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Association of the Systemic Inflammation Response Index With Atrial Fibrillation Recurrence After Catheter Ablation

Sidra Farooq
The Affiliated Hospital of Xuzhou Medical University
Thandolwenkosi Lisa Mpofu
The Affiliated Hospital of Xuzhou Medical University
SHAHNAWAZ SHAHNAWAZ
The Affiliated Hospital of Xuzhou Medical University
Mingchang Du
The Affiliated Hospital of Xuzhou Medical University
Xiaoqin Hu
The Affiliated Hospital of Xuzhou Medical University
Fei Li
The Affiliated Hospital of Xuzhou Medical University
Liqi Ge
The Affiliated Hospital of Xuzhou Medical University
Chaoqun Zhang
The Affiliated Hospital of Xuzhou Medical University
Zhuoqi Zhang
The Affiliated Hospital of Xuzhou Medical University
Yu Yang
The Affiliated Hospital of Xuzhou Medical University
Wensu Chen
chen.wensu@163.com
The Affiliated Hospital of Xuzhou Medical University

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Abstract

Background

Systemic inflammation contributes to atrial remodeling and may influence atrial fibrillation (AF) recurrence after catheter ablation. The systemic inflammation response index (SIRI), calculated as neutrophil count × monocyte count / lymphocyte count, integrates inflammatory activity and immune status. We investigated the association between baseline SIRI and AF recurrence after catheter ablation.

Methods

This retrospective cohort included 504 adults with paroxysmal or persistent AF who underwent catheter ablation between July 2023 and December 2024. The primary outcome was atrial tachyarrhythmia recurrence lasting at least 30 seconds after a 3-month blanking period during 12-month follow-up. Multivariable logistic regression, restricted cubic spline analysis, receiver operating characteristic analysis, DeLong testing, integrated discrimination improvement (IDI), and category-free net reclassification improvement (NRI) were performed.

Results

AF recurrence occurred in 140 patients (27.8%). Each 1-standard deviation increase in SIRI was associated with recurrence in univariable analysis (odds ratio [OR], 1.35; 95% confidence interval [CI], 1.10–1.65; P = 0.003) and remained independently associated after adjustment for relevant variables (adjusted OR, 1.24; 95% CI, 1.00–1.54; P = 0.045). Restricted cubic spline analysis suggested a nonlinear association. Adding SIRI to the base clinical model increased the area under the curve from 0.704 to 0.713 without a significant DeLong difference, although IDI and NRI improved. Adding SIRI and C-reactive protein increased the area under the curve to 0.732 and significantly improved DeLong, IDI, and NRI results.

Conclusions

Higher baseline SIRI was independently associated with AF recurrence after catheter ablation. Its incremental value alone was modest, whereas combining SIRI with C-reactive protein provided greater improvement.

Introduction

Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia and affects an estimated 33 million people worldwide [1]. Catheter ablation is a major rhythm-control treatment for AF in contemporary practice and is widely used to reduce arrhythmia burden and improve symptoms [2,3].

Nevertheless, clinically relevant AF recurrence remains common after ablation, occurring in approximately 25–30% of patients despite an initially successful procedure [4,5]. Identifying patients at higher risk of recurrence remains an important clinical challenge.

Systemic inflammation has been increasingly implicated in atrial electrical and structural remodeling and may contribute to AF persistence and post-ablation recurrence [3,6]. Although inflammatory biomarkers such as C-reactive protein (CRP) and interleukin-6 have been associated with incident AF and post-ablation recurrence, they have not yet been incorporated into guideline-recommended routine risk stratification, reflecting uncertainty regarding their incremental clinical utility [3,7]. The systemic inflammation response index (SIRI) is a composite hematological index derived from routine peripheral blood cell counts and is calculated as neutrophil count × monocyte count / lymphocyte count [8]. By integrating neutrophil- and monocyte-mediated innate inflammatory activity with relative lymphocyte depletion, SIRI may provide a more comprehensive measure of systemic inflammatory and immune status than individual leukocyte counts. As a readily available and low-cost biomarker, SIRI has attracted increasing attention in AF, with emerging evidence linking elevated levels to the presence and onset of AF, adverse cardiac remodeling, and poorer clinical outcomes [9–11]. These findings suggest that SIRI may reflect clinically relevant inflammatory and immune dysregulation in AF; however, its independent and incremental prognostic value beyond established clinical factors and conventional inflammatory biomarkers remains incompletely established.

Therefore, we aimed to evaluate the association between baseline SIRI and AF recurrence within 12 months after first-time catheter ablation. We hypothesized that higher SIRI would be independently associated with increased recurrence risk and would provide incremental prognostic information beyond established clinical predictors and CRP.

