

Predictor Variables	odds ratio (95% CI)		odds ratio (95% CI)		odds ratio (95% CI)		odds ratio (95% CI)	
Age <sup>+</sup>	1.02 (0.99 – 1.05)	0.23	NA	NA	NA	NA	NA	NA
Female sex	1.23 (0.65 – 2.36)	0.52	1.34 (0.67 – 2.70)	0.41	1.43 (0.70 – 2.93)	0.32	1.36 (0.60 – 3.12)	0.46
Hypertension <sup>+</sup>	1.88 (0.94 – 3.76)	0.07	NA	NA	NA	NA	NA	NA
CHADS2 score	1.33 (0.96 – 1.84)	0.08	1.36 (0.96 – 1.94)	0.08	1.45 (1.01 – 2.10)	0.04	1.71 (1.12 – 2.61)	0.01
AF type (persistent vs paroxysmal)	0.57 (0.30 – 1.09)	0.09	0.32 (0.15 – 0.69)	<0.01	0.48 (0.21 – 1.07)	0.07	0.32 (0.13 – 0.80)	0.01
Left atrial function index	0.13 (0.02 – 0.85)	0.03	0.04 (0.01 – 0.67)	0.02	0.01 (0.01 – 0.13)	<0.01	0.01 (0.01 – 0.29)	<0.01
Left atrial end-systolic volume index	1.02 (0.99 – 1.04)	0.19	1.00 (0.97 – 1.04)	0.96	1.00 (0.96 – 1.04)	0.70	1.01 (0.96 – 1.05)	0.79
Left atrial anteroposterior dimension <sup>++</sup>	0.99 (0.94 – 1.04)	0.72	NA	NA	NA	NA	NA	NA
Rhythm at time of echo (AF vs sinus)	NA	NA	NA	NA	0.24 (0.10 – 0.60)	<0.01	NA	NA
B-type natriuretic peptide	0.99 (0.99-1.00)	0.75	NA	NA	NA	NA	0.99 (0.99 – 1.00)	0.07

**Table 2: Predictors of Late Atrial Fibrillation Recurrence\***

**LEGEND:** Model 1: Multivariable adjusted model including variables with  $p \leq 0.2$  in univariate analysis; Model 2: Model 1 + rhythm at time of echocardiogram; Model 3: Model 1 + B-type natriuretic peptide

\*Other variables included in univariate analysis were: body mass index, diabetes, coronary artery disease, congestive heart failure, prior stroke, obstructive sleep apnea, chronic kidney disease, left ventricular ejection fraction, mitral inflow E/e' lateral tissue Doppler velocity ratio, C-reactive protein, discharge medications, ablation type, ablation time

<sup>+</sup>Age and Hypertension were not included in the multivariable model as they are part of CHADS2 score

<sup>++</sup>Left atrial anteroposterior dimension was not included in the multivariable analysis.

**Supplemental Table 1: Optimal Cut-Points for Left Atrial Function Index for Discriminating Late Atrial Fibrillation Recurrence**

<b>Cohort (N)</b>	<b>Optimal LAFI cut-point</b>	<b>Sensitivity (%)</b>	<b>Specificity (%)</b>	<b>Positive Predictive Value (%)</b>	<b>Negative Predictive Value (%)</b>
All participants (168)	≤33.9	83	34	52	70
Rhythm during echo = AF (56)	≤5.9	55	89	73	79
Rhythm during echo = Sinus (112)	≤33.9	78	56	68	70
Persistent AF (61)	≤6.3	57	92	81	78
Paroxysmal AF (107)	≤46.8	91	29	57	76

**FIGURE LEGENDS**

**FIGURE 1:** Calculation of left atrial function index. From top to bottom: measurement of left atrial end-systolic volume (V1) and end-diastolic volume (V2) in in apical 4 and 2 chamber views, tracing left ventricular outflow tract – velocity time integral (LVOT-VTI) in apical 5 chamber view, calculation of left atrial ejection fraction, calculation of left atrial end-systolic volume index, calculation of left atrial function index

**FIGURE 2:** Distribution of Left atrial function index by rhythm at the time of echocardiogram and recurrence.

**FIGURE 3:** Receiver Operator Characteristic curves for discrimination of late atrial fibrillation recurrence in all study participants. Solid line represents the performance of LAFI (Area under the curve 0.60) and dotted line represents the performance of CHADS2 score (Area under the curve 0.57). Diagonal line of reference is also displayed.

