

Summary

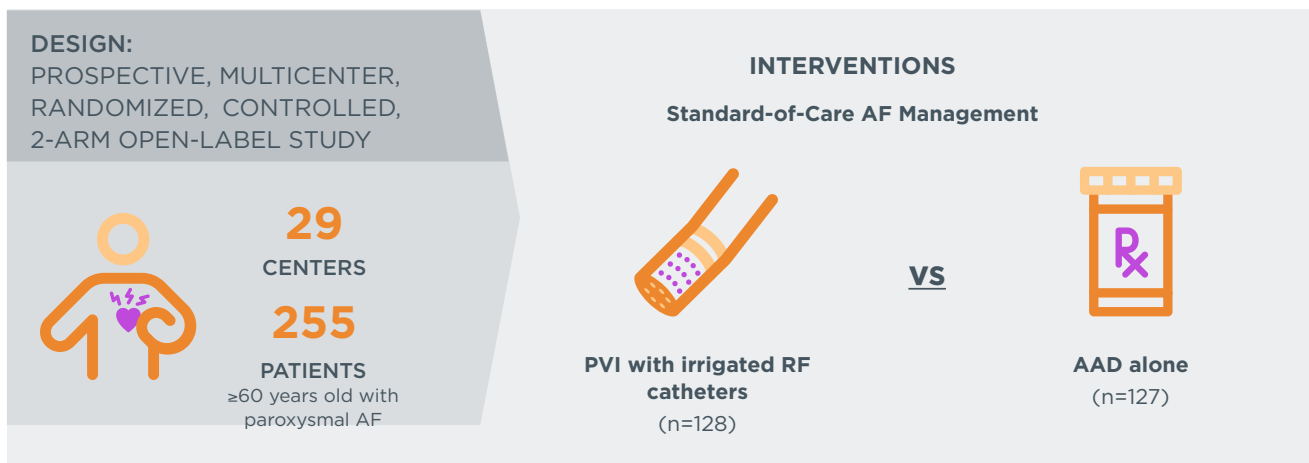
Catheter Ablation or Medical Therapy to Delay Progression of Atrial Fibrillation: The Randomized Controlled Atrial Fibrillation Progression Trial (ATTEST)

Kuck K-H, Lebedev DS, Mikhaylov EN, Romanov A, Gellér L, Kalējs O, Neumann T, Davtyan K, On YK, Popov S, Bongiorni MG, Schlüter M, Willems S, Ouyang F. *Europace*. Published online December 17, 2020.
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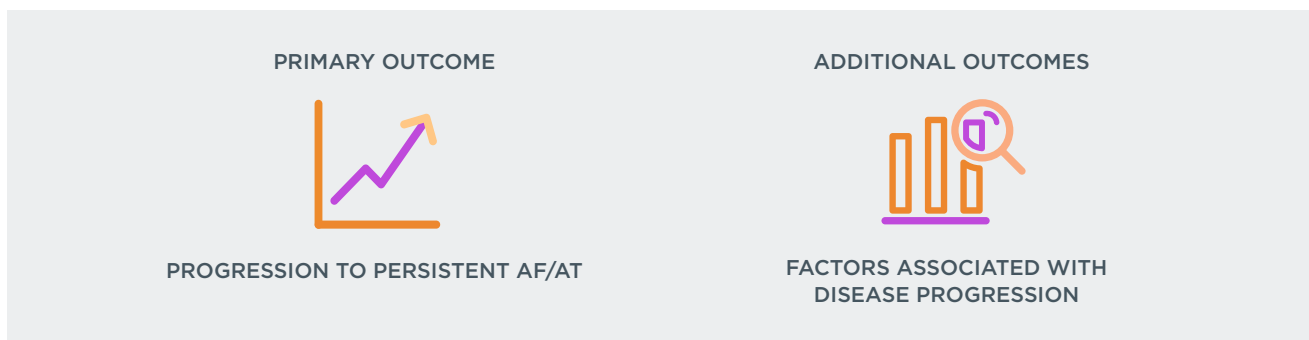
STUDY QUESTION

Is RF catheter ablation more effective than AAD therapy alone in delaying the progression to persistent AF in patients with symptomatic paroxysmal AF?