Methods

Study design and population

This retrospective cohort study included consecutive adult patients who underwent first-time catheter ablation for paroxysmal or persistent atrial fibrillation at The Affiliated Hospital of Xuzhou Medical University between July 2023 and December 2024. The inclusion criteria were as follows: (1) age ≥ 18 years; (2) a confirmed diagnosis of paroxysmal or persistent atrial fibrillation; (3) first-time catheter ablation for atrial fibrillation; and (4) complete clinical and follow-up data required for the present analysis. Patients were excluded if they had: (1) active or chronic inflammatory, infectious, or autoimmune disease; (2) hematological disease, clinically significant blood-cell abnormalities, or active malignancy; (3) current systemic corticosteroid, immunosuppressive, or other treatment known to substantially affect leukocyte counts; (4) severe hepatic or renal dysfunction. The patient selection process is presented in Fig. 1. The study protocol was approved by The Affiliated Hospital of Xuzhou Medical University (approval no. XYFY2026-KL609-01), and the requirement for written informed consent was waived because of the retrospective design and use of de-identified patient data.

Catheter ablation procedure

Catheter ablation was performed according to the institutional protocol, with pulmonary vein isolation as the cornerstone strategy. Additional ablation beyond pulmonary vein isolation was performed at the operator's discretion according to the AF phenotype and procedural findings. Periprocedural management, including sedation or anesthesia and intravenous heparin administration to maintain the activated clotting time within the institutional target range, was conducted according to established protocols. Detailed procedural protocols have been described previously [12].

Baseline clinical data collection

Baseline demographic, clinical, echocardiographic, laboratory, and medication data were extracted from electronic medical records using measurements obtained before catheter ablation. Collected variables included age, sex, AF type (paroxysmal or persistent), cardiovascular comorbidities, including hypertension, diabetes mellitus, heart failure, previous stroke or transient ischemic attack, coronary artery disease, and metabolic syndrome, as well as the CHA_2DS_2-VASc score and baseline medication use, including β-blockers, statins, angiotensin-converting enzyme inhibitors or angiotensin receptor blockers, and antiarrhythmic drugs. Transthoracic echocardiography was performed before ablation. Left atrial diameter was measured in the parasternal long-axis view, and left ventricular ejection fraction was calculated using the biplane Simpson method according to guideline recommendations. Peripheral venous blood samples were collected before ablation for complete blood cell counts and CRP measurement. SIRI was calculated as neutrophil count × monocyte count / lymphocyte count.

Follow-up and outcome definition

Patients were followed according to standard post-ablation care pathways, including scheduled outpatient visits, 12-lead electrocardiography, and ambulatory rhythm monitoring. The patients were followed up at 1, 3, 6, and 12 months after RFCA. Additional rhythm assessments were performed when symptoms suggestive of arrhythmia recurrence occurred, in accordance with contemporary guideline recommendations [2,3]. The primary outcome was the first documented recurrence of atrial tachyarrhythmia, defined as AF, atrial flutter, or atrial tachycardia lasting ≥ 30 seconds after the 3-month post-ablation blanking period [2]. Arrhythmia episodes occurring during the blanking period were not considered primary outcome events.

Statistical analysis

Continuous variables were expressed as mean±standard deviation for normally distributed data and as median with interquartile range for non-normally distributed data. Categorical variables were presented as counts and percentages. Normality was assessed using the Shapiro-Wilk test. Between-group comparisons were performed using the independent-samples t test or Mann-Whitney U test for

continuous variables and the χ^2 test or Fisher exact test for categorical variables, as appropriate. Associations between baseline variables and atrial fibrillation recurrence were evaluated using binary logistic regression analysis. Univariable logistic regression analyses were initially performed, followed by a multivariable logistic regression model including age, sex, AF type, CHA_2DS_2-VASc score ≥ 2, left atrial diameter, left ventricular ejection fraction, CRP, and SIRI. SIRI was standardized before regression analysis and evaluated per 1-standard deviation increase. Results were reported as odds ratios with 95% confidence intervals. The shape of the association between SIRI and atrial fibrillation recurrence was further examined using restricted cubic spline functions within logistic regression models. Both unadjusted and multivariable-adjusted spline models were constructed, and P values were calculated for the overall association and nonlinearity. Based on the results of the multivariable regression analysis, a base clinical model was constructed using AF type, CHA_2DS_2-VASc score ≥ 2, and left atrial diameter. Model 2 additionally included SIRI, whereas Model 3 included both SIRI and CRP in addition to the variables in the base clinical model. The discriminative performance of the three models was assessed using receiver operating characteristic curve analysis. Differences in AUC were evaluated using the paired DeLong test. Improvements in risk discrimination and reclassification after the addition of SIRI were quantified using the integrated discrimination improvement (IDI) and category-free net reclassification improvement (NRI), respectively. All statistical analyses were performed using R software, version 4.3.2 (R Foundation for Statistical Computing, Vienna, Austria), and IBM SPSS Statistics, version 30.0 (IBM Corp., Armonk, NY, USA). All tests were two-sided, and a P value < 0.05 was considered statistically significant.

