) | 95 (61.6) | 18 (85.7) | 0.09 |
| <i>MRA, n (%)</i> | 87 (49.7) | 76 (49.3) | 11 (52.3) | 0.1 |
| <i>Diuretics, n (%)</i> | 160 (91) | 142 (92.2) | 18 (85.7) | 0.1 |

ACEI: angiotensin-converting enzyme inhibitor; ARB: angiotensin-II receptor blocker; BMI: body mass index; CKD: chronic kidney disease; NYHA: New York Heart Association classification; CHF: chronic heart failure; CAD: coronary artery disease; PAD: periphery artery disease; NT pro-BNP: N terminal pro-brain natriuretic peptide; MRA: mineralocorticoid receptor antagonist.

Table 2: Baseline echocardiographic characteristics

| | All patients n=175 | Group 1 n=154 | Group 2 n=21 | p-Value |
|---|-----------------------|------------------|-----------------|--------------|
| LV-EDV, ml (mean±SD) | 164.7±68.3 | 166.6±66.1 | 149.7±86.1 | 0.4 |
| LV-ESV, ml (mean±SD) | 96.2±58.8 | 96.4±57.6 | 94.3±71.3 | 0.9 |
| LV-EF, % (mean±SD) | 44.7±16.3 | 44.9±16.5 | 42.9±15.5 | 0.7 |
| MV-MPG, mmHg (mean±SD) | 1.5±1.1 | 1.5±1 | 2.6±1.1 | 0.001 |
| MV geometry, mm (mean±SD) | | | | |
| <i>AP-diameter</i> | 37.3±0.5 | 37.3±0.5 | 37.5±0.5 | 0.9 |
| <i>SL-diameter</i> | 39.6±6.9 | 39.9±6.9 | 39.2±5.9 | 0.9 |
| Mitral regurgitation | 3.1±0.5 | 3.1 ± 0.5 | 3.1 ± 0.5 | 0.8 |
| <i>Grade III, n (%)</i> | 136 (77.7) | 121 (78.6) | 15 (71.4) | 0.8 |
| <i>Grade IV, n (%)</i> | 39 (22.2) | 33 (21.4) | 6 (28.6) | 0.6 |
| Etiology of MR | | | | |
| <i>Functional MR, n (%)</i> | 75 (42.8) | 67 (43.5) | 8 (38) | 0.2 |
| <i>Degenerative MR, n (%)</i> | 70 (40) | 60 (39) | 10 (47.7) | 0.1 |
| <i>Mixed MR, n (%)</i> | 30 (17.2) | 27 (18) | 3 (14.3) | 0.1 |
| MR-PISA, cm (mean±SD) | 0.8±0.2 | 0.8 ± 0.2 | 0.7± 0.2 | 0.2 |
| MR-VC, cm (mean±SD) | 0.8±1.2 | 0.8±1.3 | 0.8± 0.2 | 0.8 |
| MR-EROA, cm² (mean±SD) | 0.5±0.3 | 0.5 ± 0.3 | 0.5 ± 0.1 | 0.6 |
| MR-RegVol, ml (mean±SD) | 51.1±19.7 | 50.3 ± 20 | 57.3 ± 17.2 | 0.3 |
| AP-diameter, mm (mean±SD) | 37.4±0.5 | 37.3± 0.5 | 37.5± 0.5 | 0.9 |
| SL-diameter, mm (mean±SD) | 39.6±7.1 | 39.9±6.9 | 39.2±5.9 | 0.9 |

| | | | | |
|--------------------------------|-----------|-----------|-----------|-----|
| AML, mm (mean±SD) | 27.9±0.5 | 28.1±0.5 | 27.6±0.5 | 0.3 |
| PML, mm (mean±SD) | 16.3±0.4 | 16±0.4 | 16.8±0.4 | 0.1 |
| LAI (mean±SD) | 1.19±0.1 | 1.18±0.1 | 1.19±0.1 | 0.8 |
| RVSP, mmHg (mean±SD) | 45.4±14.8 | 45.5±14.6 | 44.6±16.3 | 0.8 |

AML: anterior mitral leaflet; AP: anteroposterior; EROA: effective regurgitant orifice area; LAI: leaflet-to-annulus index; LV-EDV: left-ventricular end-diastolic volume; LV-ESV: left-ventricular end-systolic volume; LV-EF: left-ventricular ejection fraction; PISA: proximal isovelocity surface area, PML: posterior mitral leaflet; RVSP: right-ventricular systolic pressure; SL: septolateral; VC: Vena contracta; RegVol: regurgitation volume; MR: mitral regurgitation; MV: mitral valve.

