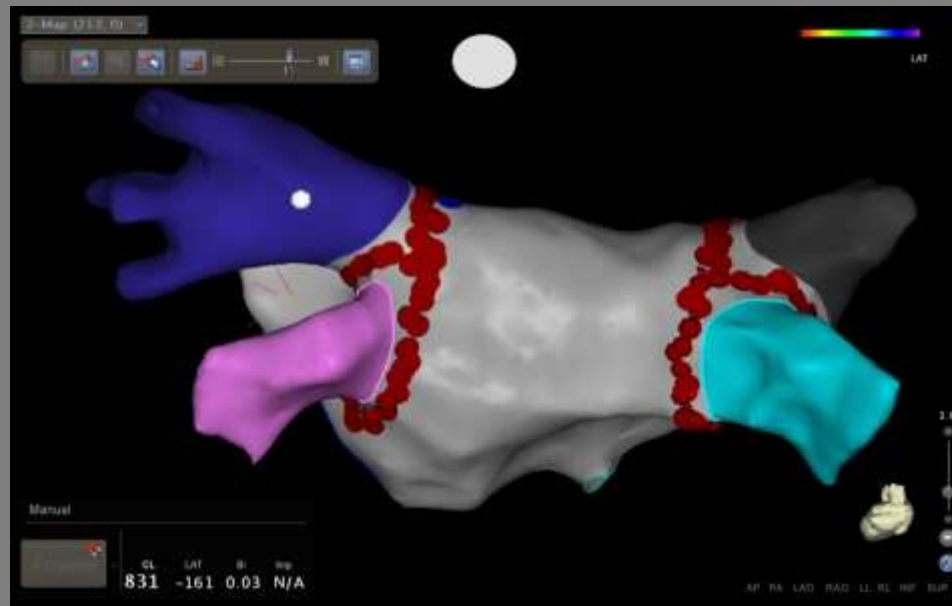


Το Ablation Πρέπει να Είναι η Θεραπεία Επιλογής σε Ασθενείς με Κολπική Μαρμαρυγή

M. EFREMIDIS MD
LABORATORY OF INVASIVE CARDIAC
ELECTROPHYSIOLOGY
"EVANGELISMOS" GENERAL HOSPITAL OF ATHENS

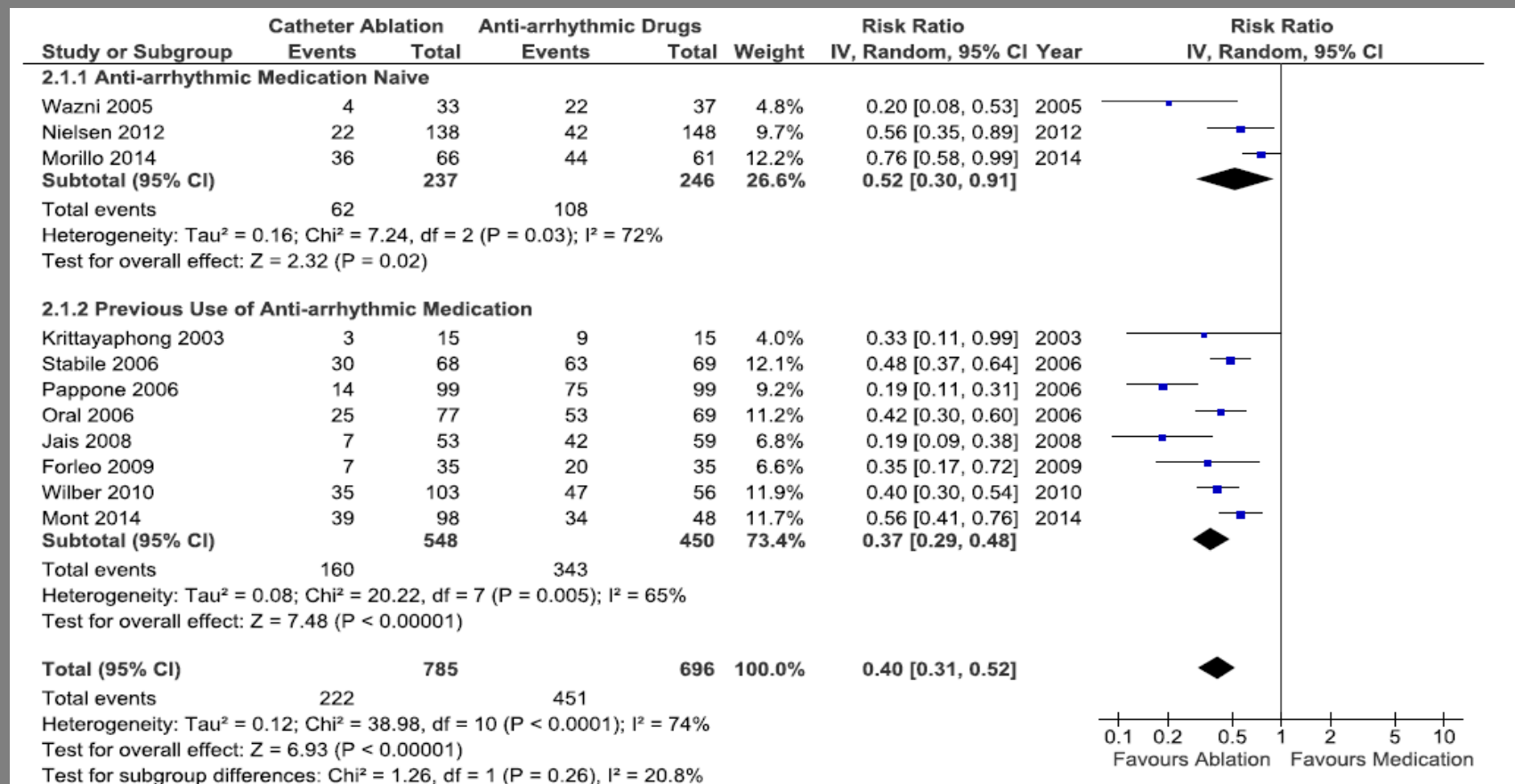


Ablation vs AADs

Catheter Ablation and Antiarrhythmic Drug Therapy as First- or Second-Line Therapy in the Management of Atrial Fibrillation

Systematic Review and Meta-Analysis

Abdur Rahman Khan, MD; Sobia Khan, MBBS; Mujeeb A. Sheikh, MD; Sadik Khuder, PhD; Blair Grubb, MD; George V. Moukarbel, MD

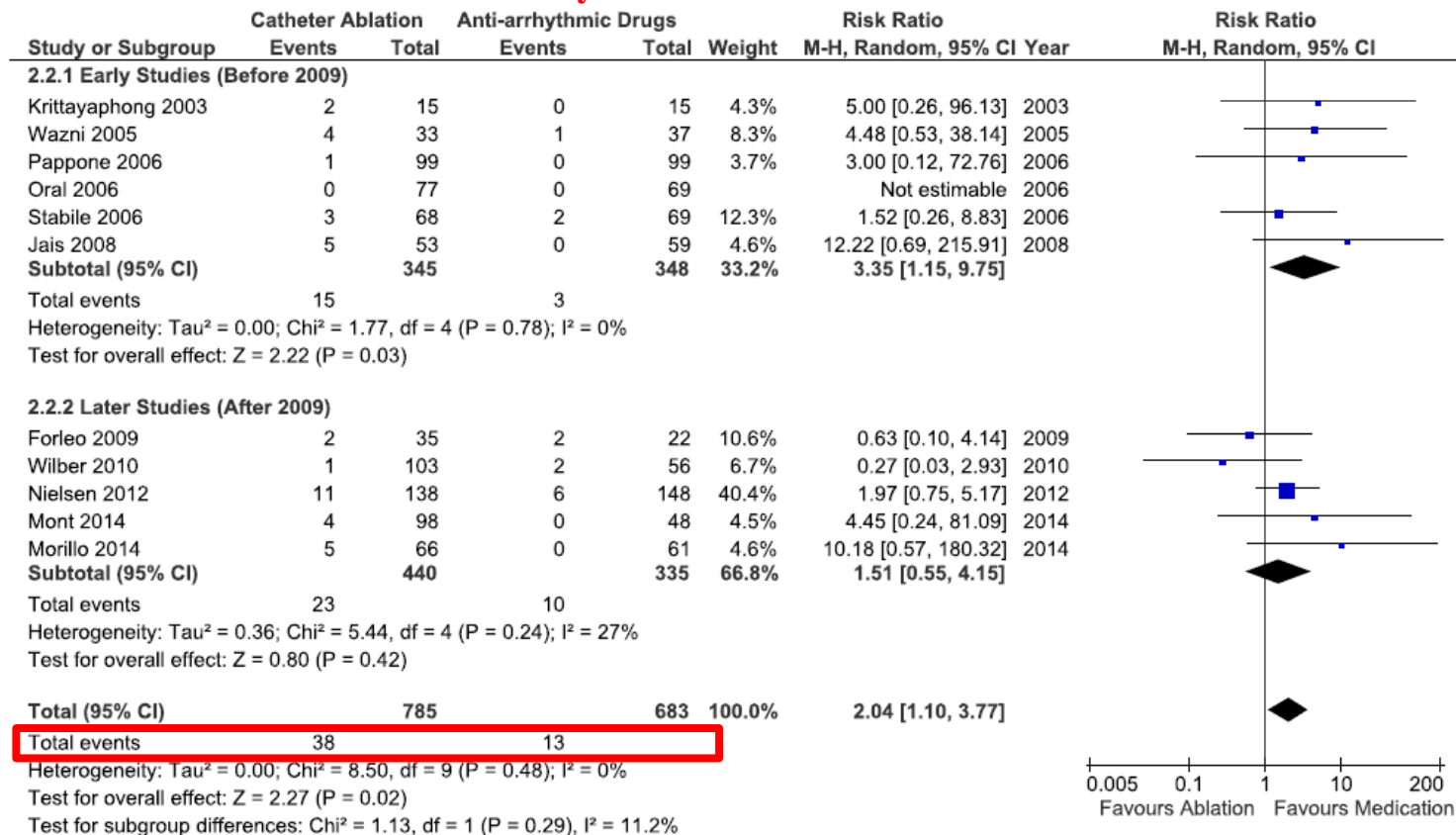


Catheter Ablation and Antiarrhythmic Drug Therapy as First- or Second-Line Therapy in the Management of Atrial Fibrillation