Results

Baseline demographic and clinical characteristics

Baseline demographic, clinical, echocardiographic, and inflammatory characteristics stratified by AF recurrence are shown in Table 1. Of 504 patients, 140 (27.8%) experienced recurrence during follow-up. Sex distribution and most comorbidities were similar between groups. However, recurrence was more frequent in patients with persistent AF and in those with CHA_2DS_2-VASc ≥ 2. Patients with recurrence were older and had larger left atrial diameters, while LVEF was comparable. Inflammatory burden was higher in the recurrence group, with significantly elevated CRP and SIRI. Baseline use of β-blockers, statins, and ACEI/ARB was similar between groups, whereas antiarrhythmic drug use was more common among patients who recurred.

Table 1
Baseline characteristics according to atrial fibrillation recurrence after catheter ablation

Variable	Overall (n = 504)	No recurrence (n = 364)	Recurrence (n = 140)	P value
Male sex, n (%)	321 (63.7)	227 (62.4)	94 (67.1)	0.370
Paroxysmal AF, n (%)	286 (56.7)	229 (62.9)	57 (40.7)	< 0.001
Hypertension, n (%)	239 (47.4)	166 (45.6)	73 (52.1)	0.224
Diabetes mellitus, n (%)	88 (17.5)	62 (17.0)	26 (18.6)	0.782
Heart failure, n (%)	69 (13.7)	46 (12.6)	23 (16.4)	0.335
Previous stroke, n (%)	88 (17.5)	59 (16.2)	29 (20.7)	0.288
CAD, n (%)	75 (14.9)	51 (14.0)	24 (17.1)	0.424
Metabolic syndrome, n (%)	24 (4.8)	14 (3.8)	10 (7.1)	0.095
CHA_2DS_2-VASc ≥ 2, n (%)	297 (58.9)	198 (54.4)	99 (70.7)	0.001
β-blocker, n (%)	280 (55.6)	204 (56.0)	76 (54.3)	0.798
Statin, n (%)	302 (59.9)	214 (58.8)	88 (62.9)	0.438
ACEI/ARB, n (%)	167 (33.1)	114 (31.3)	53 (37.9)	0.187
Antiarrhythmic drug, n (%)	290 (57.5)	196 (53.8)	94 (67.1)	0.009
Age, years	61.3 ± 10.7	60.6 ± 10.9	63.3 ± 9.8	0.006
Left atrial diameter, mm	40.0 ± 5.6	39.0 ± 5.5	42.5 ± 5.1	< 0.001
LVEF, %	58.5 ± 7.1	58.5 ± 7.1	58.4 ± 7.2	0.884
CRP, mg/L	2.40 (0.80–3.35)	2.08 (0.60–3.15)	2.70 (1.90–3.90)	< 0.001
SIRI	1.04 (0.77–1.46)	0.96 (0.71–1.29)	1.29 (0.98–1.93)	< 0.001

ACEI, angiotensin-converting enzyme inhibitor; AF, atrial fibrillation; ARB, angiotensin receptor blocker; CAD, coronary artery disease; CRP, C-reactive protein; IQR, interquartile range; LVEF, left ventricular ejection fraction; SD, standard deviation; SIRI, systemic inflammation response index.

Factors associated with atrial fibrillation recurrence

In univariable logistic regression analysis, SIRI was significantly associated with atrial fibrillation recurrence, with each 1-standard deviation increase in SIRI corresponding to 35% higher odds of recurrence (OR, 1.35; 95% CI, 1.10–1.65; P = 0.003). After adjustment for age, sex, AF type, CHA_2DS_2-VASc score ≥ 2, left atrial diameter, left ventricular ejection fraction, and C-reactive protein, SIRI remained

independently associated with atrial fibrillation recurrence after catheter ablation (adjusted OR, 1.24; 95% CI, 1.00–1.54; P = 0.045), indicating a 24% increase in the odds of recurrence per 1-standard deviation increase in SIRI (Table 2).

