Echocardiographic findings and subsequent risk of native valve endocarditis

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Supplementary materials 1	
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Table S1. Model-Predicted Risk of LS-NVE for 10 Hypothetical Patients

Pt	IVSDT	LVESD	EF	LVPWDT	Aortic Regurg.	Mitral Regurg.	LVOT Velocity	LV Cardiac Index	Medial E:e'	AVSP Velocity	Predicted Risk	95% Confidence Interval
1	10	32	61	8	Mild-Severe	None/Trivial	1.2	3.2	6.7	1.2	29.5%	14.7%-53.6%
2	8	33	65	7	Mild-Severe	Mild-Severe	1.2	2.8	6.8	1.1	18.2%	7.1%-42.1%
3	10	30	62	9	None/Trivial	None/Trivial	1.1	3	10	1.4	42.7%	31.8%-55.5%
4	9	30	63	10	None/Trivial	None/Trivial	1.1	3.5	8.2	1.4	37.1%	25.2%-52.3%
5	10	31	64	11	None/Trivial	None/Trivial	1.1	2.8	10	1.5	52.3%	39.5%-66.3%
6	9	28	60	10	Mild-Severe	Mild-Severe	1	3.1	7.5	1.6	17.3%	8.2%-34.4%
7	8	31	58	9	None/Trivial	Mild-Severe	0.9	3	8.7	1.3	12.8%	6.2%-25.5%
8	12	28	57	8	Mild-Severe	None/Trivial	1.3	3.1	9	1.6	29.8%	12.5%-60.9%
9	10	25	55	9	None/Trivial	Mild-Severe	1	3.2	8.5	1.3	18.6%	9.8%-33.6%
10	10	29	55	12	None/Trivial	Mild-Severe	1.1	3	8.6	1.4	36.3%	19.3%-61.2%

Predicted risk estimates and 95% CIs are stated in terms of the matched sample and therefore do not represent the risk of LS-NVE in the population

$$\text{Prob}\{Y=\text{“Case”}\} = 1/(1+\exp(-X\beta)), \text{ where}$$

$$X\beta = -18.116 + 0.045835\cdot\text{LVESD} + 0.099393\cdot\text{LVPWDT} - 0.34641\cdot(\text{AR}=\text{“Mild to Severe”}) - 0.042453\cdot(\text{MR}=\text{“Mild to Severe”}) + 2.2858\cdot\log(\text{IVSDT}) - 13.709\cdot(\log(\text{IVSDT}) - 2.1972)^3 + 25.116\cdot(\log(\text{IVSDT}) - 2.3979)^3 - 11.407\cdot(\log(\text{IVSDT}) - 2.6391)^3 + 0.09037\cdot\text{LVEF} - 0.00009805\cdot(\text{LVEF} - 46.8)^3 + 0.0002721\cdot(\text{LVEF} - 61)^3 - 0.0001740\cdot(\text{LVEF69})^3 + 3.8708\cdot\text{LVOT vel} - 13.626\cdot(\text{LVOT vel} - 0.9)^3 + 22.71\cdot(\text{LVOT vel} - 1.1)^3 - 9.0838\cdot(\text{LVOT vel} - 1.4)^3 + 0.052538\cdot\text{LV cardiac index} + 0.5282\cdot\log(\text{medial E:e'}) + 0.23038\cdot\log(\text{AVSP velocity})$$

Figure S1. Logistic Regression Equation for Risk of LS-NVE. The model equation above is based on original regression coefficients and can be used to estimate LS-NVE "risk" (i.e., predicted probability of developing LS-NVE) relative to the matched sample on which the model was derived. Although matching resulted in an even distribution of CCI scores between the 2 groups, the matched cases had significantly higher rates of diabetes mellitus and chronic kidney disease. We addressed this residual confounding by performing a secondary analysis in which

terms for diabetes mellitus and chronic kidney disease were added to the original model. This yielded similar findings concerning echocardiographic variables, except for medial E:e' which was no longer significant. In this appended model, "hemodynamic" measures (corrected χ^2 = 29.3) again outperformed the "anatomical" factors (corrected χ^2 = 8.5) in addition to the "comorbidities" (corrected χ^2 = 19.3) (Figure S2). To further investigate the robustness of the main results, we re-fit the original logistic regression model ignoring the matching in the analysis (unconditional logistic regression). As presented in Figure S3, this unmatched analysis had similar model χ^2 values for each of the 10 variables (in the same order of importance) and identified the same 3 significant variables as the matched analysis