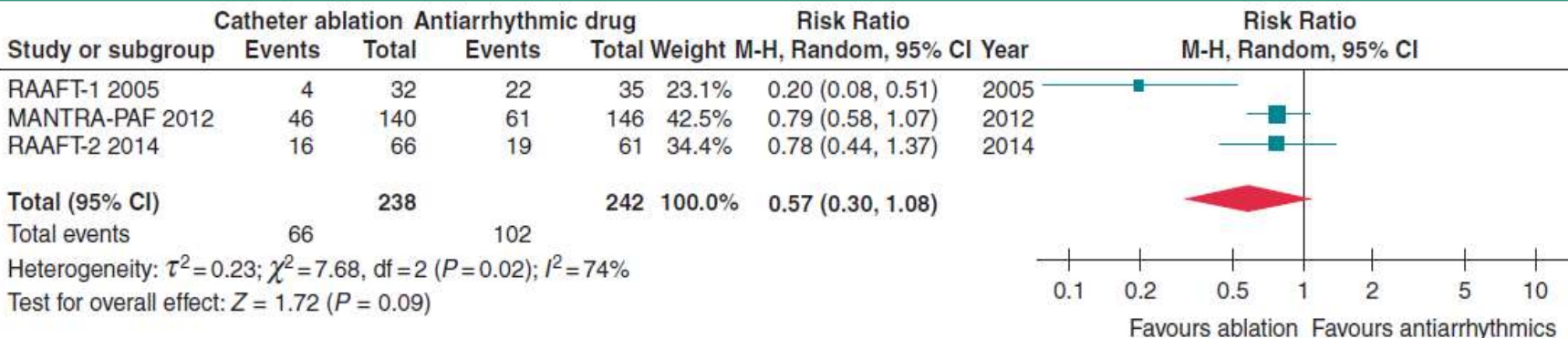
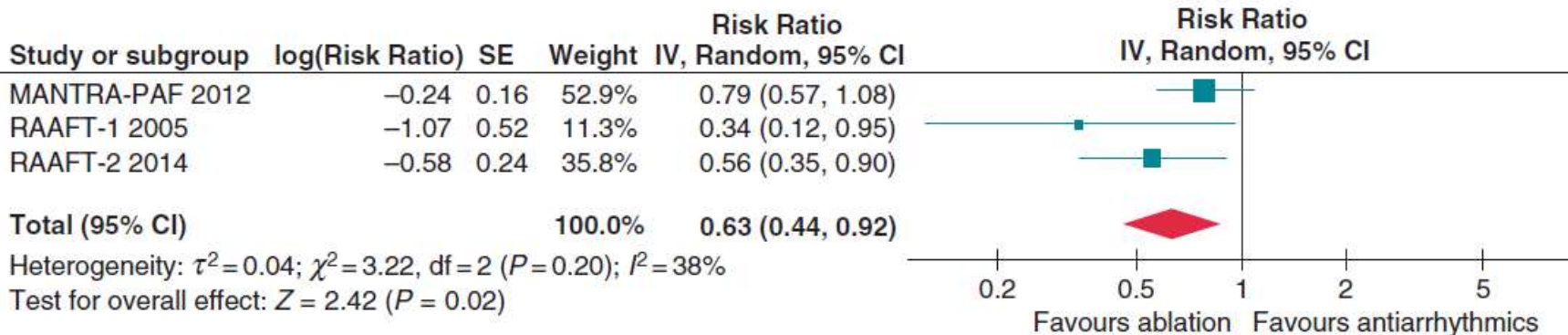
Systematic Review and Meta-Analysis

Abdur Rahman Khan, MD; Sobia Khan, MBBS; Mujeeb A. Sheikh, MD; Sadik Khuder, PhD; Blair Grubb, MD; George V. Moukarbel, MD

Safety of CA and AADs



Radiofrequency ablation vs. AAD therapy as first line treatment of symptomatic AF

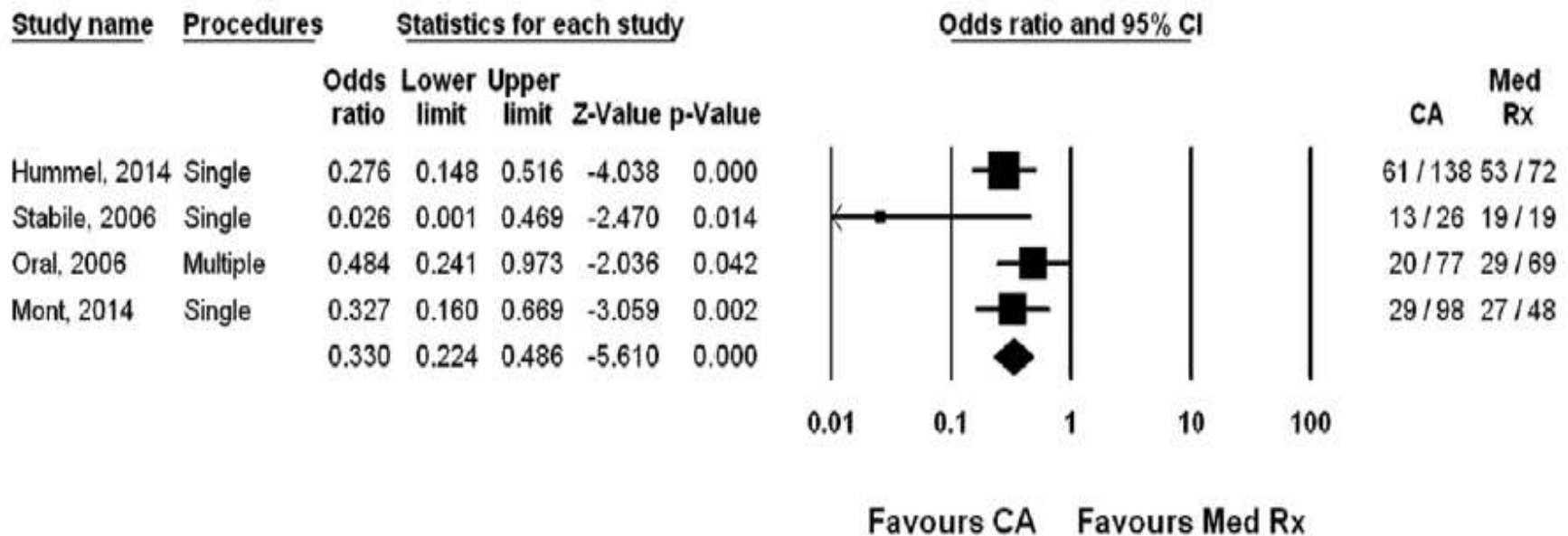


Efficacy of Catheter Ablation for Persistent Atrial Fibrillation

A Systematic Review and Meta-Analysis of Evidence From Randomized and Nonrandomized Controlled Trials

Gareth J. Wynn, MBChB; Moloy Das, MBBS; Laura J. Bonnett, PhD; Sandeep Panikker, MBBS; Tom Wong, MD; Dhiraj Gupta, MD

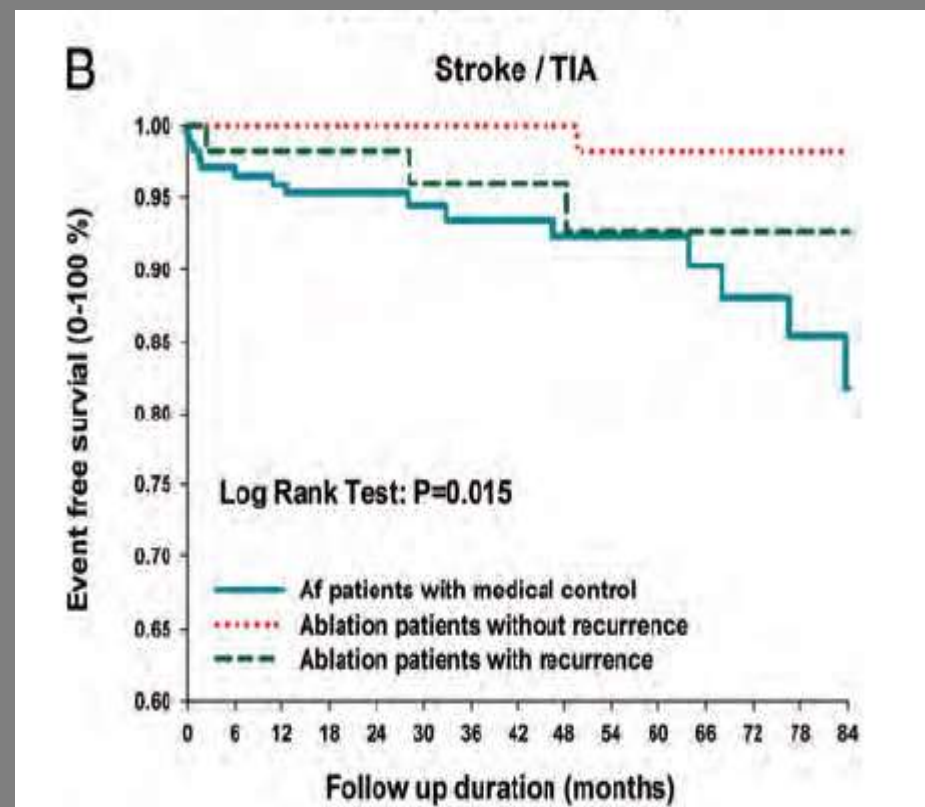
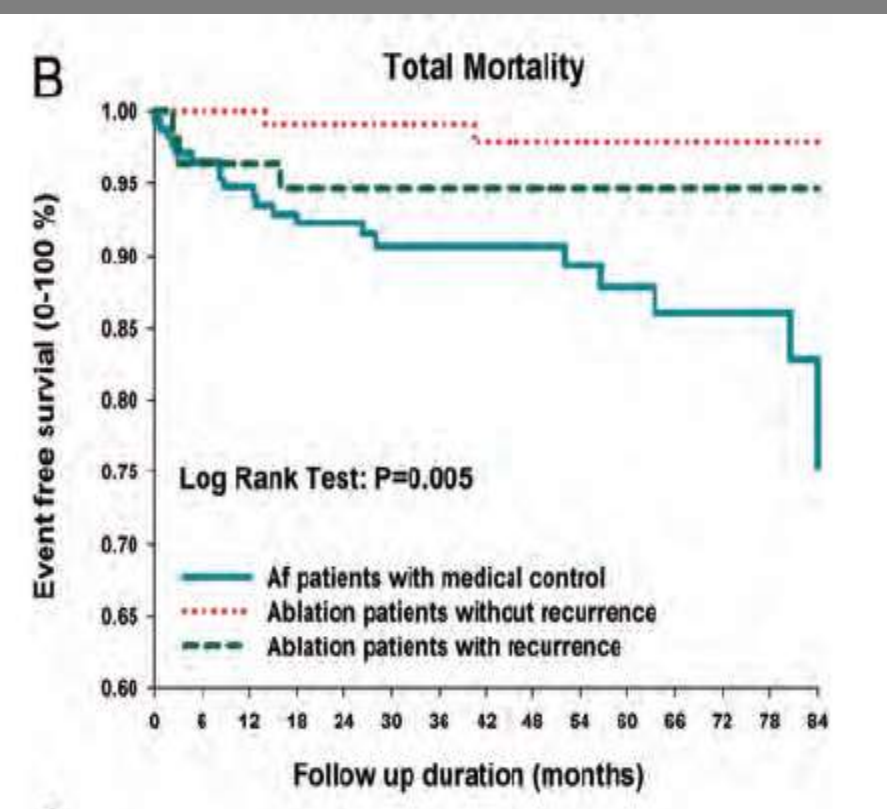
Meta analysis of the efficacy of catheter ablation compared to medical therapy