Table 2
Univariable and multivariable logistic regression analyses of atrial fibrillation recurrence

Variable	Univariable logistic regression		Multivariable logistic regression	
	OR (95% CI)	P value	Adjusted OR (95% CI)	P value
Age (per 1-year increase)	1.03 (1.01–1.05)	0.009	1.00 (0.98–1.03)	0.791
Male sex	1.23 (0.82–1.86)	0.318	1.24 (0.79–1.93)	0.344
AF type	2.47 (1.66–3.68)	< 0.001	1.66 (1.04–2.62)	0.032
CHA_2DS_2-VASc ≥ 2	2.02 (1.33–3.08)	0.001	1.72 (1.03–2.86)	0.037
Left atrial diameter (per 1-mm increase)	1.13 (1.08–1.17)	< 0.001	1.10 (1.05–1.15)	< 0.001
LVEF (per 1% increase)	1.00 (0.97–1.03)	0.883	1.02 (0.99–1.05)	0.205
CRP (per 1-mg/L increase)	1.17 (1.07–1.27)	< 0.001	1.11 (1.01–1.22)	0.026
SIRI (per 1-SD increase)	1.35 (1.10–1.65)	0.003	1.24 (1.00–1.54)	0.045

AF, atrial fibrillation; CI, confidence interval; CRP, C-reactive protein; LVEF, left ventricular ejection fraction; OR, odds ratio; SD, standard deviation; SIRI, systemic inflammation response index.

Restricted cubic spline analysis of SIRI and atrial fibrillation recurrence

To further explore the shape of the association between baseline SIRI and atrial fibrillation recurrence, restricted cubic spline analyses were performed. In the unadjusted model, SIRI demonstrated a positive association with recurrence risk across its distribution, with a progressive increase at higher SIRI values. After adjustment for age, sex, atrial fibrillation type, CHA_2DS_2-VASc score ≥ 2, left atrial diameter, left ventricular ejection fraction, and C-reactive protein, the association between SIRI and recurrence remained significant, with evidence of a nonlinear relationship between SIRI and atrial fibrillation recurrence risk (Fig. 2).

Incremental prognostic value of SIRI

The variables in the base clinical model were prespecified based on their established clinical relevance and previously reported associations with post-ablation recurrence. The base clinical model included AF

type, CHA_2DS_2-VASc score ≥ 2, and left atrial diameter. Model 2 additionally included SIRI, whereas Model 3 additionally included both SIRI and CRP. The base clinical model had an AUC of 0.704 (95% CI, 0.655–0.753). Adding SIRI increased the AUC to 0.713 (95% CI, 0.664–0.763), corresponding to an absolute ΔAUC of 0.010; however, the difference was not statistically significant by DeLong test (Z = 1.252, P = 0.210). Compared with the base model, the addition of SIRI yielded an IDI of 0.017 (95% CI, 0.003–0.031; P = 0.018) and an NRI of 0.208 (95% CI, 0.023–0.393; P = 0.028) (Fig. 3, Table 3, Table 4).

When both SIRI and CRP were added to the base model, the AUC increased to 0.732 (95% CI, 0.684–0.779), with an absolute ΔAUC of 0.028. This improvement was statistically significant by DeLong test (Z = 2.634, P = 0.008). The combined addition of SIRI and CRP also improved discrimination and reclassification, with an IDI of 0.027 (95% CI, 0.010–0.043; P = 0.002) and an NRI of 0.255 (95% CI, 0.064–0.446; P = 0.009) (Fig. 3, Table 3, Table 4).

Table 3
ROC of models for atrial fibrillation recurrence

Model	AUC (95% CI)	Sensitivity	Specificity	AUC P value	ΔAUC vs. Clinical model	DeLong P value
Clinical model	0.704 (0.655–0.753)	66.4%	64.6%	< 0.001	—	—
Clinical model + SIRI	0.713 (0.664–0.763)	56.4%	77.2%	< 0.001	0.010	0.210
Clinical model + SIRI + CRP	0.732 (0.684–0.779)	75.0%	61.5%	< 0.001	0.028	0.008

The base clinical model included AF type, CHA_2DS_2-VASc score ≥ 2, and left atrial diameter. Model comparisons were performed against the base clinical model. AUC, area under the receiver operating characteristic curve; CI, confidence interval; CRP, C-reactive protein; SIRI, systemic inflammation response index.

Table 4
Incremental predictive performance of SIRI and CRP for atrial fibrillation recurrence

Model	IDI (95% CI)	IDI P	NRI (95% CI)	NRI P
Clinical model	—	—	—	—
Clinical model + SIRI	0.017 (0.003–0.031)	0.018	0.208 (0.023–0.393)	0.028
Clinical model + SIRI + CRP	0.027 (0.010–0.043)	0.002	0.255 (0.064–0.446)	0.009

The base clinical model included AF type, CHA_2DS_2-VASc score ≥ 2, and left atrial diameter. Model comparisons were performed against the base clinical model. CRP, C-reactive protein; IDI, integrated

discrimination improvement; NRI, net reclassification improvement; SIRI, systemic inflammation response index.

