

## **Supplementary Materials**

**Table S1. Univariate analysis of composite outcome predictors of death and hospital readmission** – Page 2

**Table S2. Multivariate analysis models of predictors for primary outcomes** – Page 3

**Table S3. Multivariate analysis models of predictors for primary outcome with original classification** – Page 4

**Table S4. ROC analysis of short-term follow-up time.** – Page 6

**Table S5. ROC analysis of complete follow-up time.**

Table S1. Univariable analysis of composite outcome predictors of death and hospital readmission

	HR (95% CI)	p
<b>Clinical data</b>		
Sex	1.10 (0.64-1.88)	0.728
Age (Years)	1.01 (0.99-1.03)	0.240
Diabetes mellitus	1.09 (0.63-1.88)	0.740
Hypertension	1.18 (0.67-2.06)	0.564
Coronary artery disease	1.37 (0.76-2.48)	0.286
Number of vessels connected	1.15 (0.79-1.68)	0.450
EuroSCORE II. %	1.10 (1.04-1.16)	<b>&lt;0.001</b>
<b>Symptoms</b>		
Functional class (NYHA)	0.80 (0.52-1.24)	0.332
<b>Laboratory data</b>		
Clearance de creatinina. ml/min	0.98 (0.96-0.99)	<b>0.042</b>
Hemoglobin. g/dl	0.84 (0.73-0.98)	<b>0.028</b>
<b>Echocardiographic data</b>		
Interventricular septum. mm	0.97 (0.85-1.10)	0.675
Back wall. mm	0.98 (0.84-1.16)	0.885
Ventricular mass. g/m2	1.00 (0.99-1.01)	0.214
Transaortic mean gradient. mmHg	0.97 (0.95-0.99)	<b>0.021</b>
Area valvar aórtica. cm <sup>2</sup>	2.26 (0.39-13.15)	0.362
Aortic Insufficiency	1.31 (0.64-2.69)	0.456
Left ventricular hypertrophy	1.27 (0.59-2.69)	0.533
Diastolic dysfunction	0.88 (0.49-1.58)	0.678
Left atrial enlargement	2.86 (1.43-5.70)	<b>0.003</b>
Moderate/severe secondary mitral regurgitation	2.27 (1.23-4.19)	<b>0.008</b>
Atrial fibrillation	4.17 (2.02-8.63)	<b>&lt;0.001</b>
Moderate/severe tricuspid regurgitation	2.40 (1.23-4.67)	<b>0.010</b>
Moderate/severe right ventricular dysfunction	2.70 (0.84-8.71)	0.095
Pulmonary systolic pressure. mmHg	1.04 (1.00-1.07)	0.015
Ejection fraction. %	0.96 (0.94-0.98)	<b>&lt;0.001</b>
Adapted Gèneux classification	2.47 (1.69- 3.60)	<b>&lt;0.001</b>

NYHA: New York Heart Association. AF: Atrial fibrillation

Table S2. Multivariable analysis models of predictors for primary outcome

UNIVARIABLE					MULTIVARIABLE				
	HR	95.0% CI		p		HR	95.0% CI		p
AGE	1.021	1.004	1.039	.015	AGE	0.998	0.971	1.025	0.869
BNP	1.000	1.000	1.001	<0.001	BNP	1.000	1.000	1.000	0.286
Mean gradient	0.975	0.963	0.987	<0.001	Mean gradient	0.985	0.962	1.010	0.243
NYHA	2.139	1.666	2.745	<0.001	NYHA	1.138	0.746	1.738	0.548
Clearance creatinine	0.980	0.971	0.989	<0.001	Clearance creatinine	1.004	0.989	1.020	0.599
Proposed classification	3.217	2.552	4.056	<0.001	Proposed classification	2.612	1.705	4.003	<0.001
EuroSCORE II	1.245	1.165	1.331	<0.001	EuroSCORE II	0.949	0.779	1.157	0.607
Hemoglobin	0.861	0.786	0.942	.001	Hemoglobin	0.877	0.764	1.006	0.061
Aortic valve area	3.580	1.099	11.660	.034		4.267	0.532	34.233	0.172
	Lower		Superior			Lower		Superior	
AGE	1.021	1.004	1.039	0.015	AGE	0.999	0.971	1.028	0.946
BNP	1.000	1.000	1.001	<0.001	BNP	1.000	1.000	1.000	0.423
Mean gradient	0.975	0.963	0.987	<0.001	Mean gradient	0.989	0.965	1.013	0.352
NYHA	2.139	1.666	2.745	<0.001	NYHA	1.075	0.712	1.623	0.732
Clearance	0.980	0.971	0.989	<0.001	Creatinine Clearance	1.005	0.990	1.021	0.505
Proposed classification	3.217	2.552	4.056	<0.001	Proposed classification	2.618	1.703	4.025	<0.001
Hemoglobin	0.861	0.786	0.942	0.001	Hemoglobin	0.867	0.755	0.996	0.044
STS SCORE score	1.328	1.195	1.475	<0.001	STS SCORE	0.975	0.799	1.190	0.807
Aortic valve area	3.580	1.099	11.660	0.034		5.730	0.766	42.864	0.089
	Lower		Superior			Lower		Superior	
AGE	1.021	1.004	1.039	0.015	AGE	0.995	0.969	1.021	0.707
BNP	1.000	1.000	1.001	<0.001	BNP	1.000	1.000	1.000	0.271
EuroSCORE II	1.245	1.165	1.331	<0.001	EuroSCORE II	0.914	0.757	1.104	0.351
Mean gradient	0.975	0.963	0.987	<0.001	Mean gradient	0.976	0.956	0.996	0.022
Creatinine Clearance	0.980	0.971	0.989	<0.001	Creatinine Clearance	1.004	0.988	1.020	0.610
Hemoglobin	0.861	0.786	0.942	0.001	Hemoglobin	0.873	0.760	1.002	0.053
NYHA	2.139	1.666	2.745	<0.001	NYHA	1.189	0.778	1.817	0.424
Proposed classification	3.217	2.552	4.056	<0.001	Proposed classification	2.597	1.706	3.952	<0.001
	Lower		Superior			Lower		Superior	
AGE	1.021	1.004	1.039	0.015	AGE	0.996	0.968	1.024	0.776
BNP	1.000	1.000	1.001	<0.001	BNP	1.000	1.000	1.000	0.436
STS SCORE	1.328	1.195	1.475	<0.001	STS SCORE	0.966	0.786	1.187	0.741
Mean gradient	.975	.963	.987	<0.001	Mean gradient	0.977	0.957	0.998	0.032
Creatinine Clearance	.980	.971	.989	<0.001	Creatinine Clearance	1.006	0.991	1.022	0.406
Hemoglobin	.861	.786	.942	0.001	Hemoglobin	0.865	0.752	0.994	0.041
NYHA	2.139	1.666	2.745	<0.001	NYHA	1.095	0.724	1.656	0.668
Proposed classification	3.217	2.552	4.056	<0.001	Proposed classification	2.554	1.673	3.899	<0.001