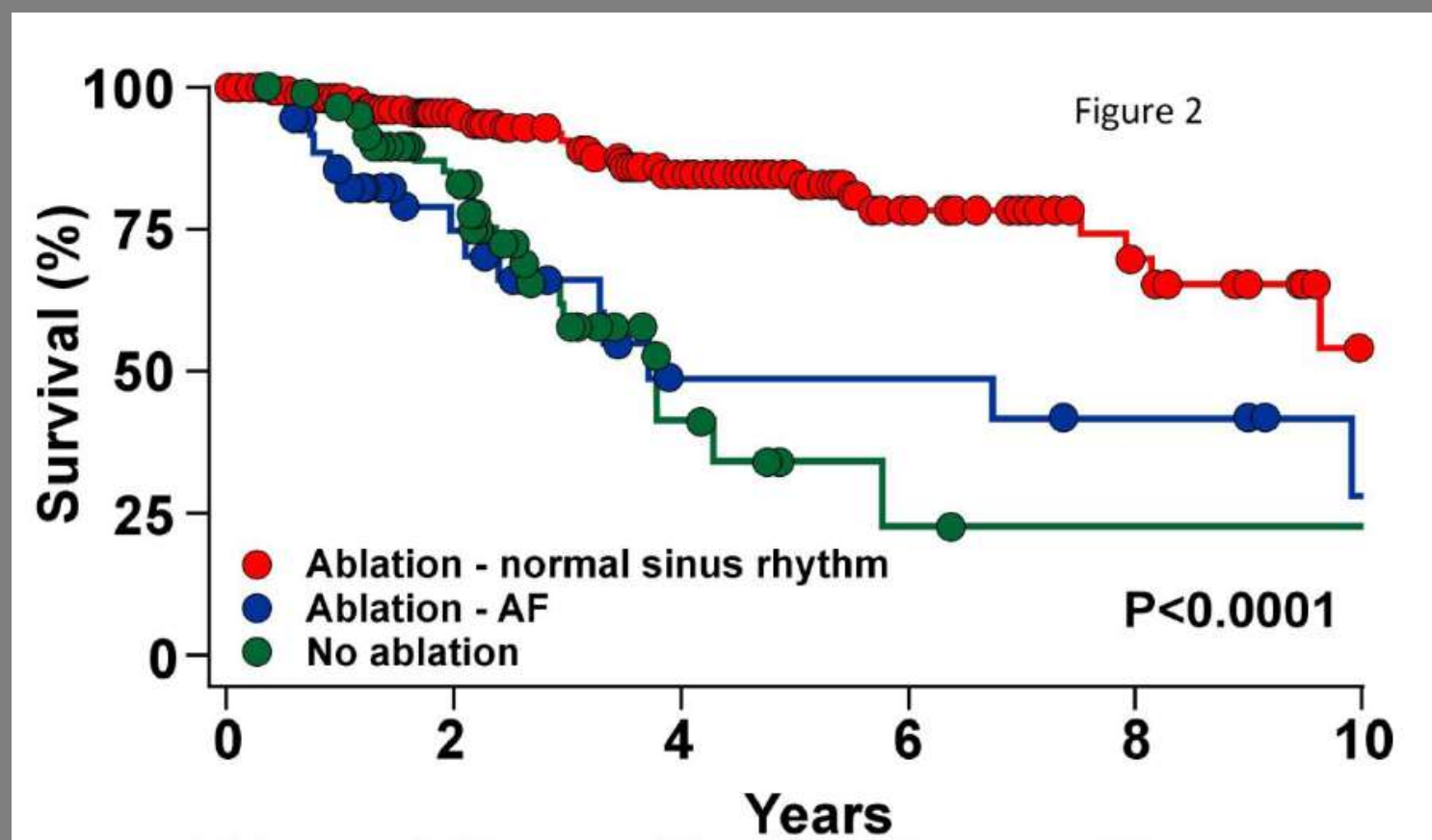
Mortality

Successful catheter ablation reduces the risk of cardiovascular events in atrial fibrillation patients with CHA₂DS₂-VASc risk score of 1 and higher

Yenn-Jiang Lin^{1,2}, Tze-Fan Chao^{1,2}, Hsuan-Ming Tsao³, Shih-Lin Chang^{1,2}, Li-Wei Lo^{1,2}, Chern-En Chiang^{1,2}, Yu-Feng Hu^{1,2}, Pai-Feng Hsu^{4,5}, Shao-Yuan Chuang⁶, Cheng-Hung Li^{1,2}, Fa-Po Chung¹, Yun-Yu Chen^{1,7}, Tsu-Juey Wu⁸, Ming-Hsiung Hsieh^{9*}, and Shih-Ann Chen^{1,2*}



Koonlawee Nademanee, MD, FHRS; Montawatt Amnueypol, MD; Frances Lee, RN; Carla M. Drew, BS; Wanwimol Suwannasri, BSc (Pharm); Mark C. Schwab, MD; Gumpanart Veerakul, MD



Benefits and Risks of Catheter Ablation in Elderly Patients with Atrial Fibrillation

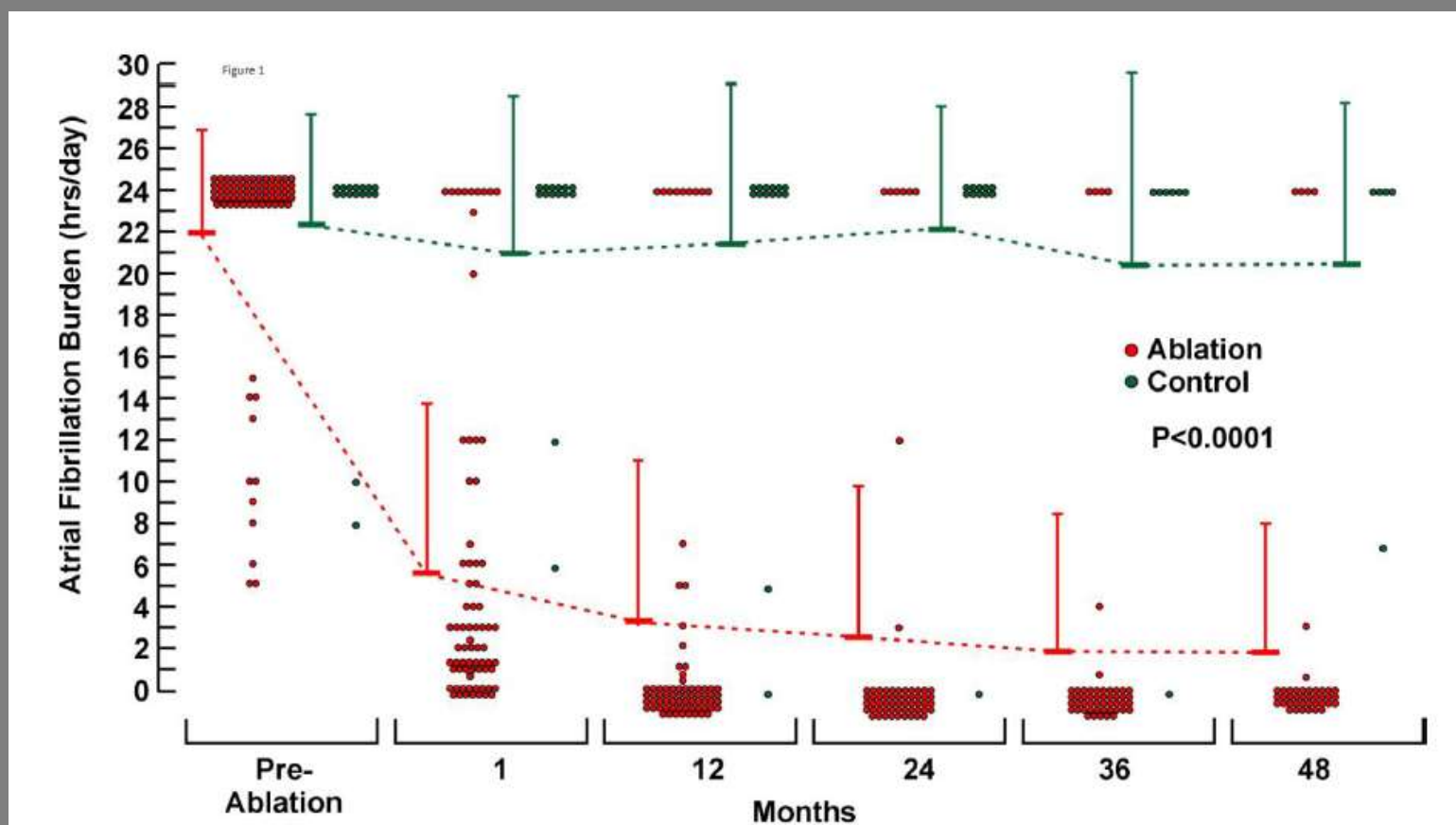
ACCEPTED MANUSCRIPT

Koonlawee Nademanee, MD, FHRS; Montawatt Annueypol, MD; Frances Lee, RN; Carla M.