Discussion

In this retrospective cohort of 504 patients undergoing first-time catheter ablation for AF, higher baseline SIRI was independently associated with AF recurrence. Each 1-standard deviation increase in SIRI corresponded to a 24% increase in the odds of recurrence after adjustment for clinical, echocardiographic, and inflammatory variables. Restricted cubic spline analysis further suggested a nonlinear relationship, with the increase in recurrence risk becoming more pronounced at higher SIRI levels. These findings indicate that systemic immune-inflammatory dysregulation may contribute to the residual arrhythmogenic substrate responsible for AF recurrence after ablation.

SIRI integrates several components of the inflammatory and immune response [8]. Neutrophils may contribute to atrial electrical and structural remodeling through the release of pro-inflammatory cytokines, reactive oxygen species, proteolytic enzymes, and neutrophil extracellular traps, with experimental evidence suggesting that interactions between neutrophil extracellular traps and cardiomyocytes may facilitate AF progression [13,14]. Circulating monocytes may be recruited into atrial tissue and differentiate into macrophages, thereby promoting inflammatory activation, extracellular matrix remodeling, and profibrotic signaling; recent single-cell and experimental studies have further implicated inflammatory monocytes and SPP1-positive macrophages in the development of a fibrotic and AF-prone atrial substrate [15]. Conversely, relative lymphopenia may reflect systemic inflammatory activation, physiological stress, and impaired adaptive immune regulation [16]. By integrating these cellular components, SIRI may provide a broader representation of systemic immune-inflammatory burden than any individual leukocyte count.

Accumulating evidence has linked elevated SIRI to the presence of AF, adverse cardiac remodeling, and poorer clinical outcomes [9–11]. Our findings extend these observations by showing that SIRI remained associated with post-ablation recurrence after adjustment for AF type, left atrial enlargement, comorbidity burden, and CRP. Persistent inflammation may promote electrical and structural atrial remodeling through oxidative stress, altered calcium handling, conduction heterogeneity, and profibrotic signaling, thereby sustaining an arrhythmogenic substrate despite pulmonary vein isolation [17,18]. Elevated SIRI may therefore reflect a more advanced immune-inflammatory and atrial remodeling state associated with recurrence vulnerability.

The nonlinear association observed in our spline analysis is consistent with a previous study reporting a nonlinear relationship between SIRI and paroxysmal AF risk [19]. The odds of recurrence increased more markedly at higher SIRI values, suggesting that pronounced immune-inflammatory activation may be associated with greater atrial vulnerability. However, spline-derived patterns and apparent thresholds, particularly at the extremes of the SIRI distribution where observations are relatively sparse, should be interpreted cautiously and require confirmation in larger external cohorts [20,21].

Although SIRI was independently associated with AF recurrence, its predictive performance should not be overstated. Adding SIRI alone to the base clinical model increased the AUC from 0.704 to 0.713, but this difference was not statistically significant according to the DeLong test. The significant improvements in IDI and NRI suggest that SIRI produced modest changes in individual risk estimates and reclassification without substantially improving overall discrimination. This discrepancy is plausible because the AUC may be relatively insensitive to small improvements in prediction, whereas IDI and NRI can detect more subtle changes in predicted probabilities [22]. Nevertheless, reclassification measures are sensitive to model specification and calibration and should be interpreted cautiously in the absence of established clinical risk categories or decision thresholds [23]. In contrast, adding both SIRI and CRP to the base model increased the AUC to 0.732 and resulted in significant improvements according to the DeLong test, IDI, and NRI. This finding suggests that SIRI and CRP may capture complementary dimensions of systemic inflammation. CRP is a hepatically synthesized acute-phase protein predominantly induced by inflammatory cytokine signaling, whereas SIRI integrates circulating neutrophil, monocyte, and lymphocyte counts and therefore reflects the balance between innate inflammatory activation and adaptive immune status [8,24]. Their combination may provide a broader assessment of inflammatory burden than either marker alone, indicating that SIRI should be considered complementary to, rather than a replacement for, CRP.

Persistent AF, a CHA_2DS_2-VASc score ≥ 2, and larger left atrial diameter were included in the base clinical model because they reflect AF phenotype, cumulative clinical vulnerability, and structural atrial remodeling, respectively [25–27]. Their contribution highlights the multifactorial nature of post-ablation recurrence, which cannot be fully characterized by a single inflammatory biomarker.

From a clinical perspective, SIRI is inexpensive, readily available, and easily calculated from routine complete blood counts. However, the limited AUC improvement after adding SIRI alone does not support its use as a standalone tool for determining ablation candidacy, procedural strategy, or post-ablation treatment. Its more appropriate role may be as an adjunctive marker interpreted together with CRP and established clinical and echocardiographic variables. Patients with simultaneously elevated SIRI and CRP may represent a subgroup with a greater inflammatory burden who could potentially benefit from closer rhythm surveillance, more intensive management of modifiable risk factors, and individualized follow-up. Whether this strategy improves outcomes requires prospective investigation.