Table 3: Clinical and echocardiographic outcomes at six-months FU
(the parameter referred to the survived patients at six-month-FU, therefore table 2 and 3 show different values for baseline parameters)

| | Baseline | Follow-Up | p-Value |
|--------------------------------|----------|-----------|---------|
| NYHA class (mean±SD) | | | |
| Group 1 (n=146): | 3.2±0.4 | 1.6±1.1 | 0.041 |
| Group 2 (n=14): | 3.5±0.7 | 2.5±0.7 | 0.1 |

| | | | |
|--------------------------------------|---------------|---------------|--------|
| 6-MWT, m (mean±SD) | | | |
| Group 1 (n=146): | 252.2 ±127.8 | 348.3±80.7 | 0.05 |
| Group 2 (n=14): | 210.8±46.5 | 223.3±25.8 | 0.3 |
| NT-proBNP, pg/ml (mean±SD) | | | |
| Group 1 (n=146): | 5043.4±4039.1 | 4145.9±3352.1 | 0.3 |
| Group 2 (n=14): | 5389.5±1068.4 | 9121.5±8864.8 | 0.6 |
| LV-EDV, ml (mean±SD) | | | |
| Group 1 (n=146): | 132.1±55.5 | 119.2±18.9 | 0.6 |
| Group 2 (n=14): | 127.8±47.3 | 116.5±26.4 | 0.3 |
| LV-ESV, ml (mean±SD) | | | |
| Group 1 (n=146): | 73.4±46.4 | 60.7±28.5 | 0.4 |
| Group 2 (n=14): | 56.2±34.5 | 51.6±20.2 | 0.5 |
| LV-EF, % (mean±SD) | | | |
| Group 1 (n=146): | 47.3±14.7 | 50.7±16.2 | 0.5 |
| Group 2 (n=14): | 48.1±12.2 | 48.4±9.7 | 0.9 |
| Residual MR< 3+, % | | | |
| Group 1 (n=146): | 9 | 98 | <0.001 |
| Group 2 (n=14): | 6 | 94 | <0.001 |
| MV-MPG, mmHg (mean±SD) | | | |
| Group 1 (n=146): | 2±1.5 | 3.6±2.7 | 0.18 |
| Group 2 (n=14): | 1.5±0.9 | 4.8±4.5 | 0.02 |
| RVSP, mmHg (mean±SD) | | | |
| Group 1 (n=146): | 44.6±11.3 | 33.3±4.2 | 0.016 |
| Group 2 (n=14): | 49.4±18.3 | 45.6±18.7 | 0.5 |

LVEDV: left-ventricular end-diastolic volume; LVESV: left-ventricular end-systolic volume; LVEF: left-ventricular ejection fraction; MR: mitral regurgitation; NT pro-BNP: N terminal pro brain natriuretic peptide; RVSP: right-ventricular systolic pressure; 6-MWT: six-minute walking test.

Table 4: Multivariate analysis of predictors of 12-month mortality

| Parameters | OR | 95% CI | p-Value |
|---------------------|------|--------------|---------|
| Intraprocedural MPG | 1.70 | 0.95 to 3.05 | 0.05 |

| | | | |
|---------------------------------------|------|---------------|-------|
| MPG at discharge | 0.81 | 0.51 to 1.27 | 0.36 |
| MPG at FU | 1.43 | 0.82 to 2.50 | 0.120 |
| Residual MR>II at discharge | 6.46 | 0.43 to 95.23 | 0.17 |
| Recurrent MR>II at FU | 0.34 | 0.02 to 5.36 | 0.44 |

Supplementary Table 1: Predictors for adverse functional outcome

A: Predictive values of MPGs assessed by the ROC analysis

| MPGs | Cut-off | AUC | 95% CI | Sensitivity, % | Specificity, % | p-Value |
|----------------------------|---------|-------|----------------|----------------|----------------|---------|
| Intraprocedural MPG | 3.9 | 0.751 | 0.646 to 0.829 | 63.9 | 80 | <0.0001 |
| MPG at discharge | 4.9 | 0.553 | 0.434 to 0.667 | 32 | 86.27 | 0.48 |

| | | | | | | |
|------------------|-----|-------|----------------|-----|----|--------|
| MPG at FU | 2.6 | 0.745 | 0.603 to 0.855 | 100 | 40 | 0.0005 |
|------------------|-----|-------|----------------|-----|----|--------|

B: Comparison of outcome-predicting parameters by the multivariate regression analysis concerning functional outcomes

| Parameters | OR | 95% CI | p-Value |
|---------------------------------------|------|--------------|---------|
| Intraprocedural MPG | 1.96 | 1.02 to 3.75 | 0.04 |
| MPG at discharge | 0.96 | 0.60 to 1.53 | 0.86 |
| MPG at FU | 1.56 | 0.85 to 2.86 | 0.14 |
| Residual MR>II at discharge | 1.34 | 0.56 to 3.12 | 0.20 |
| Recurrent MR>II at FU | 1.64 | 0.98 to 4.01 | 0.09 |