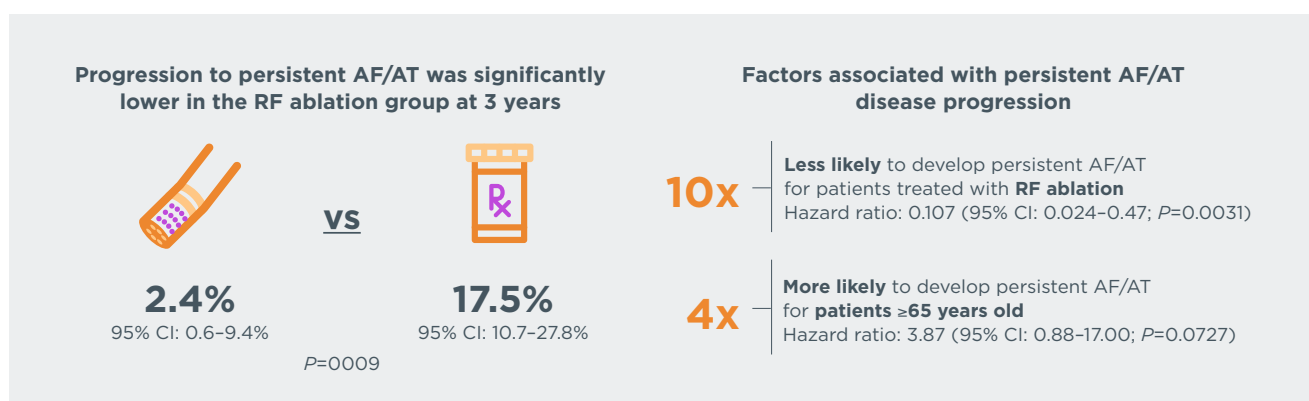
METHODOLOGY



OUTCOMES



RESULTS



CONCLUSION

RF ablation is superior to guideline-directed AAD therapy alone in **delaying progression** from paroxysmal to **persistent AF**.

AAD, antiarrhythmic drug; AF, atrial fibrillation; AT, atrial tachycardia; CI, confidence interval; PVI, pulmonary vein isolation; RF, radiofrequency. Kuck K-H, Lebedev DS, Mikhaylov EN, et al. Catheter ablation or medical therapy to delay progression of atrial fibrillation: The randomized controlled Atrial Fibrillation Progression Trial (ATTEST). *Europace*. Published online December 17, 2020. doi:10.1093/europace/euaa298.

OBJECTIVE

To evaluate if RF ablation is more effective than AAD therapy alone in delaying the progression to persistent AF over the course of 3 years in patients ≥ 60 years old with paroxysmal AF.

METHODS

Experimental Design

STUDY DESIGN	<ul style="list-style-type: none"> Prospective, multicenter, randomized, controlled, 2-arm open-label study
STUDY PERIOD AND LOCATION	<ul style="list-style-type: none"> February 2012 to May 2018 29 centers in 13 countries
INCLUSION CRITERIA	<ul style="list-style-type: none"> 255 patients ≥ 60 years old with paroxysmal AF ≥ 2 years ≥ 2 AF episodes over the 6 months preceding enrollment Failed 1–2 AADs HATCH score 1–4
PATIENT FOLLOW-UP	<ul style="list-style-type: none"> Standard-of-care monitoring at 3 months, 6 months, 1 year, 2 years, and 3 years
PRIMARY ENDPOINT	<ul style="list-style-type: none"> First documented occurrence of persistent AF/AT after a 90-day blanking period assessed at 3 years^a
OTHER OUTCOMES	<ul style="list-style-type: none"> Factors associated with disease progression Time to recurrent AF/AT