Drew, BS; Wanwimol Suwannasri, BSc (Pharm); Mark C. Schwab, MD; Gumpanart Veerakul,

MD

Heart Rhythm



Mortality and cerebrovascular events after radiofrequency catheter ablation of atrial fibrillation ^e

	All-cause mortality (N = 111)	Cardiac mortality (N = 33)	CVE (N = 71)
	HR (95% CI) P value	HR (95% CI) P value	HR (95% CI) P value
Rhythm (with 90-day blanking period)	HR _{SRvs.AF} = 0.86 (0.58–1.29) P = .48	HR _{SRvs.AF} = 0.41 (0.20–0.84) P = .015	HR _{SRvs.AF} = 0.79 (0.48–1.29) P = 0.34
Rhythm (without 90-day blanking period)	HR _{SRvs.AF} = 0.80 (0.54–1.19) P = .27	HR _{SRvs.AF} = 0.37 (0.19–0.76) P = .006	HR _{SRvs.AF} = 0.82 (0.51–1.33) P = .42
Rhythm (AAD/AC) (with 90-day blanking period)	HR _{SRvs.AF} = 0.86 (0.57–1.29) P = .46	HR _{SRvs.AF} = 0.44 (0.21–0.91) P = .028	HR _{SRvs.AF} = 0.76 (0.46–1.27) P = .30
Rhythm (AAD/AC) (without 90-day blanking period)	HR _{SRvs.AF} = 0.80 (0.53–1.19) P = .26	HR _{SRvs.AF} = 0.40 (0.20–0.82) P = .01	HR _{SRvs.AF} = 0.80 (0.49–1.31) P = .38

The question of association vs causation can only be answered by the demonstration of improved cardiovascular outcomes in a randomized trial. The multinational, randomized Catheter Ablation vs. Anti-arrhythmic Drug Therapy for Atrial Fibrillation (CABANA)

Stroke

Atrial fibrillation ablation patients have long-term stroke rates similar to patients without atrial fibrillation regardless of CHADS2 score

Age	AF, no ablation	AF, ablation	<i>P</i>	Univariate HR for ablation	Multivariate HR for ablation
<60, n = 5638	3.6%	1.3%	<.0001	0.38, <i>P</i> < .0001	0.38, <i>P</i> < .0001
60-69, n = 5804	5.6%	2.9%	<.0001	0.50, <i>P</i> < .0001	0.59, <i>P</i> = .005
70-79, n = 7082	8.7%	3.8%	<.0001	0.42, <i>P</i> < .0001	0.50, <i>P</i> < .0001
≥80, n = 2536	8.6%	5.8%	.07	0.55, <i>P</i> = .009	0.72, <i>P</i> = .17

CHADS2	No AF	AF, no ablation	AF, ablation	<i>P</i> score
0	2.6% (178 of 6902)	3.7% (220 of 6017)	1.6% (26 of 1628)	<.0001
1	3.0% (144 of 4772)	5.4% (243 of 4477)	1.9% (20 of 1050)	<.0001
2	4.3% (129 of 3015)	7.1% (217 of 3072)	2.2% (15 of 696)	<.0001
3	7.4% (108 of 1452)	9.0% (174 of 1939)	6.1% (31 of 512)	.06
4	10.7% (52 of 484)	17.6% (152 of 864)	9.1% (20 of 220)	<.0001
≥5	13.9% (31 of 223)	18.6% (89 of 479)	13.2% (14 of 106)	.18

Very Low Risk of Thromboembolic Events in Patients Undergoing Successful Catheter Ablation of Atrial Fibrillation With a CHADS₂ Score ≤3

A Long-Term Outcome Study

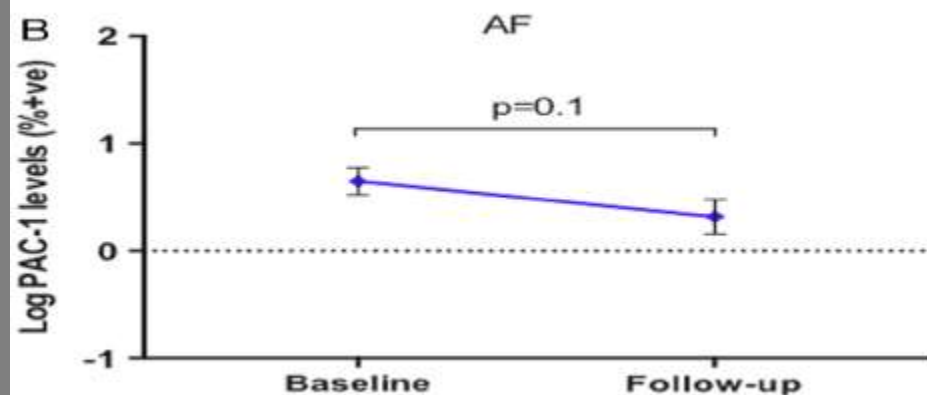
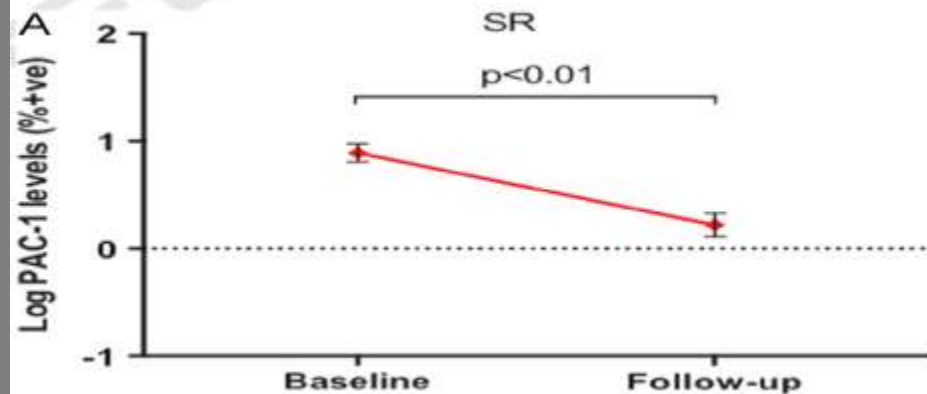
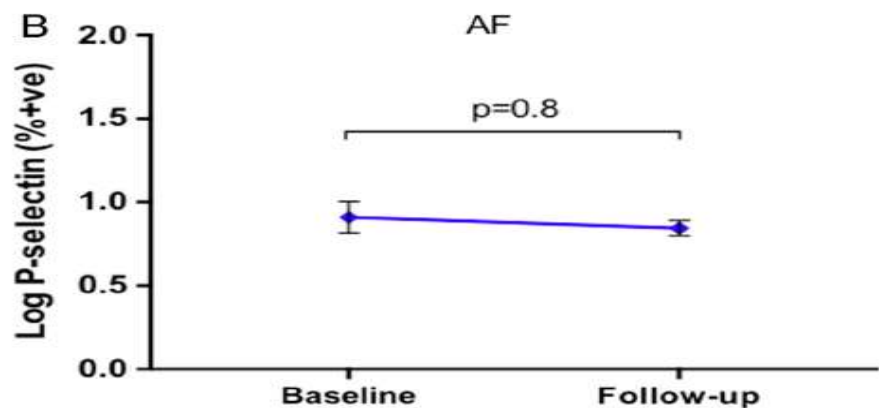
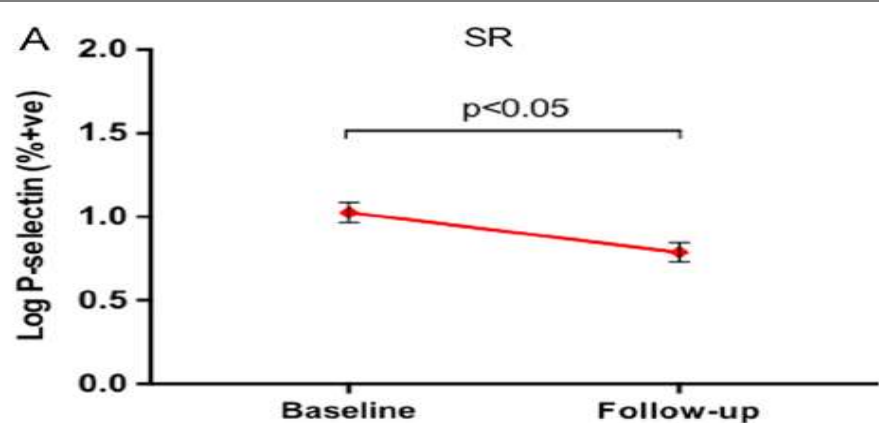
Methods and Results—OAC and antiarrhythmic drugs (AADs) were discontinued irrespective of AF type or baseline CHADS₂ (congestive heart failure, hypertension, age ≥75 years, diabetes mellitus, prior stroke or transient ischemic attack) risk score in 227 patients (mean age, 62±12 years; 70% men) with drug-refractory AF after catheter ablation.

No significant thromboembolic-related morbidity is observed when AADs and OAC are discontinued after successful catheter ablation of AF in patients with a CHADS₂ score ≤3 who are maintained on antiplatelet therapy during long-term follow-up

1.65), female sex (HR, 2.19), age ≤60 years (HR, 1.61), left atrial size >40 mm (HR, 3.52), CHADS₂ score ≤2 (HR, 1.81), and early recurrences (HR, 5.52). No symptomatic ischemic cerebrovascular events were detected during follow-up despite interruption of OAC in 298 (91%) patients and AADs in 293 (89%) patients.

