Table 1. – Baseline characteristics of patients who did not undergo AVR during follow-up.

	No AVR during follow-up (n=13)	Died (n=8)	Alive (n=5)	P-value
Age (years)	74.1 ±8.9	78.0 ±7.7	67.8 ±7.6	0.039
Female	1 (7.7)	0	1 (20.0)	0.188
BMI	27.5 ±3.9	25.6 ±2.0	30.4 ±4.7	0.027
BSA	2.00 ±0.12	2.0 ±0.1	2.0 ±0.1	0.572
Previous CABG	0	0	0	>0.999
Smoking	10 (76.9)	7 (87.5)	3 (60.0)	0.252
Atrial fibrillation	2 (15.4)	1 (12.5)	1 (20.0)	0.715
Carotid disease	1 (7.7)	1 (12.5)	0	0.411
Coronary artery disease	0	0	0	>0.999
COPD	2 (15.4)	1 (12.5)	1 (20.0)	0.715
Diabetes	6 (46.2)	5 (62.5)	1 (20.0)	0.135
Hyperlipidemia	8 (61.5)	6 (75.0)	2 (40.0)	0.207
Hypertension	5 (38.5)	4 (50.0)	1 (20.0)	0.279
Myocardial infarction	0	0	0	>0.999
Peripheral arterial disease	0	0	0	>0.999
Stroke	3 (23.1)	2 (25.0)	1 (20.0)	0.835
NT-proBNP (pmol/l)	33.0 (12.8-149.3)	100.5 (19.0-971.5)	35.0 (31.0-50.0)	0.425
Baseline positive stress test	4 (30.8)	3 (37.5)	1 (20.0)	0.506
Logistic EuroSCORE	4.7 (3.2-8.1)	7.1 (4.4-10.5)	3.0 (2.1-5.7)	0.121
STS score	5.2 (2.2-8.6)	5.8 (3.4-9.6)	3.4 (2.4-6.0)	0.845
No medication	2 (15.4)	1 (12.5)	1 (20.0)	0.715
Diuretics	3 (23.1)	2 (25.0)	2 (40.0)	0.835
Ace Inhibitor	4 (30.8)	3 (37.5)	1 (20.0)	0.506
A2 antagonist	5 (38.5)	5 (62.5)	0	0.024
B blocker	1 (7.7)	1 (12.5)	0	0.411
Calcium antagonist	2 (15.4)	2 (25.0)	0	0.224
Digoxine	0	0	0	>0.999
Echocardiographic parameters				
Vmax (m/s)	4.28 ±0.70	4.28 ±0.85	4.28 ±0.45	>0.999
AVA (cm^2)	0.80 ±0.30	0.70 ±0.26	0.95 ±0.32	0.149
iAVA (cm^2/m^2)	0.41 ±0.16	0.36 ±0.14	0.48 ±0.17	0.190
MAG (mmHg)	44.3 ±17.4	47.1 ±21.9	39.7 ±4.8	0.476
PAG (mmHg)	75.3 ±24.1	76.1 ±29.4	74.0 ±15.4	0.885
AR grade I/II	6 (46.2)	4 (50.0)	2 (40.0)	0.725
MR grade I/II	4 (30.8)	3 (37.5)	1 (20.0)	0.506
LVEF	61.1 ±5.9	59.9 ±6.4	63.1 ±5.1	0.376
LF/LG AS (%)	0	0	0	>0.999
LVH (%)	2 (16.7)	2 (100.0)	0	0.190
TAPSE (mm)	23.6 ±2.8	23.0 ±2.6	24.6 ±3.3	0.345
LVEDD (mm)	49.6 ±5.1	48.4 ±6.1	51.6 ±1.8	0.288
LVESD (mm)	30.3 ±5.7	32.7 ±4.7	26.4 ±5.2	0.044
LVFS (%)	38.6 ±11.0	32.2 ±6.6	48.9 ±9.0	0.002
LA (mm)	42.2 ±6.8	44.9 ±6.4	37.9 ±5.4	0.072
IVSd (mm)	12.5 ±2.0	13.0 ±2.1	11.6 ±1.5	0.231
IVCd (mm)	16.4 ±2.7	15.9 ±3.1	16.5 ±5.0	0.542
PWd (mm)	11.5 ±1.7	11.3 ±1.1	12.0 ±2.4	0.448
E' (cm/s)	69.1 ±29.9	69.1 ±33.9	69.0 ±21.6	0.997
A' (cm/s)	104.2 ±59.9	88.0 ±33.1	136.6 ±92.2	0.198
E'A' ratio	0.8 ±0.5	0.9 ±0.6	0.6 ±0.4	0.377
LVET (ms)	312.6 ±43.9	321 ±29.5	300 ±63.0	0.491
DT (ms)	217.5 ±52.6	228.4 ±55.7	188.3 ±34.8	0.283

values are presented as mean ±SD or n (%)