Interventions Per Standard-of-Care Practice



- Medications were managed for all patients in both groups per current treatment guidelines.
- Crossover from the AAD to the RF group was allowed for treatment-compliant patients who experienced severe side effects or AF symptoms when no other drug options were available.
 - To minimize crossover, noncompliant patients or those taking concurrent incompatible medications underwent medication management and reevaluation before the crossover was authorized.
- Due to budget constraints following slow enrollment, the trial was terminated prematurely by the sponsor in February 2018 after the second planned interim analysis; termination was independent of study outcomes.

AAD, antiarrhythmic drug; AF, atrial fibrillation; AT, atrial tachycardia; ECG, electrocardiogram; FU, follow-up; HATCH score, hypertension=1, age >75=1, transient ischemic attack or stroke=2, chronic obstructive pulmonary disease=1, Heart failure=2; PVI, pulmonary vein isolation; RF, radiofrequency; TTM, transtelephonic monitoring.

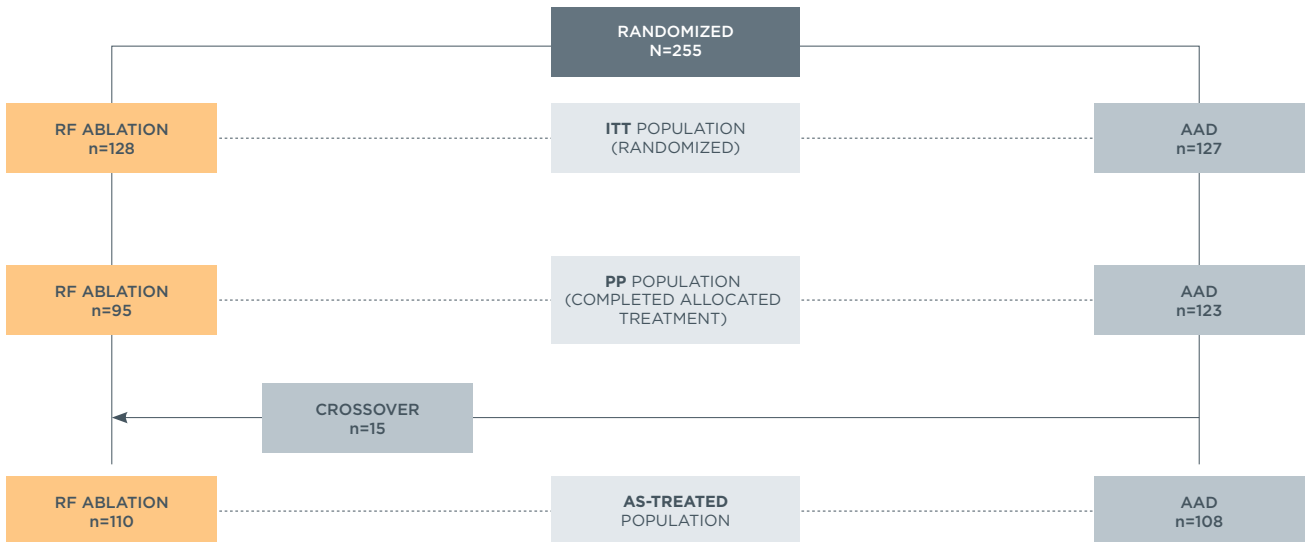
^a Persistent AF was defined as episodes lasting for >7 consecutive days or requiring termination by cardioversion after 48 hours.

^b RF ablation was performed with noncontact force-sensing and contact force-sensing catheters (NAVISTAR™ THERMOCOOL™ Catheter, THERMOCOOL™ SF NAV Catheter Bi-Directional Navigation Catheter, THERMOCOOL SMARTTOUCH® Bi-Directional Navigation Catheter, THERMOCOOL SMARTTOUCH® Uni-Directional Navigation Catheter, NAVISTAR RMT THERMOCOOL® Catheter) in conjunction with a 3-dimensional electroanatomic mapping system (CARTO® 3, CARTO® XP, or CARTO® RMT).