Successful catheter ablation decreases platelet activation and improves endothelial function in patients with atrial fibrillation

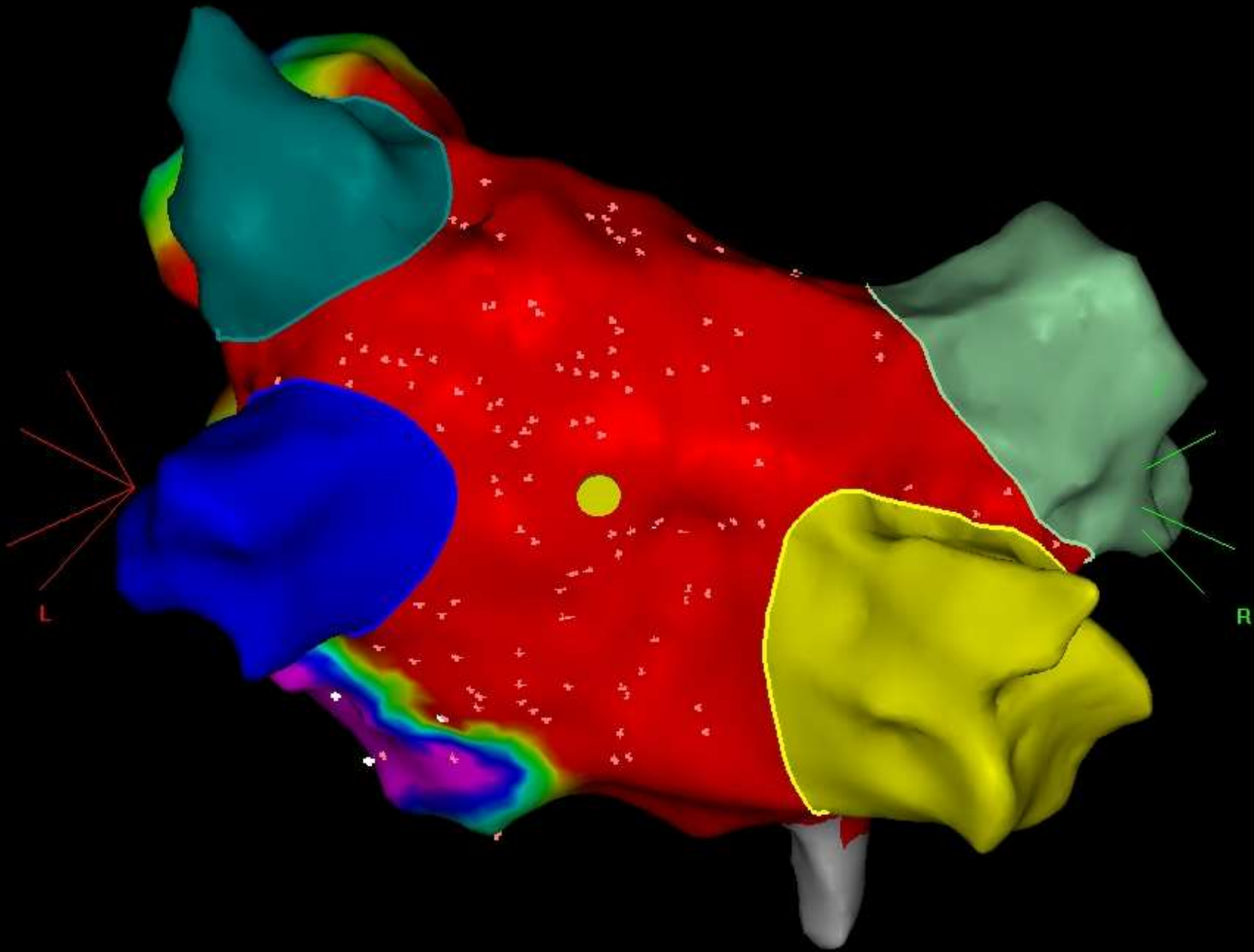
Han S. Lim, MBBS, PhD, Scott R. Willoughby, PhD, Carlee Schultz, BHLthSc(Hons), Adhiraj Chakrabarty, BSc(Hons), BMBS, Muayad Alasady, MBChB, Dennis H. Lau, MBBS, PhD, Kurt C. Roberts-Thomson, MBBS, PhD, Matthew I. Worthley, MBBS, PhD, Glenn D. Young, MBBS, Prashanthan Sanders, MBBS, PhD