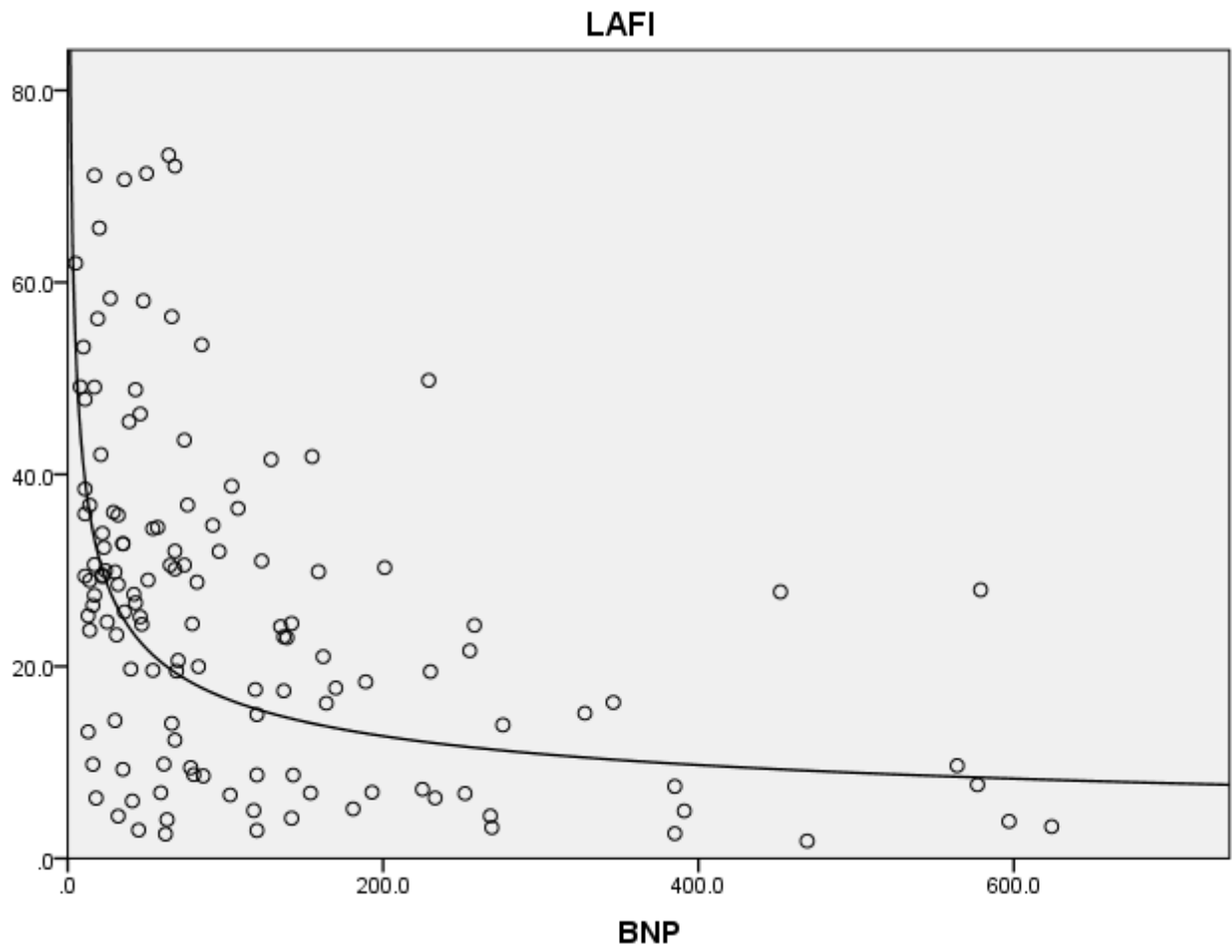
**FIGURE 4:** Receiver Operator Characteristic curves for discrimination of late atrial fibrillation recurrence in participants with persistent atrial fibrillation. Solid line represents the performance of LAFI (Area under the curve 0.79) and dotted line represents the performance of CHADS2 score (Area under the curve 0.56). Diagonal line of reference is also displayed.

