Online Resource 1 (Electronic Supplementary Material)

Left Atrial Slow-Conduction Regions as Predictors of Pulmonary Vein Isolation Outcome in Persistent Atrial Fibrillation

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Table S1 Procedural data and complications

	SC Regions (n = 27)	No SC Regions (n = 23)	All Patients (n = 50)	*P* Value
Total procedure duration, min	72 [59–75]	70 [64–80]	71 [60–80]	0.197
Total ablation time, min	16 [14–18]	17 [15–19]	16 [14–19]	0.506
Fluoroscopy duration, min	4 [3–6]	4 [3–6]	4 [3–6]	0.751
Vascular access complications	0 (0)	0 (0)	0 (0)	—
Tamponade	0 (0)	0 (0)	0 (0)	—
Periprocedural stroke	0 (0)	0 (0)	0 (0)	—
Atrioesophageal fistula	0 (0)	0 (0)	0 (0)	—
Pericarditis	0 (0)	1 (4)	1 (2)	0.460

Values are median [Q1–Q3] or n (%). *P* values from the Mann-Whitney *U* test (continuous variables) or Fisher exact test (categorical variables); — = not computable (no events in either group).

SC = slow-conduction.

Table S2 Characteristics of patients with arrhythmia recurrence and redo procedures

				Index Procedure				Redo Procedure				
Patient	**Arrhythmia**	**Time to Recurrence, d**	**Time to Redo, d**	**LA Volume, mL**	**SC Region in LVA**	**SC Region in Normal-Voltage Area**	**Isolated LVA**	**Durable PVI**	**LA Volume, mL**	**New SC Region**	**New LVA**	**New Isolated LVA**
1	AF	102	122	140	No	Yes	Yes	Yes	150	No	No	No
2	AF	525	541	180	No	No	No	No	190	Yes	Yes	No
3	AFL	92	116	215	Yes	No	No	Yes	200	No	No	No
4	AF	120	145	160	Yes	No	No	Yes	136	No	No	No
5	AF	410	431	162	No	Yes	Yes	Yes	176	No	No	No
6	AF	240	259	160	No	Yes	No	Yes	174	No	No	No
7	AF	130	155	160	Yes	No	No	Yes	170	No	No	No
8	AF	130	149	140	No	Yes	No	Yes	155	No	No	No
9	AFL	160	175	180	Yes	No	No	Yes	153	No	No	No
10	AFL	91	102	170	Yes	No	No	No	160	No	No	No

AF = atrial fibrillation; AFL = atrial flutter; LA = left atrial; LVA = low-voltage area; PVI = pulmonary vein isolation; SC = slow-conduction.

Table S3 Presence of SC regions as a predictor of recurrence after adjustment for covariates

Adjustment Covariate(s)	OR (95% CI) for SC Region Presence	*P* Value
None (univariable)	7.70 (1.55–76.62)	0.010
Age, per year	8.20 (1.63–82.71)	0.009
Female	7.43 (1.52–73.04)	0.011
Hypertension	7.43 (1.52–73.33)	0.011
Diabetes mellitus	7.46 (1.52–73.88)	0.011
Stroke/TIA	6.57 (1.27–66.29)	0.023
Obstructive sleep apnea	7.45 (1.52–73.40)	0.011
BMI, per kg/m^2	8.30 (1.64–83.67)	0.008
CHA_2DS_2-VASc score, per point	8.36 (1.61–86.17)	0.009
LVEF, per 5%	7.44 (1.48–74.64)	0.013
LA volume, per mL	6.36 (1.26–63.06)	0.023
AF at procedure onset	8.76 (1.70–89.76)	0.007
Presence of LVAs	7.39 (1.46–74.28)	0.013
Propensity score for SC region presence[a]	6.75 (1.25–70.41)	0.025

Each row is a separate Firth penalized logistic regression model including presence of SC regions and the listed covariate (n = 50; 10 recurrences); the OR, 95% CI, and *P* value refer to presence of SC regions.

[a]Linear predictor of a logistic model for SC region presence including age, sex, CHA_2DS_2-VASc score, LVEF, LA volume, and AF at procedure onset.

AF = atrial fibrillation; BMI = body mass index; CI = confidence interval; LA = left atrial; LVA = low-voltage area; LVEF = left ventricular ejection fraction; OR = odds ratio; SC = slow-conduction; TIA = transient ischemic attack.

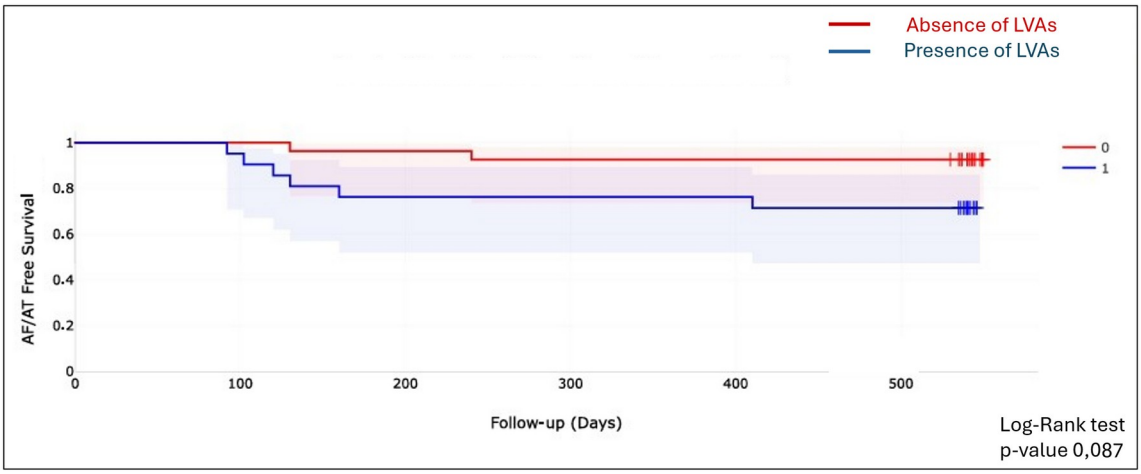


Fig. S1 Arrhythmia-free survival after PVI according to LVA status at the index procedure. Kaplan-Meier estimates of freedom from AF/AT after the index PVI in patients with vs without LVAs. Only recurrences with durable PVI and no new LVA or SC region at the redo procedure were counted as events (6 of 23 vs 2 of 25 patients; log-rank *P* = 0.087). Shaded areas indicate 95% CIs. AF = atrial fibrillation; AT = atrial tachycardia; CI = confidence interval; LVA = low-voltage area; PVI = pulmonary vein isolation; SC = slow-conduction