

**Clinical and Echocardiographic Risk Factors Predict Late Recurrence after  
Radiofrequency Catheter Ablation of Atrial Fibrillation**

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**Brief title:** Risk stratification of AF recurrence

**Supplementary Table S1.** Baseline characteristics of the study population.

	<b>Total population (N = 2,352)*</b>
<b>Clinical findings</b>	
Age (years old)	55.4 ± 10.9
Male sex	1,872 (79.6%)
BMI (kg/m <sup>2</sup> )	24.9 ± 3.0
Non-paroxysmal AF	945 (40.2%)
AF duration (year)	4.8 ± 4.7
Heart failure	180 (7.7%)
Hypertension	865 (36.8%)
Diabetes mellitus	259 (11.0%)
Previous CVA, TIA, or systemic embolism	185 (7.9%)
Vascular disease	220 (9.3%)
CHA <sub>2</sub> DS <sub>2</sub> -VAsc score	1.3 ± 1.3
<b>TTE findings</b>	
LA diameter (mm)	41.1 ± 6.0
LV ejection fraction (%)	54.9 ± 6.2
E over E'	8.9 ± 4.0
<b>TEE findings</b>	
LAA average velocity (cm/sec)	48.6 ± 21.0
SEC	456 (21.4%)
Dense SEC	77 (3.6%)
Thrombus	5 (0.2%)
<b>Laboratory findings</b>	
WBC (10 <sup>3</sup> /μL)	6.5 ± 3.4
Hemoglobin (g/dL)	14.7 ± 1.4
Platelets (10 <sup>3</sup> /μL)	207.6 ± 49.2
Serum creatinine (mg/dL)	1.0 ± 0.4

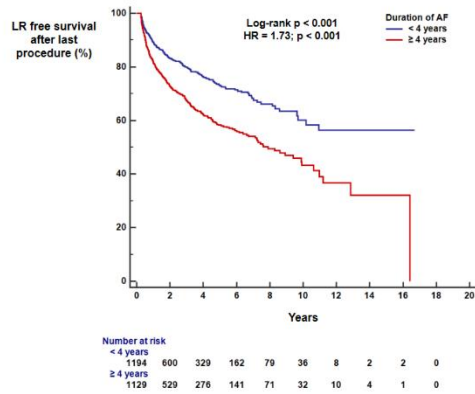
\*Results are presented as n (%) or means with standard deviations.

AF: atrial fibrillation; BMI: body mass index; CVA: cerebrovascular accident; LA: left atrium; LAA left atrial appendage; LV: left ventricle; SEC: spontaneous echocontrast; TEE: transesophageal echocardiography; TIA: transient ischemic attack; TTE: transthoracic echocardiography; WBC: white blood cells.