**SUPPLEMENTAL FIGURE 1:** Scatterplot depicting relation of left atrial function index with B-type natriuretic peptide. A nonlinear correlation was observed with power curve being the best fit. Circles represent individual observations and the solid line represents the power curve

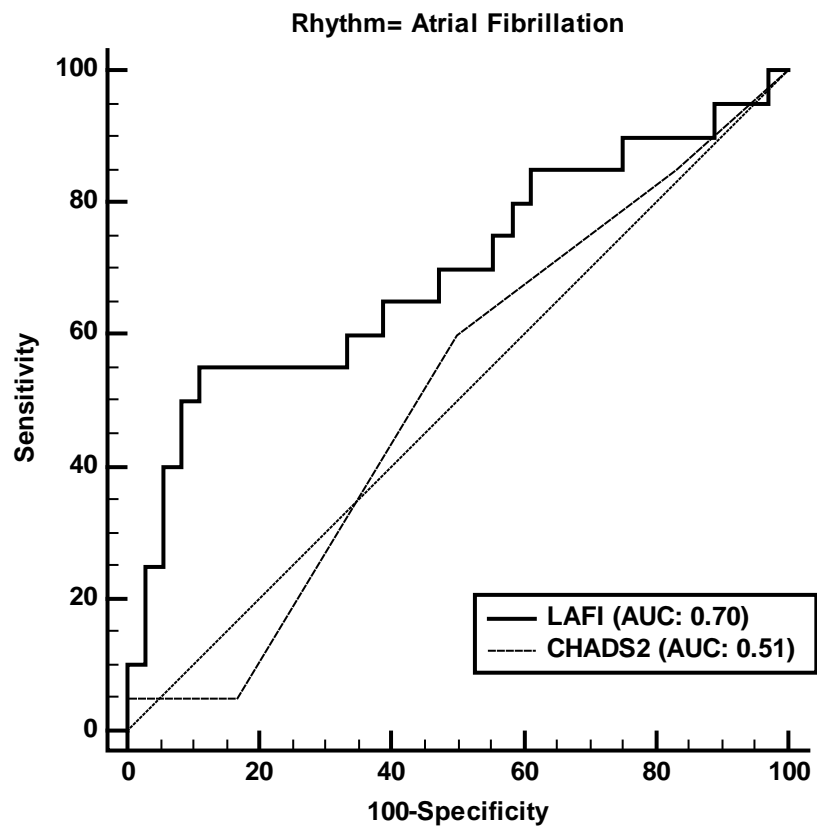
**SUPPLEMENTAL FIGURE 2:** Receiver Operator Characteristic curves for discrimination of late atrial fibrillation recurrence for participants in atrial fibrillation at the time of echo. Solid line represents the performance of LAFI (Area under the curve 0.70) and dotted line represents the performance of CHADS2 score (Area under the curve 0.51). Diagonal line of reference is also displayed.

**SUPPLEMENTAL FIGURE 3:** Receiver Operator Characteristic curves for discrimination of late atrial fibrillation recurrence for participants in sinus rhythm at the time of echo. Solid line represents the performance of LAFI (Area under the curve 0.69) and dotted line represents the performance of CHADS2 score (Area under the curve 0.61). Diagonal line of reference is also displayed.

**SUPPLEMENTAL FIGURE 1**



SUPPLEMENTAL FIGURE 2



SUPPLEMENTAL FIGURE 3