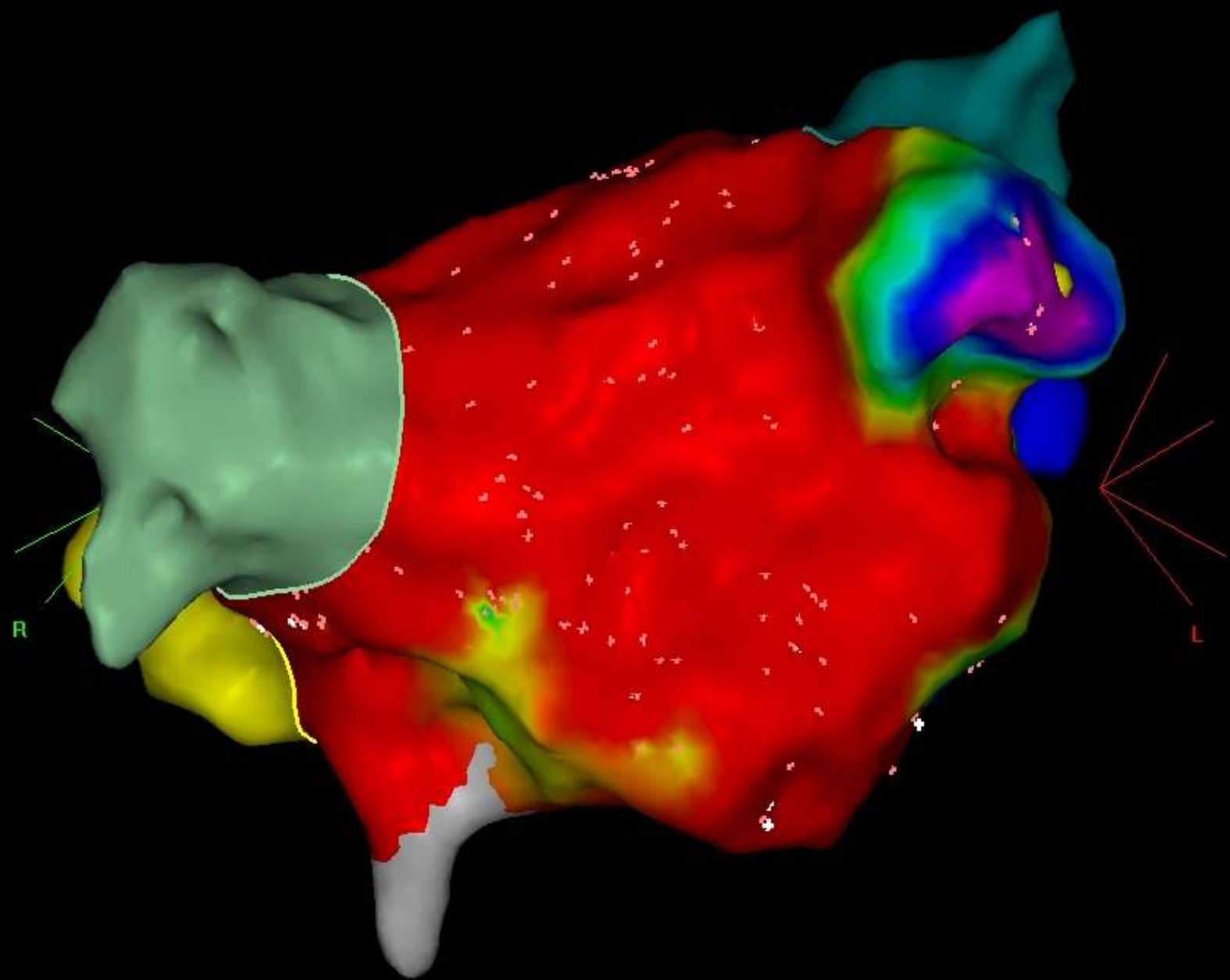
SR Maintenance in PAF and Pers. AF

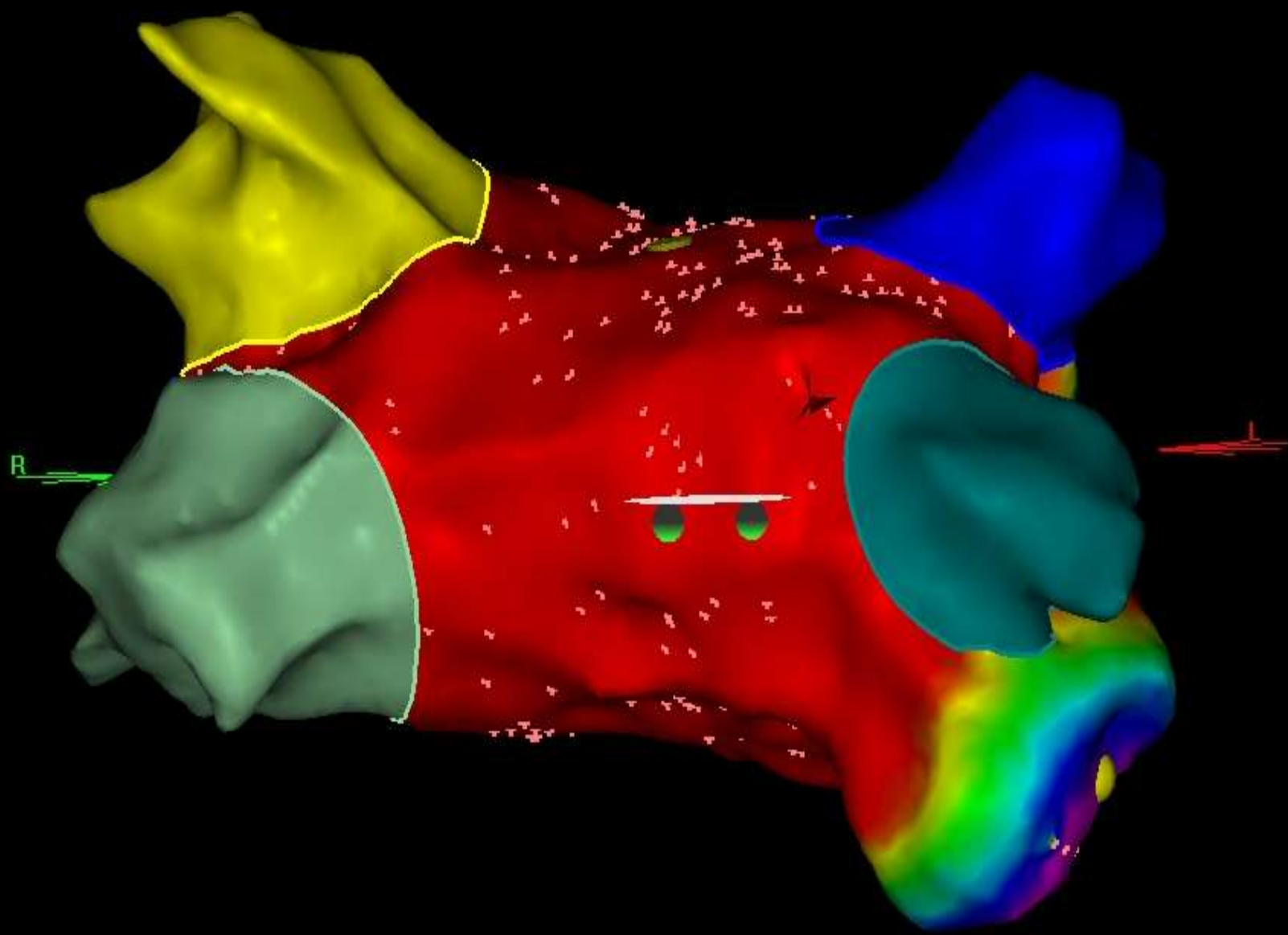
~~[Paroxysmal]~~

**AF Without Significant
Structural Remodelling**



R

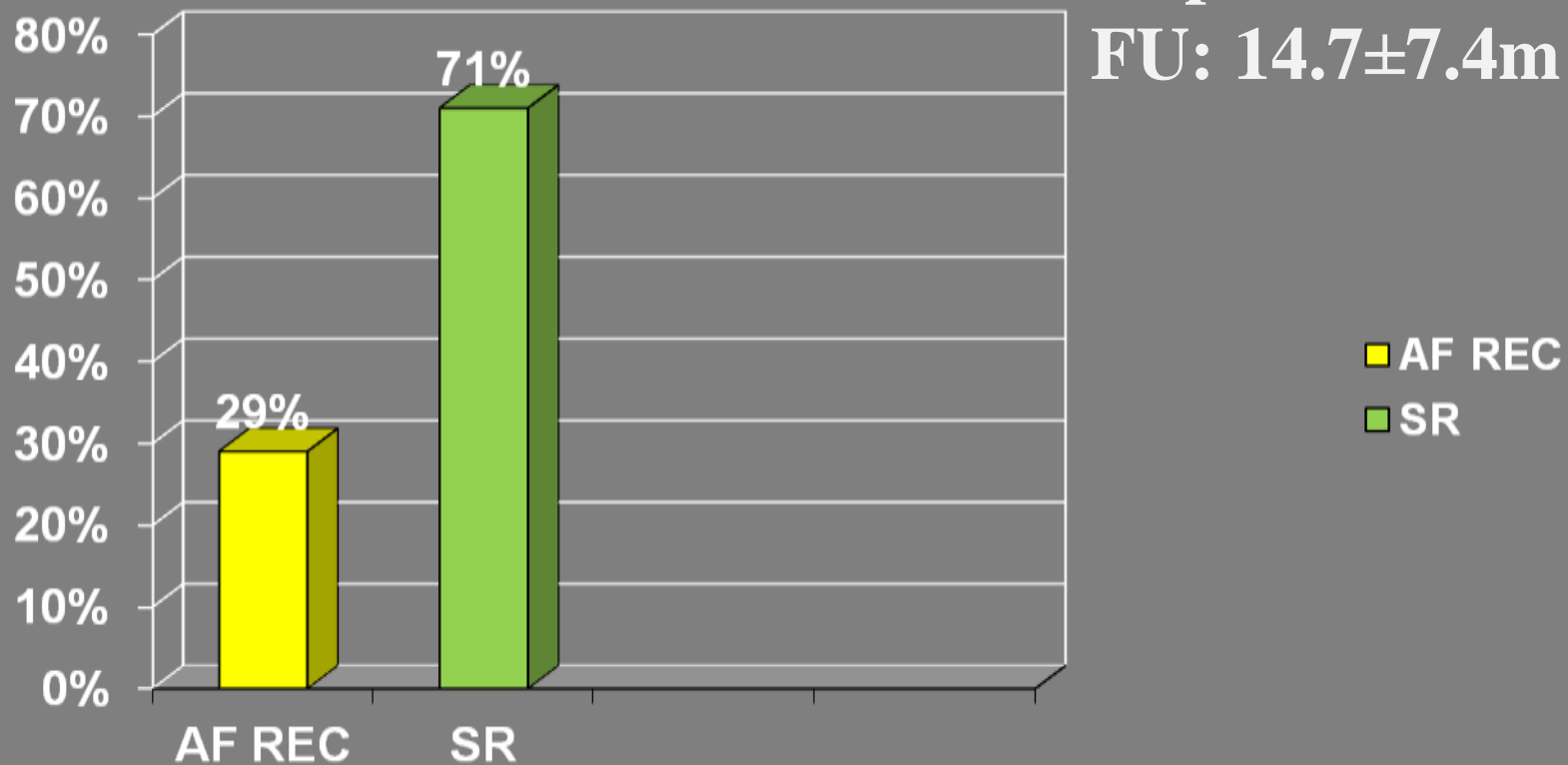




The impact of vagotonic, adrenergic, and random type of paroxysmal atrial fibrillation on left atrial ablation outcomes

Michael Efremidis ^a, Konstantinos P. Letsas ^a, Louiza Lioni ^a, Spyridon Deftereos ^{b,*}, Georgios Giannopoulos ^b, Charalampos Kossyvakis ^b, Spyros Tsikrikas ^a, Charalampos Charalampous ^a, George Kollias ^a, Sotirios Xydonas ^a, Andreas Synetos ^c, Antonios Sideris ^a, Konstantinos Toutouzas ^c, Christodoulos Stefanadis ^c

104 pts with PAF
FU: 14.7±7.4m

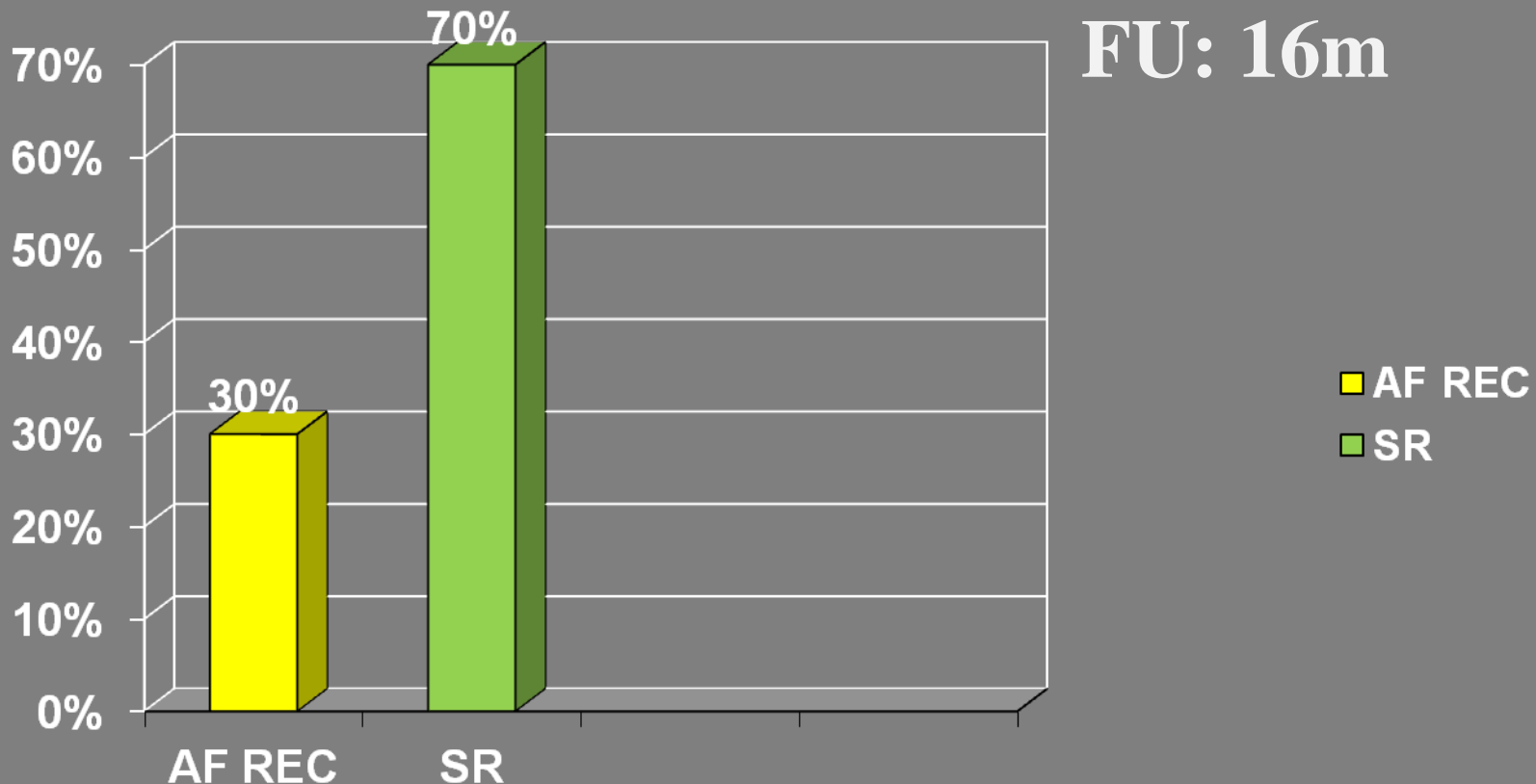


CHADS₂ and CHA₂DS₂-VASc scores as predictors of left atrial ablation outcomes for paroxysmal atrial fibrillation