Limitations

Several limitations should be acknowledged. First, this was a retrospective, single-center observational study, and residual confounding cannot be excluded. Second, intermittent rhythm monitoring may have missed asymptomatic or short-duration recurrences. Third, SIRI and CRP were measured only once before ablation and may have been influenced by transient inflammatory or physiological conditions. Serial measurements may provide a more reliable assessment of inflammatory dynamics. Fourth, although SIRI was independently associated with recurrence, its adjusted effect size and incremental

predictive improvement were modest. Finally, the models were developed and evaluated in the same cohort without external validation, and their performance may therefore be optimistic.

Conclusion

Higher baseline SIRI was independently associated with AF recurrence after catheter ablation, but its incremental value alone was limited. Combining SIRI with CRP provided greater improvement in discrimination and reclassification, supporting their complementary use within a broader multiparametric risk-assessment strategy.

Abbreviations

AF
Atrial fibrillation
AIC
Akaike information criterion
AUC
Area under the curve
CI
Confidence interval
CRP
C–reactive protein
HR
Hazard ratio
IQR
Interquartile range
LVEF
Left ventricular ejection fraction
ROC
Receiver operating characteristic
SD
Standard deviation
SIRI
Systemic inflammation response index
TIA
Transient ischemic attack

Declarations

Ethics approval and consent

This study was approved by the Ethics Committee of the Affiliated Hospital of Xuzhou Medical University and conducted in accordance with the Declaration of Helsinki. Each participant signed an informed consent form. Ethics approval number: XYFY2026-KL609-01.

Clinical trial number:

not applicable.

Conflict of Interest

The authors declare that they have no conflicts of interest.

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Author Contribution

S.F. and T.L.M. contributed equally to this work and were responsible for study conception, data collection, data analysis and interpretation, and drafting of the manuscript. A.S.M. and M.D. contributed to clinical data collection, data curation, and interpretation of the results. X.H., F.L., and L.G. contributed to patient data acquisition, follow-up, and clinical data verification. C.Z. and Z.Z. contributed to statistical analysis, preparation of figures and tables, and interpretation of the findings. Y.Y. and W.C. conceived and supervised the study, provided methodological and clinical guidance, critically revised the manuscript for important intellectual content, and acquired funding. All authors reviewed and approved the final manuscript.

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Data Availability

The datasets generated during and/or analyzed during the current study are available by request from the correspondence (chen.wensu@163.com).