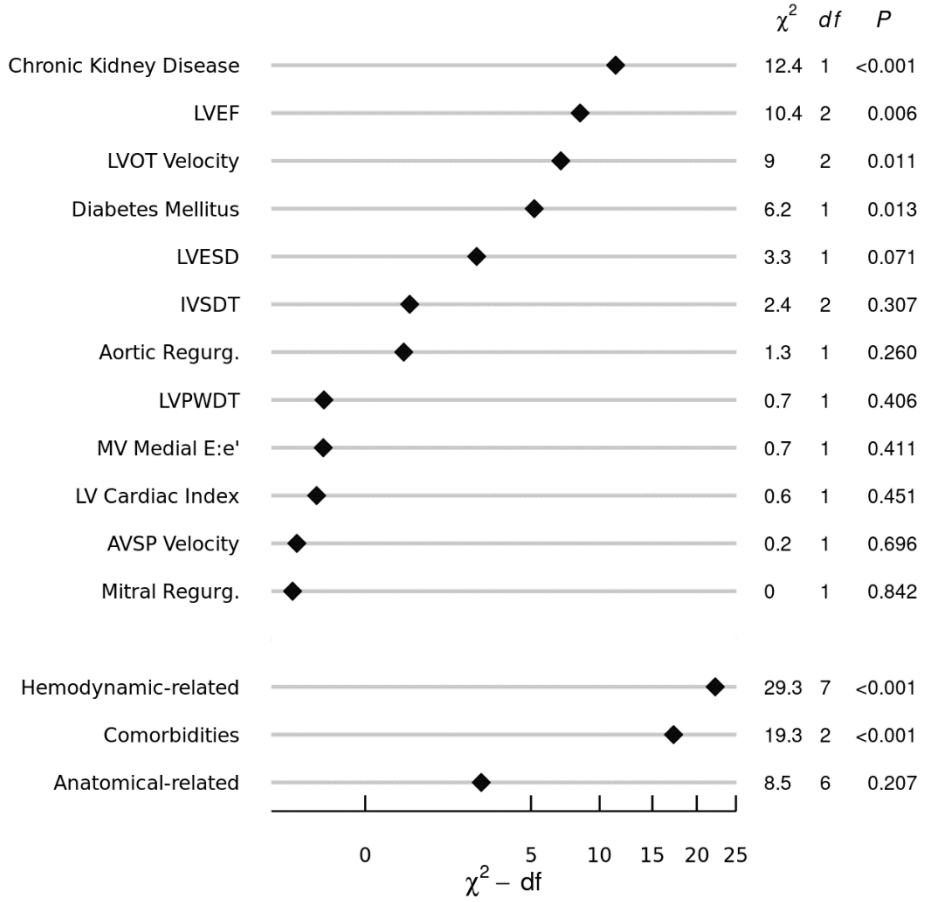

Figure S2. Secondary model Relative Importance of Individual and Grouped Predictor Variables

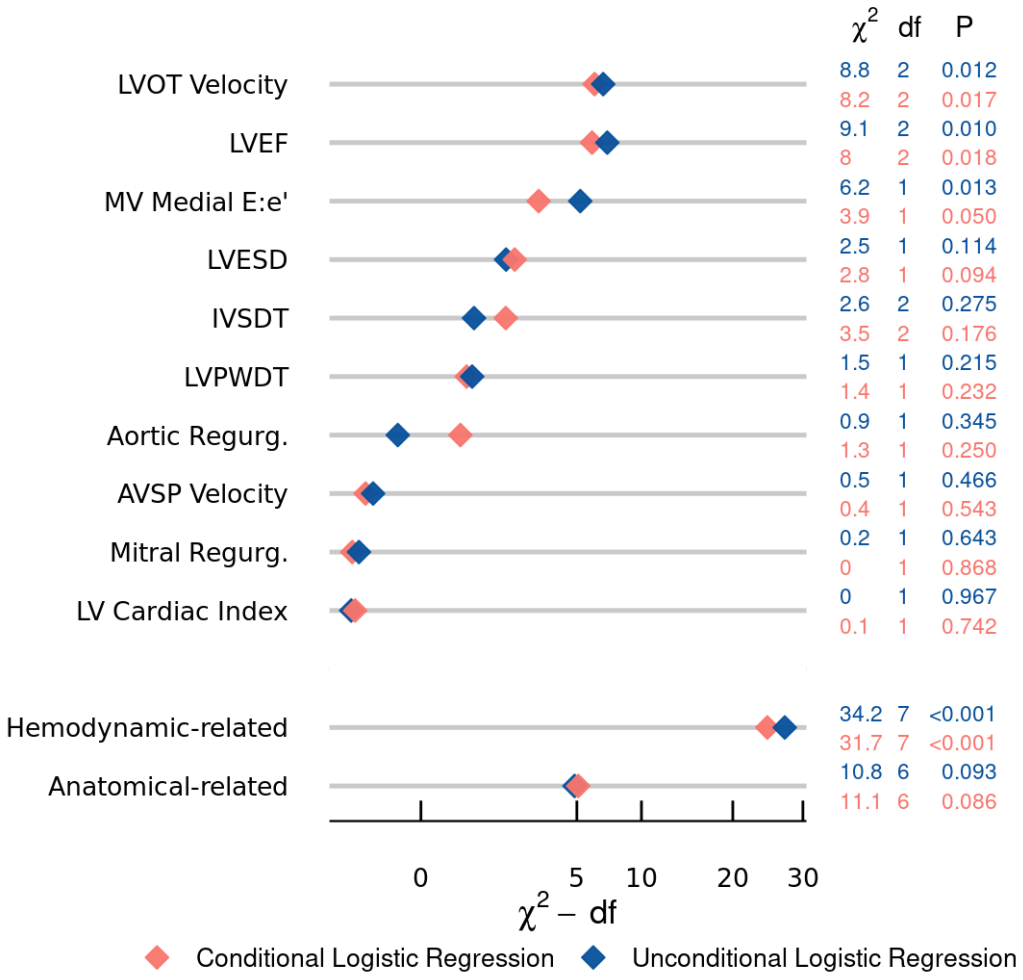

Figure S3. Conditional versus Unconditional Logistic Regression