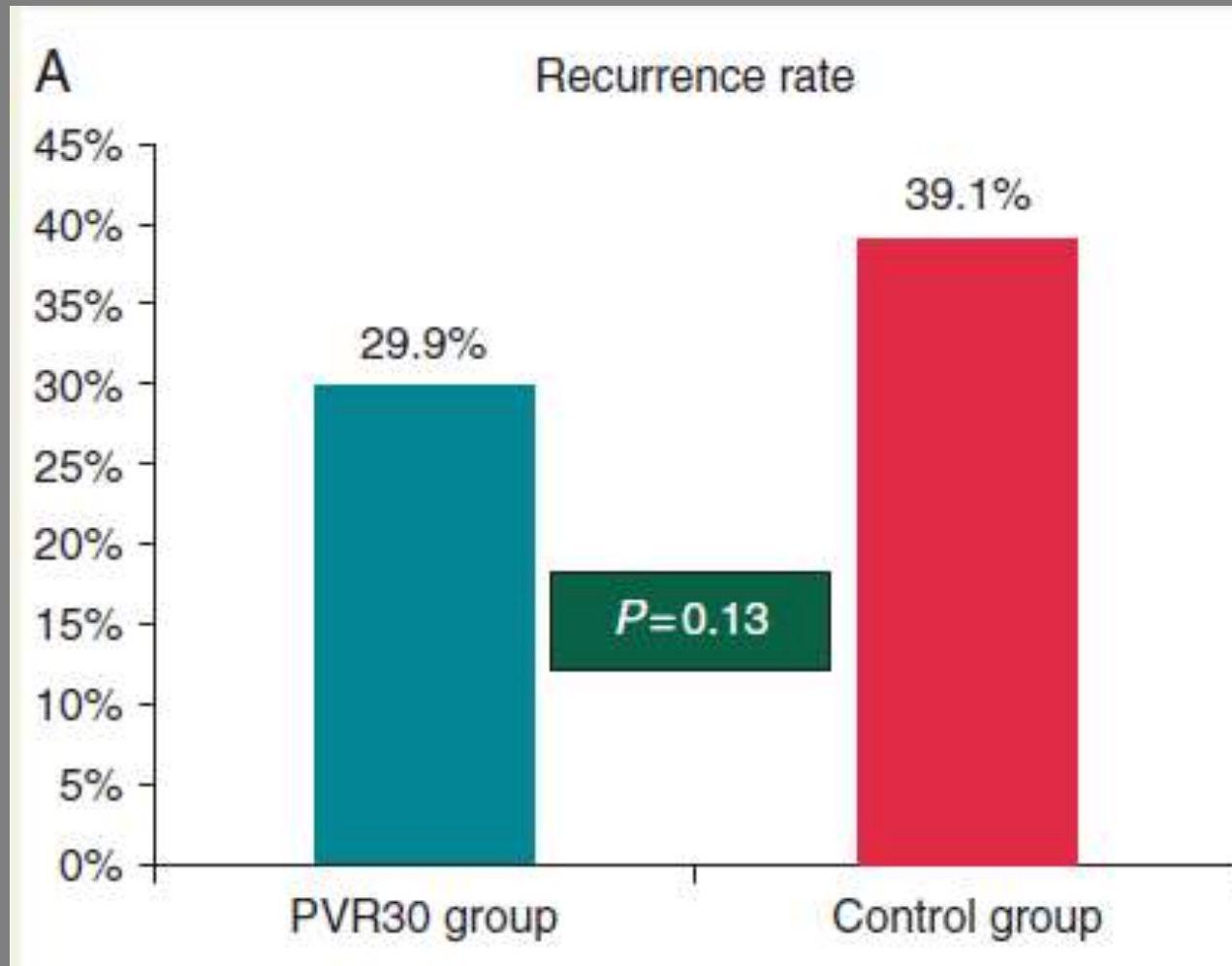
Europace Advance Access published June 28, 2013

Konstantinos P. Letsas¹, Michael Efremidis¹, Georgios Giannopoulos^{2*},
Spyridon Deftereos², Louiza Lioni¹, Panagiotis Korantzopoulos³,
Konstantinos Vlachos¹, Sotirios Xydonas¹, Charalampos Kossyvakis²,
and Antonios Sideris¹

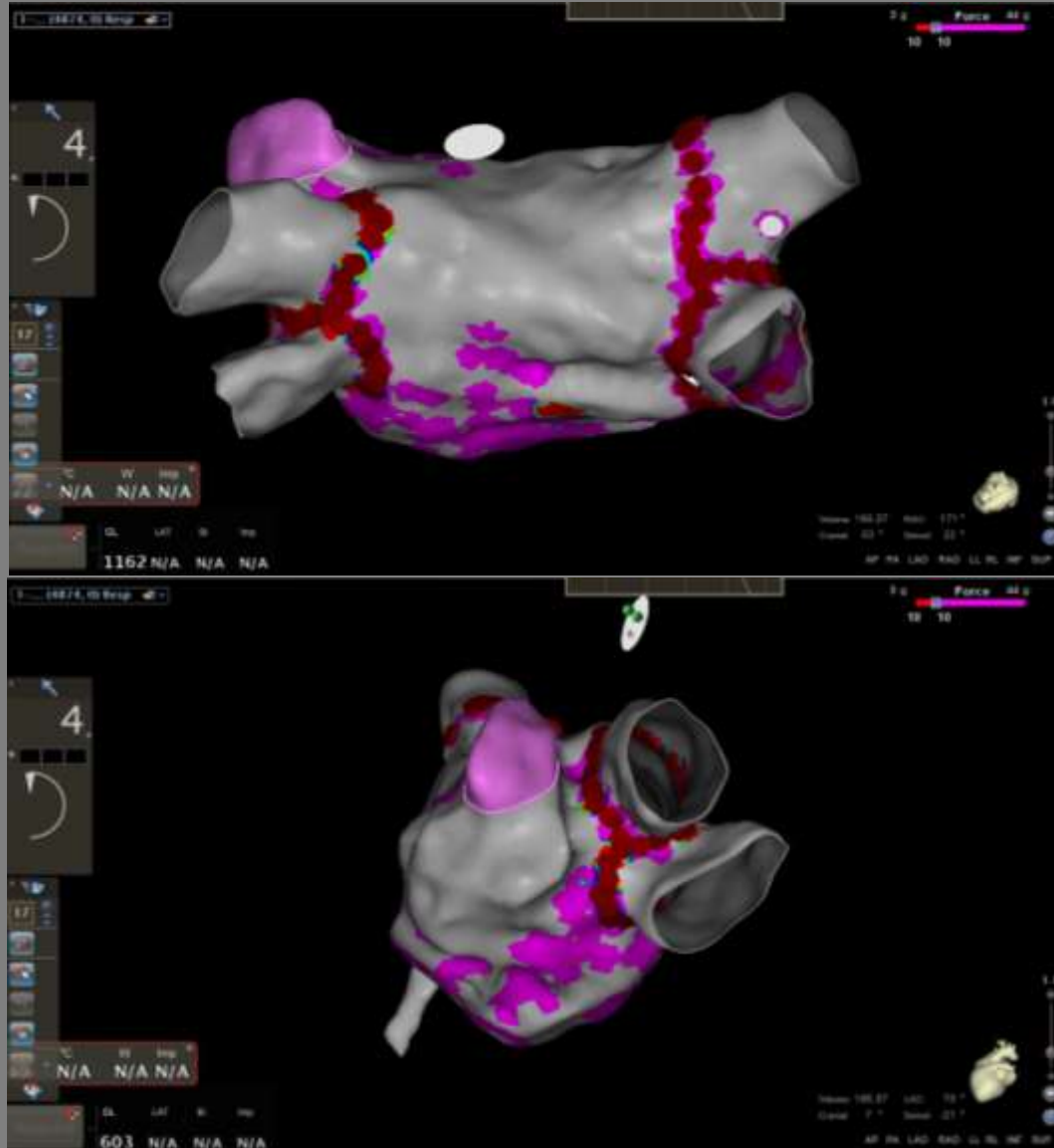
126 pts with PAF
FU: 16m



Early pulmonary vein reconnection as a predictor of left atrial ablation outcomes for paroxysmal atrial fibrillation



New contact force-sensing catheters allow deeper lesions



Catheter ablation of atrial fibrillation in the elderly

Louiza Lioni¹, Konstantinos P. Letsas¹, Michael Efremidis¹, Konstantinos Vlachos¹, Georgios Giannopoulos², Vasileios Kareliotis¹, Spyridon Deftereos², Antonios Sideris¹

Studies	Number of patients	Techniques	AF Type	Compared age groups	Success rate	Major complications in the elderly
Zado, <i>et al.</i> ^[15]	32	PVI plus ablation of focal sources	PAF PersAF	< 65 yrs 65–74 yrs > 75 yrs	89% 84% 86%	2.9%
Bhargara, <i>et al.</i> ^[16]	103	PVI	PAF PersAF PermAF	> 60 yrs 51–60 yrs < 50 yrs	82% 83% 85%	3%
Kusumoto, <i>et al.</i> ^[17]	61	PVI	PAF PersAF	> 75 yrs 65–75 yrs	61% 84%	0%
Tan, <i>et al.</i> ^[18]	49	PVAI		> 80 yrs 70–79 yrs 60–69 yrs	70% 72% 74%	0.04%
Bunch, <i>et al.</i> ^[19]	35	PVAI plus linear lesions	PAF PersAF	> 80 yrs < 80 yrs	75% 78%	0.057%
Liu, <i>et al.</i> ^[20]	2970	PVAI	PAF PersAF PermAF	> 60 yrs > 60 yrs	77% 79%	4.53%
Present study	95	PVAI	PAF	≥ 65 yrs < 65 yrs	58% 67%	3.2%