^c Transtelephonic monitoring transmission per specified schedule or whenever patients experienced symptoms. Once AF/AT was identified, daily TTM was initiated for 7 consecutive days.

RESULTS

Patient Disposition and Demographics



Demographics and baseline characteristics were generally similar between treatment groups.

PARAMETER	ITT POPULATION	
	RF ABLATION (n=128)	AAD (n=127)
Age, mean (SD), y	67.8 (4.8)	67.6 (4.6)
Male, No. (%)	54 (42.2)	53 (41.7)
Months since first experience of AF, median (range)	51.2 (19-625)	49.8 (25-366)
AF/AT episodes during prior 6 months, median (range)	6.5 (2-180)	6.0 (0-180)
Lone AF	38 (29.7)	39 (30.7)
HATCH score, mean (SD)	1.5 (0.9)	1.7 (0.9)
Left atrial diameter, mean (SD), mm	42.1 (6.1)	43.4 (5.6)
Left ventricular ejection fraction, mean (SD), %	61.8 (5.8)	62.3 (5.2)
AAD Class I/III at baseline	61 (47.7)	69 (54.3)
Medical history, No. (%)		
Hypertension	120 (93.8)	123 (96.9)
Hyperlipidemia/dyslipidemia	67 (52.3)	67 (52.8)
Left ventricular hypertrophy	26 (20.3)	23 (18.1)
Congestive heart failure	24 (18.8)	27 (21.3)
Atrial flutter	15 (11.7)	10 (7.9)
Diabetes	13 (10.2)	14 (11.0)
Transient ischemic attack/stroke	12 (9.4)	8 (6.3)
Cardiomyopathy ^a	6 (4.7)	2 (1.6)
Renal insufficiency	3 (2.3)	4 (3.1)

AAD, antiarrhythmic drug; AF, atrial fibrillation; AT, atrial tachycardia; HATCH score, hypertension=1, age >75=1, transient ischemic attack or stroke=2, chronic obstructive pulmonary disease=1, Heart failure=2; RF, radiofrequency; ITT, intention to treat; PP, per protocol.

^aIncludes ischemic, nonischemic dilated, and hypertrophic obstructive cardiomyopathy.