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Figures

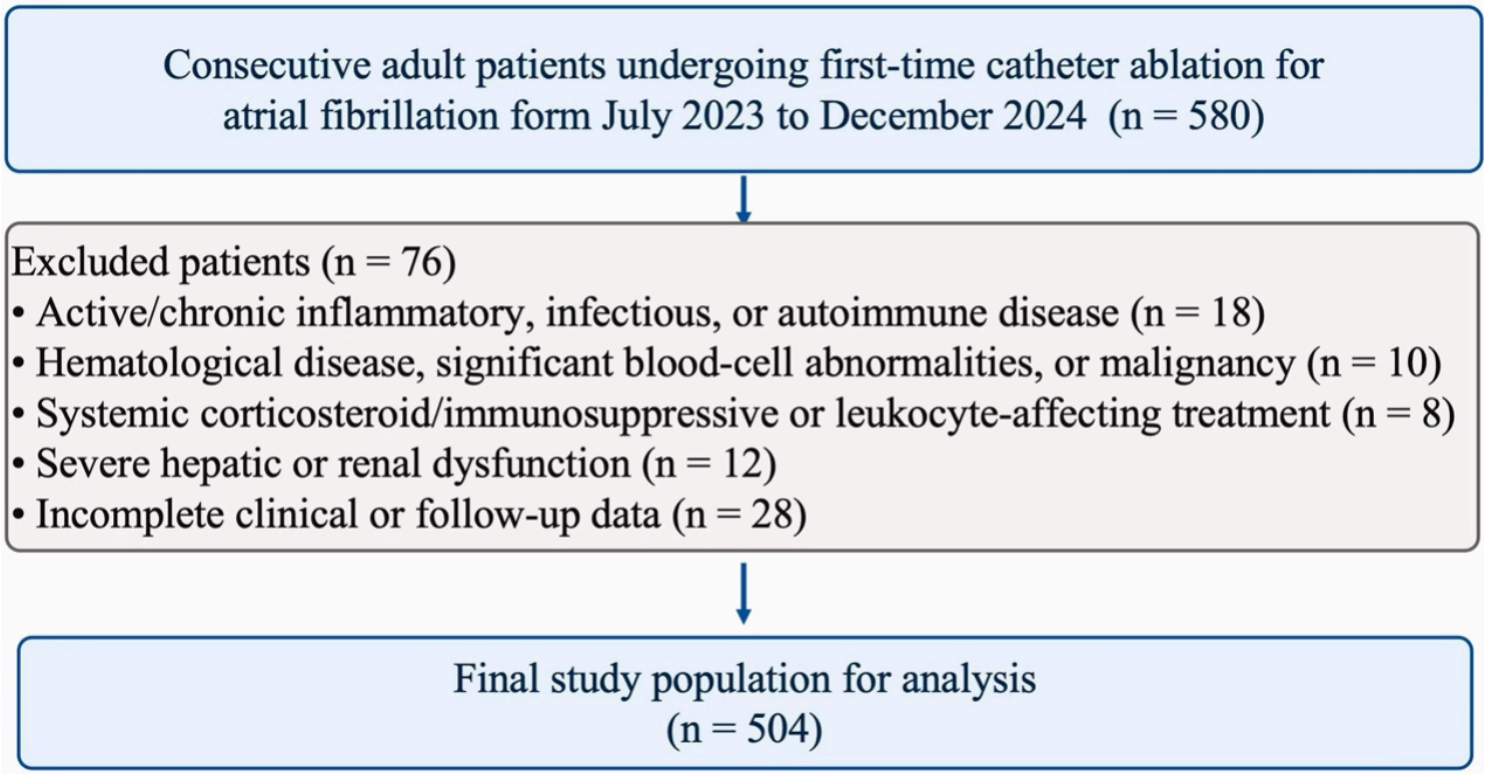


Figure 1

Patient Selection Flowchart. AF, atrial fibrillation.