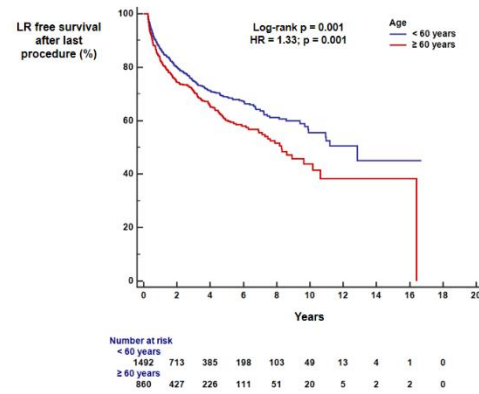
## Supplementary figure legends

Figure S1

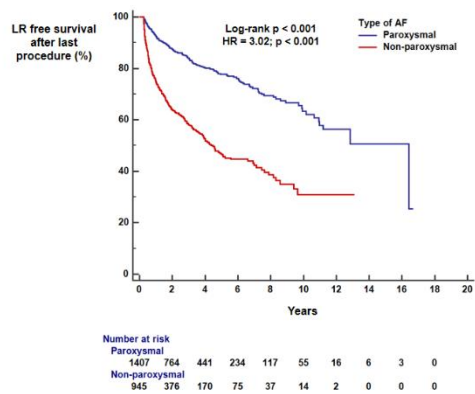
a Duration of AF



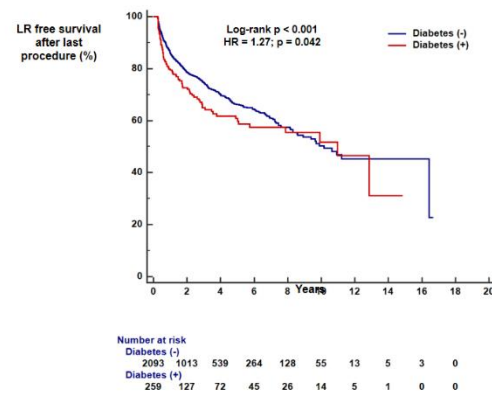
b Age



c Type of AF



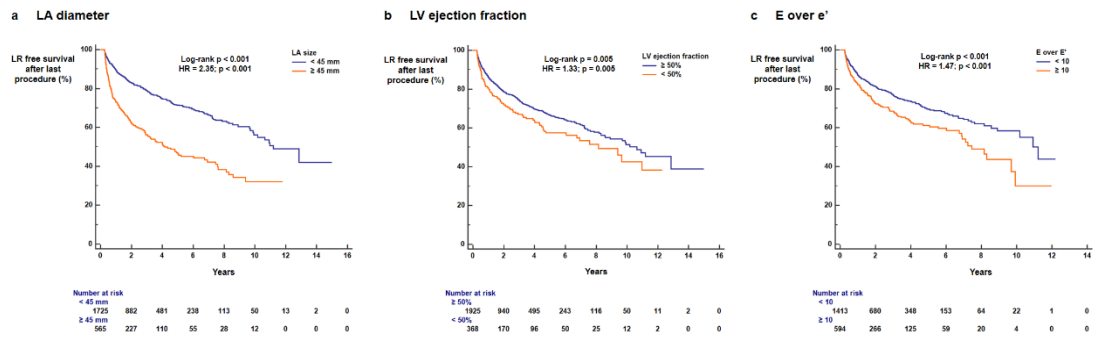
d Diabetes



### Supplementary Figure S1. Influence of clinical parameters on LR.

Kaplan-Meier curve analysis of the cumulative incidence of LR following the last RFCA for the full follow-up duration according to AF duration (**a**), age (**b**), AF type (**c**), and diabetes (**d**). AF: atrial fibrillation; HR: hazard ratio; LR: late recurrence; RFCA: radiofrequency catheter ablation.

Figure S2

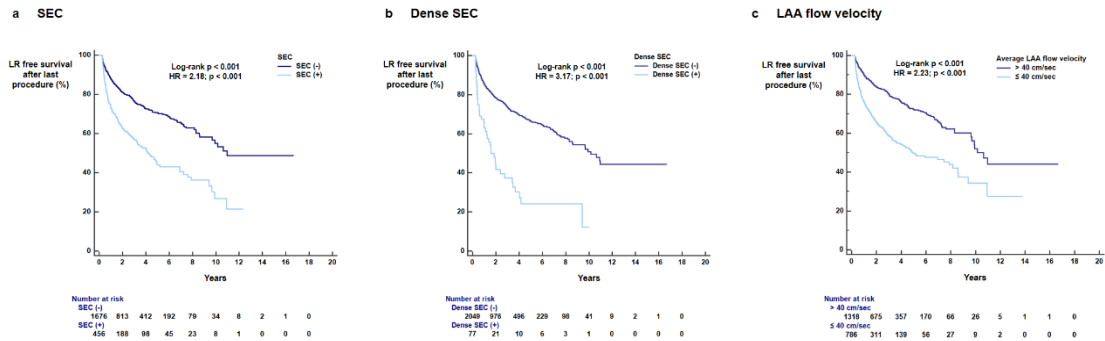


### Supplementary Figure S2. TTE risk factors for LR.

LA diameter  $\geq 45.0$  mm **(a)**, LV EF  $< 50\%$  **(b)**, and E/E'  $\geq 10$  **(c)** were significantly associated with increased risk of LR following the last RFCA (full follow-up duration).

HR: hazard ratio; LA: left atrium; LR: late recurrence; LV: left ventricle; RFCA: radiofrequency catheter ablation; TTE: trans-thoracic echocardiography.