RESULTS

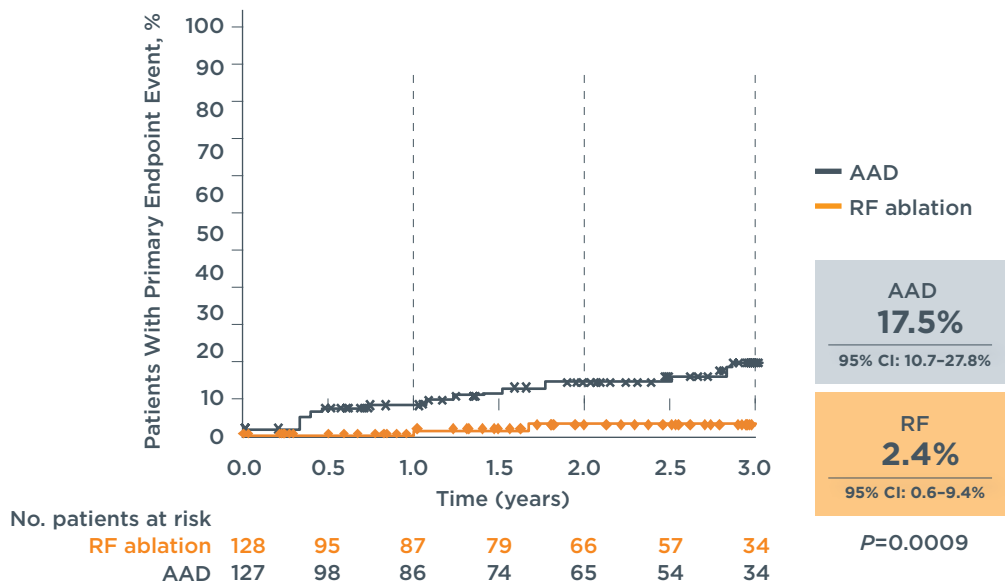
Intervention and Treatment

- Complete PVI was achieved in all patients who underwent RF ablation.
 - Noncontact force-sensing THERMOCOOL™ Catheters were the most commonly used catheters (58.8%), followed by contact force-sensing THERMOCOOL SMARTTOUCH® Catheters (31.4%).
- Excluding beta-blockers and calcium channel blockers, 53 of 127 patients in the AAD group (41.7%) and 30 of 128 patients in the RF ablation group (23.4%) were initiated with new Class I/III AADs during the study.

Primary Efficacy

The superiority of RF treatment over AAD alone in delaying persistent AF/AT progression was observed at 1-year follow-up and strengthened by the 3-year follow-up.

Kaplan-Meier Estimate of Persistent AF/AT Progression (ITT)



- The primary efficacy analysis on the ITT population was confirmed for the PP population, As-Treated population, and when using the 2017 Heart Rhythm Society expert consensus definition of persistent AF.¹

Kaplan-Meier Estimate of Persistent AF/AT Progression at 3 Years



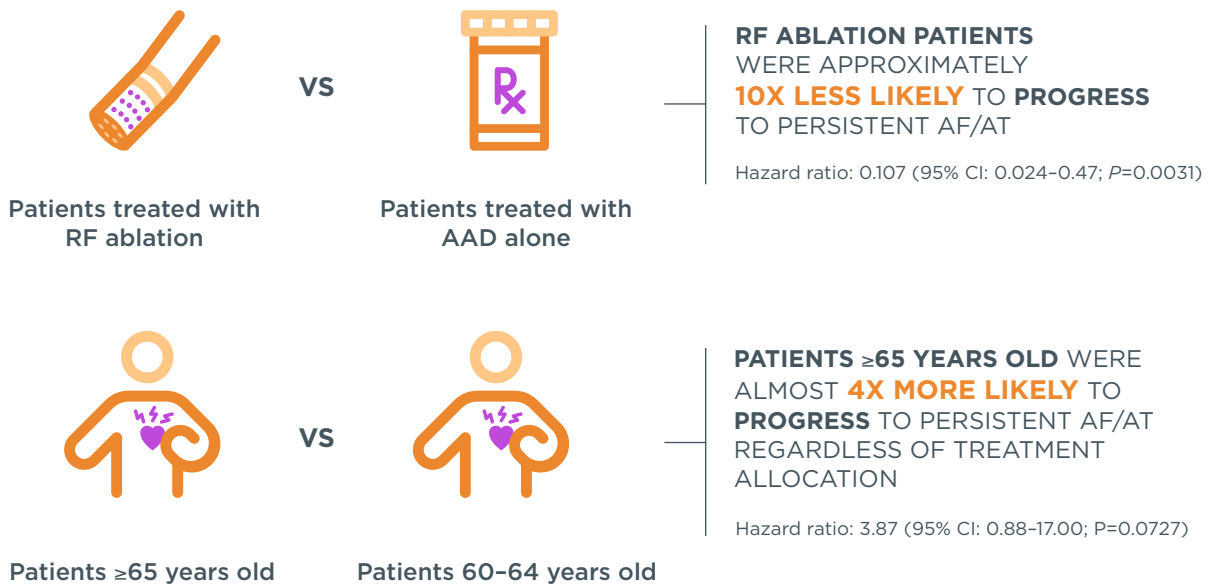
AAD, antiarrhythmic drug; AF, atrial fibrillation; AT, atrial tachycardia; HRS, Heart Rhythm Society; ITT, intention to treat; PP, per protocol; PVI, pulmonary vein isolation; RF, radiofrequency.