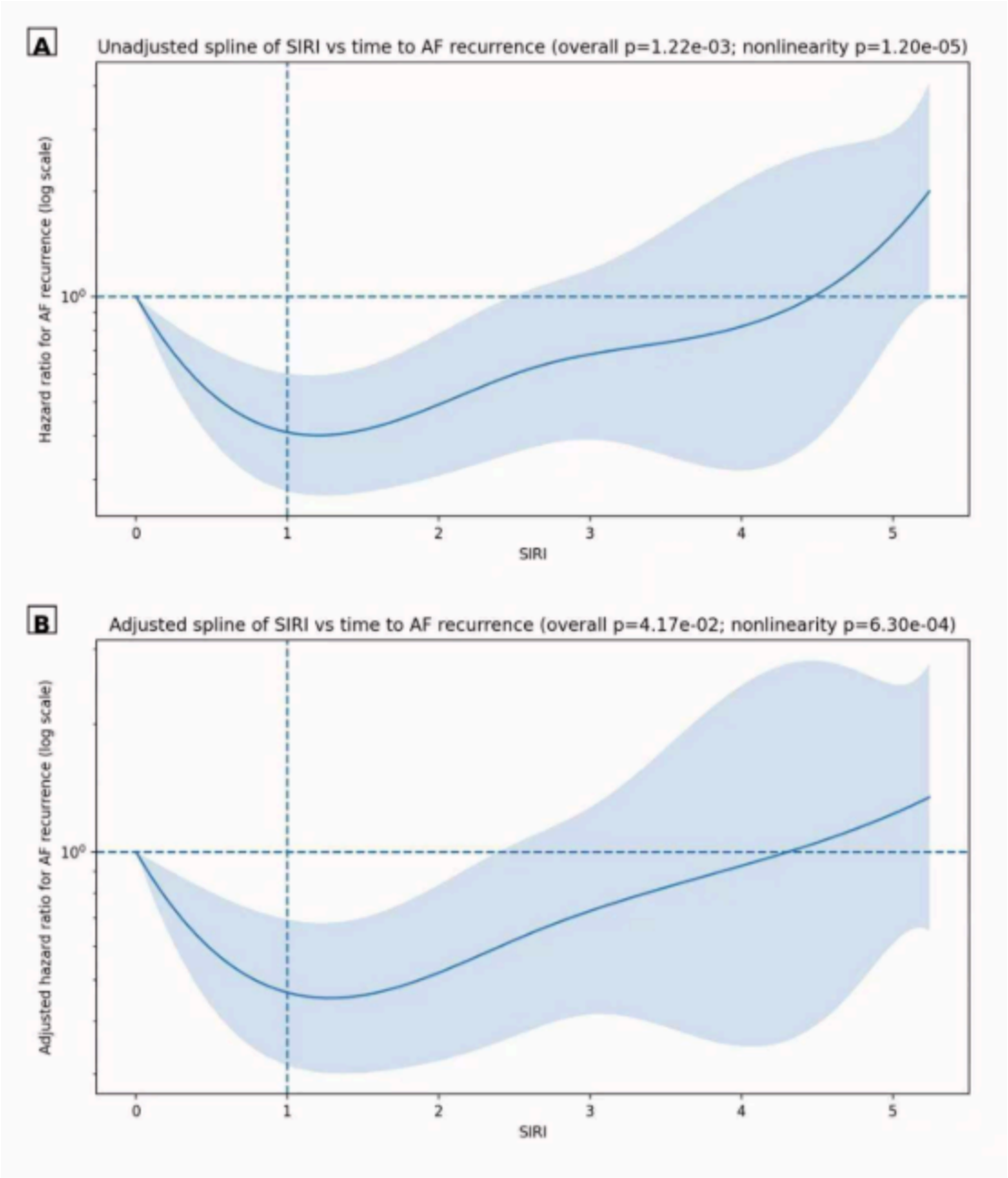


Figure 2

Restricted cubic spline analysis of the association between SIRI and atrial fibrillation recurrence after catheter ablation. *(A) Unadjusted association between baseline SIRI and time to atrial fibrillation recurrence. (B) Association adjusted for age, sex, atrial fibrillation type, CHA_2DS_2-VASc score ≥2, left atrial diameter, left ventricular ejection fraction, and C-reactive protein. AF, atrial fibrillation; SIRI, systemic inflammation response index.*

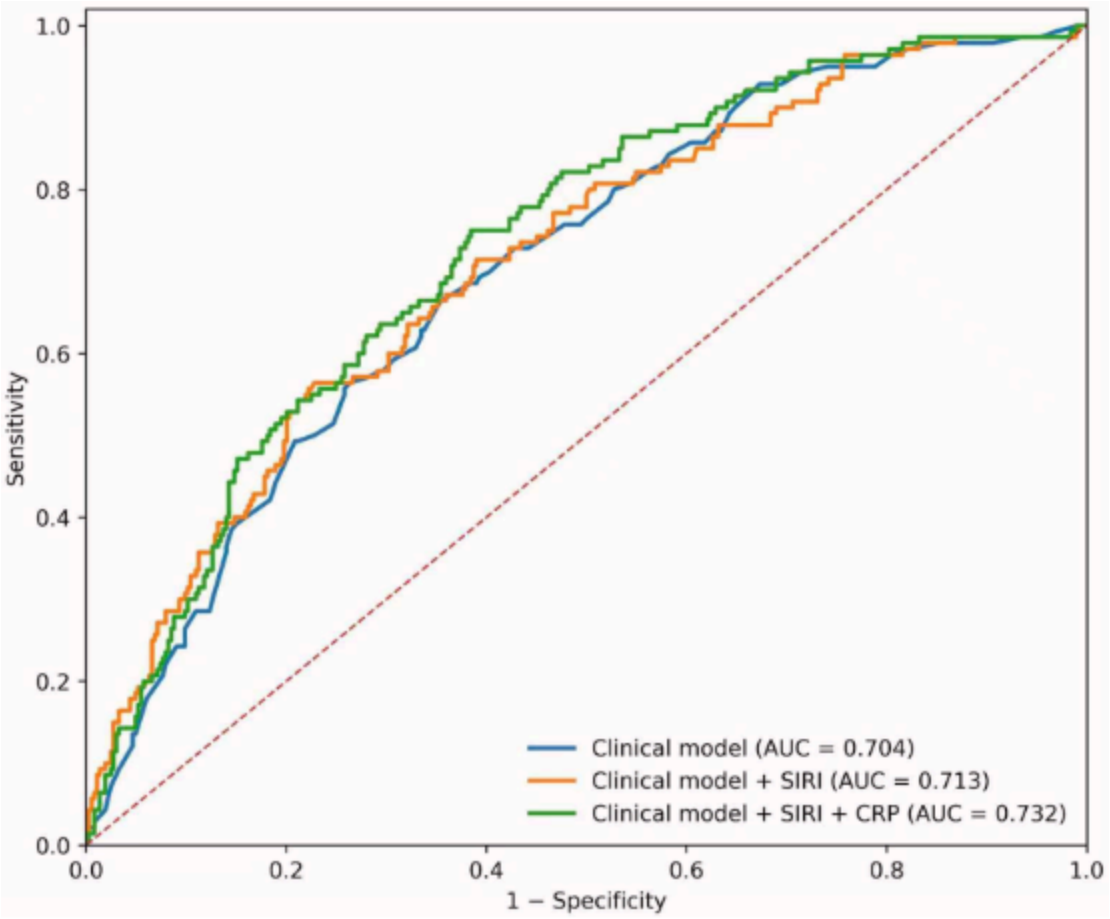


Figure 3

Receiver operating characteristic curves of the clinical models for atrial fibrillation recurrence after catheter ablation. *The base clinical model included atrial fibrillation type, CHA_2DS_2-VASc score ≥2, and left atrial diameter. AF, atrial fibrillation; AUC, area under the curve; CRP, C-reactive protein; ROC, receiver operating characteristic; SIRI, systemic inflammation response index.*