Figure S3

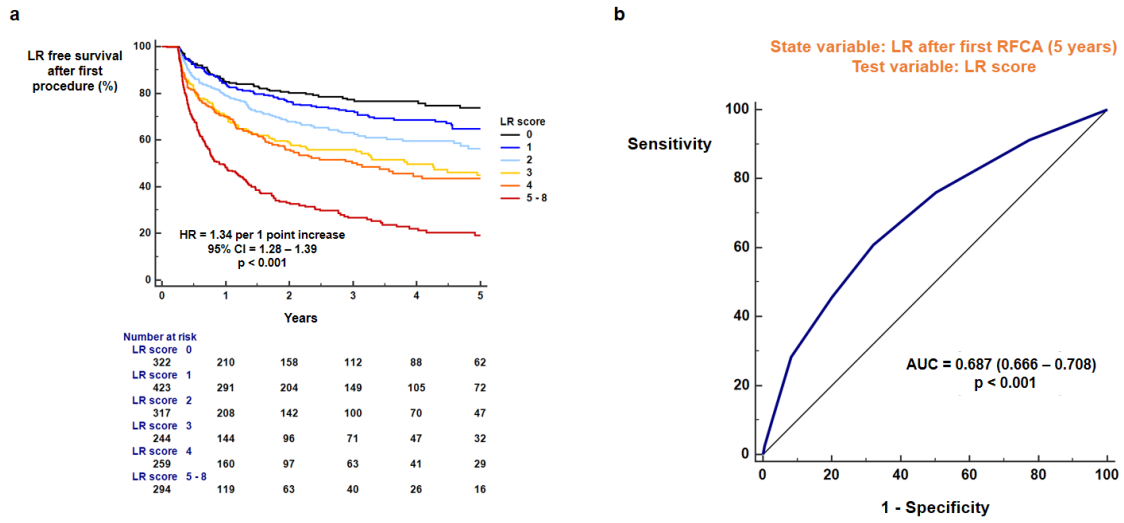


### Supplementary Figure S3. TEE risk factors for LR.

Presence of SEC (a), dense SEC (b), and decreased LAA flow velocity (c) were significantly associated with increased risk of LR following the last RFCA (full follow-up duration).

HR: hazard ratio; LAA: left atrial appendage; LR: late recurrence; RFCA: radiofrequency catheter ablation; SEC: spontaneous echocontrast; TEE: trans-esophageal echocardiography.

**Figure S4**



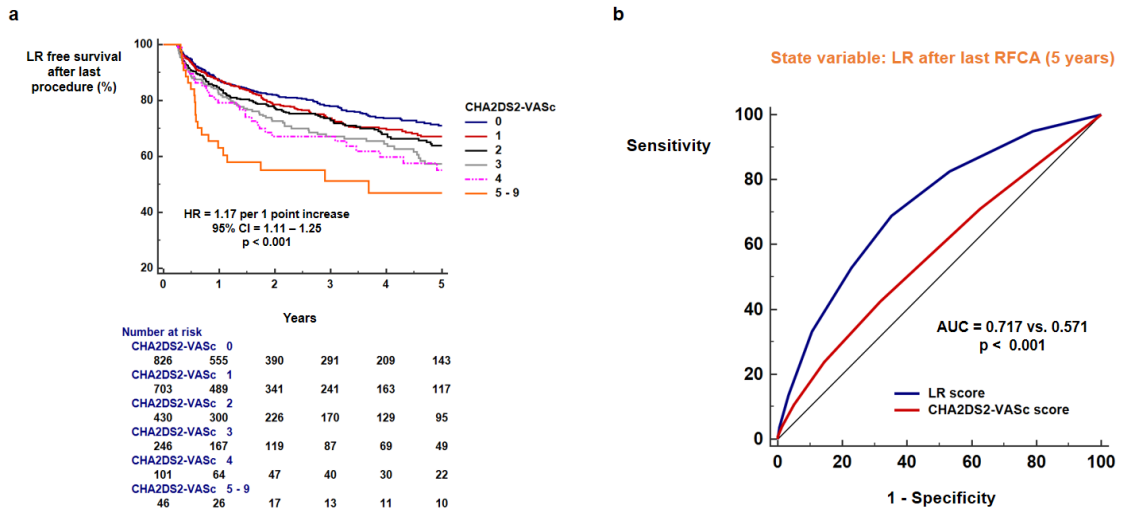
**Supplementary Figure S4.** Predictive value of the LR score for LR following first-time RFCA.

**(a)** Risk of LR after first-time RFCA according to LR score.

**(b)** ROC curve analysis of the LR score for the prediction of LR following first-time RFCA.

AUC: area under curve; HR: hazard ratio; LR: late recurrence; RFCA: radiofrequency catheter ablation; ROC: receiver operating characteristic.

**Figure S5**



**Supplementary Figure S5.** Predictive value of CHA<sub>2</sub>DS<sub>2</sub>-VASc score.

**(A)** Risk of LR stratified by CHA<sub>2</sub>DS<sub>2</sub>-VASc score.

**(B)** ROC curve analysis of the LR score which showed significant predictive value. However, LR score outperformed CHA<sub>2</sub>DS<sub>2</sub>-VASc score.

AUC: area under curve; CI: confidence interval; HR: hazard ratio; LR: late recurrence; RFCA: radiofrequency catheter ablation; ROC: receiver operating characteristic.