*A', peak velocity of diastolic mitral annular motion; **AR**, aortic regurgitation; **AVA**, aortic valve area; **BMI**, body mass index; **BSA**, body surface area; **COPD**, chronich obstructive pulmonary disease; **DT**, deceleration time; **iAVA** , indexed aortic valve area; **E'**, peak velocity of early diastolic mitral annular motion; **E'A' ratio**, ratio of E' to A'; **IVCd**, inferior vena cava dimension; **IVSd**, interventricular septum dimension; **LA**, left atrium; **LF/LG AS**, low-flow/low-grade AS; **LVEDD**, left ventricular end diastolic diameter; **LVEF**, left ventricular ejection fraction; **LVESD**, left ventricular end systolic diameter; **LVET**, left ventricular ejection time; **LVFS**, left ventricular fractional shortening; **LVH**, left ventricular hypertrophy; **MAG** , mean aortic gradient; **MR**, mitral regurgitation; **PAD**, peripheral arterial disease; **PAG**, peak aortic gradient; **PWd**, posterior wall dimension, **TAPSE**, tricuspid annular plane systolic excursion; **Vmax**, maximal velocity*

Table S2. Predictors of AVR in asymptomatic patients during follow-up

	Univariable HR (95% CI), P value
Age	0.98 (0.95-1.01), p=0.125
Gender (female)	1.52 (0.80-2.90), p=0.200
LVEF	1.01 (0.97-1.06), p=0.556
Atrial fibrillation	0.51 (0.12-2.15), p=0.362
Coronary artery disease	1.15 (0.41-3.27), p=0.790
COPD	0.88 (0.31-2.46) p=0.806
Diabetes mellitus	0.57 (0.24-1.36) p=0.206
Hyperlipidemia	0.68 (0.38-1.23) p=0.205
Hypertension	1.25 (0.70-2.23) p=0.457
Myocardial infarction	2.07 (0.73-5.85), p=0.172
Peripheral arterial disease	1.33 (0.52-3.38), p=0.553
Stroke	0.80 (0.39-1.67), p=0.557
Exercise test (positive)	1.24 (0.62-2.48), p=0.540
NT-proBNP	1.00 (1.00-1.00) p=0.182
STS	1.00 (0.92-1.08), p=0.938
Logistic EuroSCORE	0.97 (0.88-1.07), p=0.593
LVEF	1.01 (0.97-1.06), p=0.556
Vmax	1.52 (0.99-2.32), p=0.056
AVA	0.51 (0.17-1.50), p=0.219
iAVA	0.38 (0.05-2.85), p=0.344
MAG	1.02 (1.00-1.03), p=0.093
PAG	1.01 (1.00-1.02), p=0.100

AVA, aortic valve area; AVR, aortic valve replacement; COPD: chronic obstructive pulmonary disease; iAVA, indexed aortic valve area; LVEF, left ventricular ejection fraction; MAG, mean aortic gradient; PAG, peak aortic gradient; STS, Society of Thoracic Surgery; Vmax, maximal jet velocity.

Table S3. Current on-going RCTs in the asymptomatic population

Name study	Source	SAVR or TAVR
RECOVERY	(https://clinicaltrials.gov/ct2/show/NCT01161732)	SAVR
AVATAR	(https://clinicaltrials.gov/ct2/show/NCT02436655)	SAVR
ESTIMATE	(https://clinicaltrials.gov/ct2/show/NCT02627391)	SAVR
EVoLVeD	(https://clinicaltrials.gov/ct2/show/NCT03094143)	SAVR/TAVR
EARLY TAVR	(https://clinicaltrials.gov/ct2/show/NCT03042104)	TAVR

Figure S1. Flowchart of the patients during follow-up