RESULTS

Factors Associated with AF Progression

Treatment modality and age were associated with AF progression in the PP population, suggesting that early RF ablation can delay disease progression.

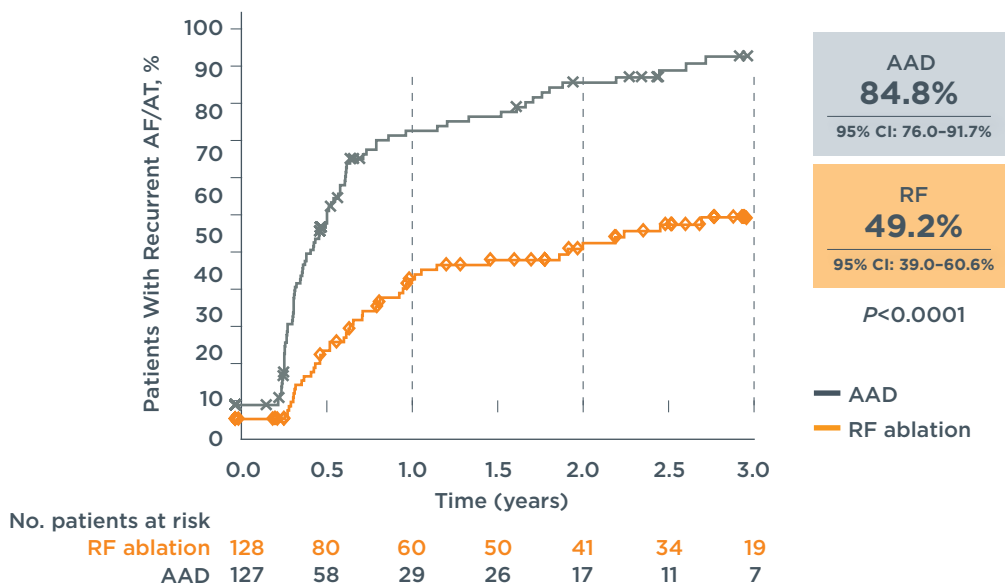
Cox Model With Multiple Baseline Covariates and Treatment as the Time-Dependent Covariate



Time to Recurrent AF/AT

The incidence of recurrent AF/AT was consistently lower with RF ablation than with AAD treatment from 6 months through the the end of the study.

Kaplan-Meier Estimate of Time to Recurrent AF/AT (ITT Population)



AAD, antiarrhythmic drug; AF, atrial fibrillation; AT, atrial tachycardia; ITT, intention to treat; PP, per protocol; RF, radiofrequency.

CONCLUSION



ATTEST demonstrated that **RF catheter ablation**—as part of standard-of-care AF management including AADs—is **superior to guideline-directed AAD therapy alone in delaying the progression to persistent AF** in patients with paroxysmal AF.

- Patients treated with **RF ablation** were **significantly less likely to develop persistent AF or persistent AT** than patients treated with AADs.
- **Patients ≥65 years** were **more likely to progress to persistent AF/AT** than patients <65.
- These results suggest that **early RF ablation** may be an **effective treatment strategy for delaying AF progression**.

REFERENCE

1. Calkins H, Hindricks G, Cappato R, et al. 2017 HRS/EHRA/ECAS/APHRS/SOLAECE expert consensus statement on catheter and surgical ablation of atrial fibrillation. *Heart Rhythm* 2017;14:e275–e444.

Disclosures

This summary has been written by Biosense Webster (Europe), a division of Johnson & Johnson Medical NV/SA based on the referenced article and is provided for information purposes only.

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AAD, antiarrhythmic drug; AF, atrial fibrillation; AT, atrial tachycardia; RF, radiofrequency.