Table S3. Multivariable analysis models of predictors for primary outcome with original and proposed classification

	HR	95.0% CI		p
AGE	1.047	0.986	1.111	0.138
BNP	1.000	1.000	1.001	0.069
EuroSCORE II	0.839	0.583	1.208	0.347
STS SCORE	0.955	0.698	1.306	0.774
Mean gradient	0.953	0.919	0.988	0.010
Creatinine Clearance	0.987	0.958	1.016	0.368
NYHA	0.987	0.424	2.299	0.975
Hemoglobin	0.842	0.650	1.091	0.193
Original classification	2.123	1.158	3.894	0.015
		Lower	Superior	
AGE	1.041	0.982	1.104	0.175
BNP	1.000	1.000	1.001	0.102
EuroSCORE II	0.836	0.576	1.213	0.346
STS SCORE	0.953	0.701	1.294	0.757
Mean gradient	0.958	0.923	0.994	0.022
Creatinine Clearance	0.987	0.958	1.016	0.366
NYHA	0.876	0.363	2.116	0.769
Hemoglobin	0.864	0.669	1.116	0.263
Proposed classification	3.435	1.552	7.604	0.002
		Lower	Superior	
AGE	1.051	0.987	1.119	0.120
BNP	1.000	1.000	1.001	0.119
EuroSCORE II	0.860	0.610	1.214	0.392
STS SCORE	0.978	0.715	1.339	0.891
Mean gradient	0.955	0.923	0.989	0.010
Creatinine Clearance	0.982	0.954	1.010	0.210
NYHA	1.036	0.455	2.360	0.933
Original classification	2.019	1.115	3.656	0.020
		Lower	Superior	
AGE	1.047	0.986	1.112	0.130
BNP	1.000	1.000	1.001	0.179
EuroSCORE II	0.865	0.612	1.222	0.411
STS SCORE	0.961	0.706	1.309	0.803
Mean gradient	0.962	0.928	0.996	0.029
Creatinine Clearance	0.983	0.955	1.012	0.242
NYHA	0.918	0.390	2.158	0.844
Proposed classification	3.455	1.536	7.774	0.003

		Lower	Superior	
AGE	1.036	0.982	1.092	0.193
BNP	1.000	1.000	1.001	0.077
Mean gradient	0.953	0.921	0.987	0.007
Creatinine Clearance	0.992	0.967	1.018	0.542
Hemoglobin	0.907	0.701	1.174	0.459
NYHA	0.972	0.463	2.037	0.939
Original classification	1.859	1.046	3.305	0.035
		Lower	Superior	
AGE	1.033	0.981	1.089	0.218
BNP	1.000	1.000	1.001	0.140
Mean gradient	0.959	0.926	0.993	0.019
Creatinine Clearance	0.993	0.968	1.018	0.590
Hemoglobin	0.932	0.724	1.198	0.581
NYHA	0.844	0.391	1.819	0.664
Proposed classification	3.185	1.431	7.088	0.005
		Lower	Superior	
AGE	1.040	0.986	1.097	0.148
BNP	1.000	1.000	1.001	0.100
Mean gradient	0.954	0.922	0.987	0.007
Creatinine Clearance	0.988	0.965	1.012	0.341
NYHA	0.997	0.485	2.049	0.993
Original classification	1.830	1.033	3.239	0.038

**Table S4. ROC analysis of short-term follow-up time.**

Variables				
	<b>AUC</b>	<b>Standard error</b>	<b>CI 95%</b>	<b>p</b>
Original classification	0.815	0.039	0.738 – 0.892	<0.001
Proposed classification	0.12	0.041	0.732 – 0.892	<0.001
EuroSCORE II	0.722	0.055	0.614 – 0.830	<0.001
STS score	0.695	0.057	0.583 – 0.807	0.001

**Table S5. ROC analysis of complete follow-up time.**

Variables				
	<b>AUC</b>	<b>Standard error</b>	<b>CI 95%</b>	<b>p</b>
Original classification	0.760	0.035	0.692 – 0.829	<0.001
Proposed classification	0.758	0.036	0.687 – 0.829	<0.001
EuroSCORE II	0.729	0.033	0.663 – 0.794	<0.001
STS score	0.711	0.032	0.649 – 0.773	<0.001