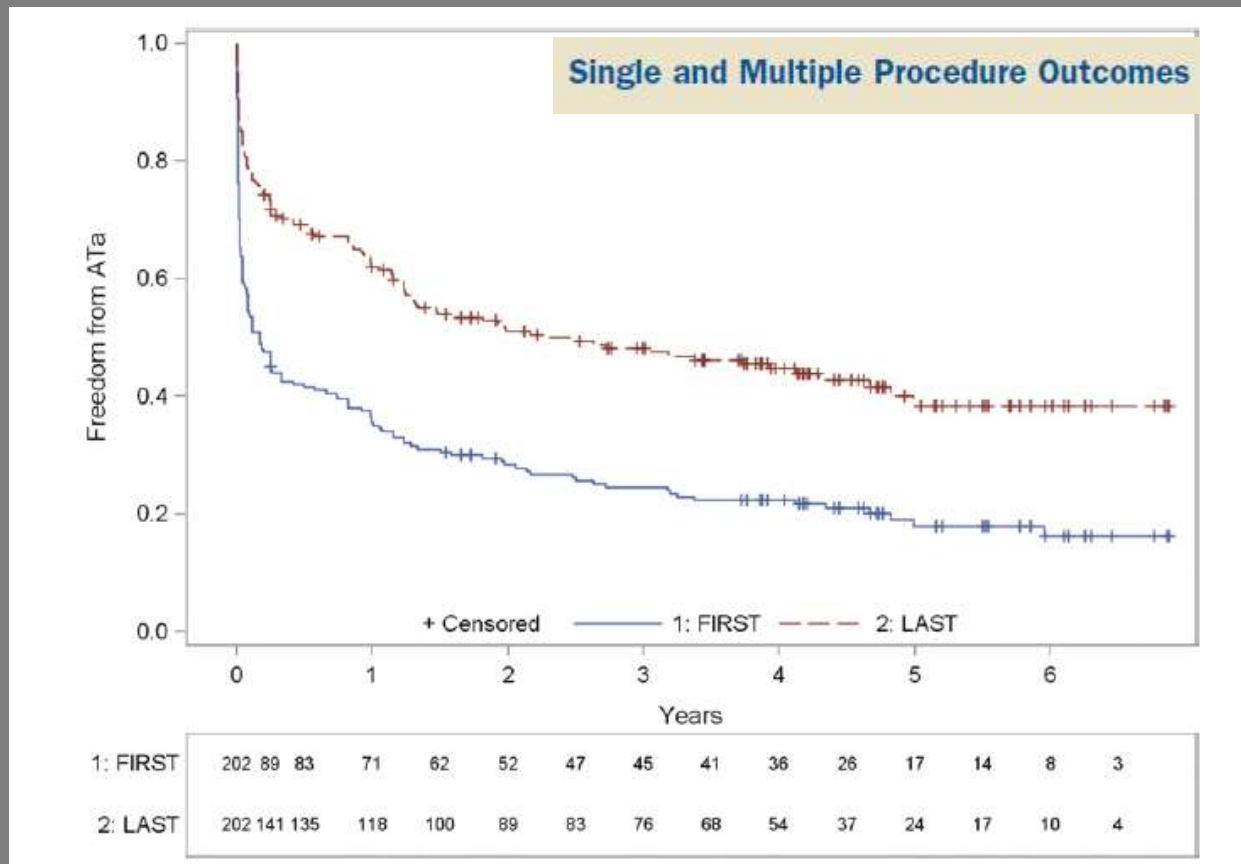
~~Permanent AF~~

**AF With Significant
Structural Remodelling**

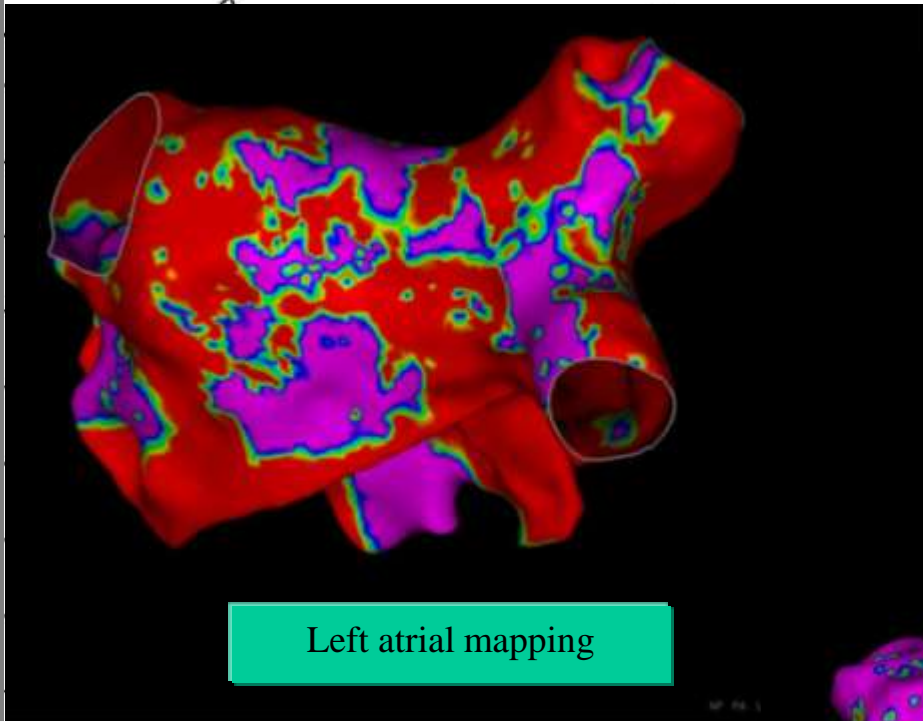
Catheter Ablation of Long-Standing Persistent Atrial Fibrillation

5-Year Outcomes of the Hamburg Sequential Ablation Strategy

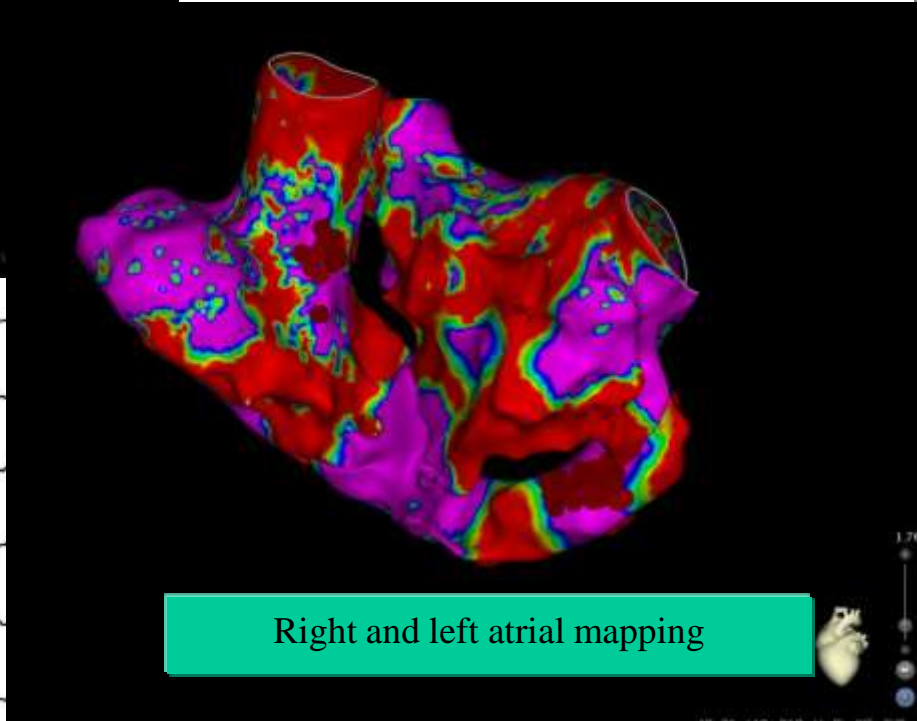
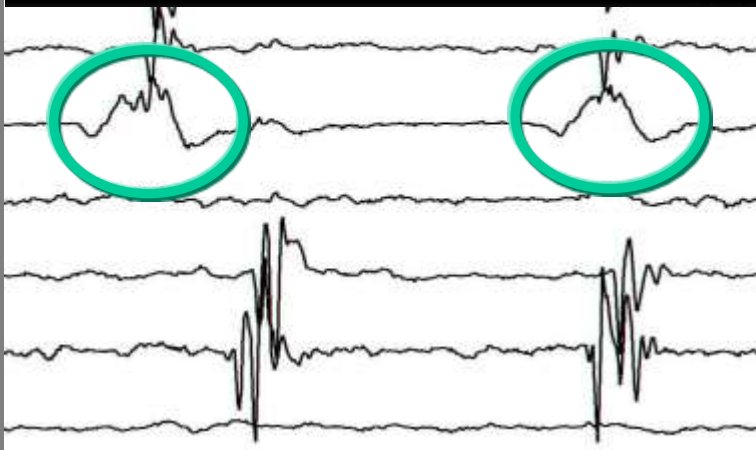
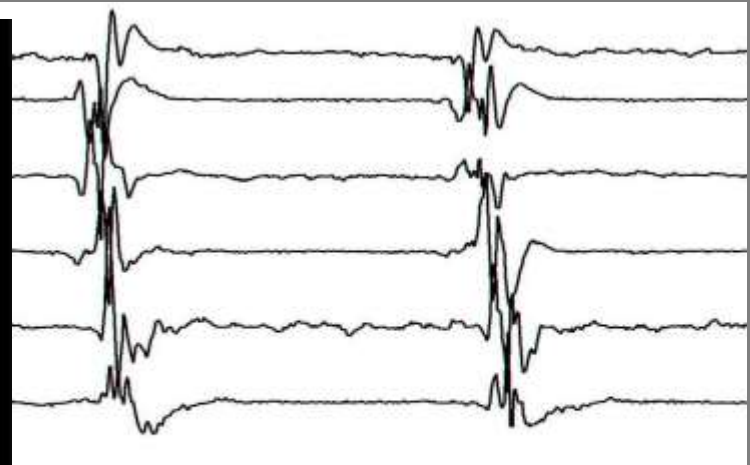
Roland Richard Tilz, MD, Andreas Rillig, MD, Anna-Maria Thum, Anita Arya, MD, Peter Wohlmuth, Andreas Metzner, MD, Shibu Mathew, MD, Yasuhiro Yoshiga, MD, Erik Wissner, MD, Karl-Heinz Kuck, MD, Feifan Ouyang, MD



Electroanatomic bipolar voltage mapping



Left atrial mapping

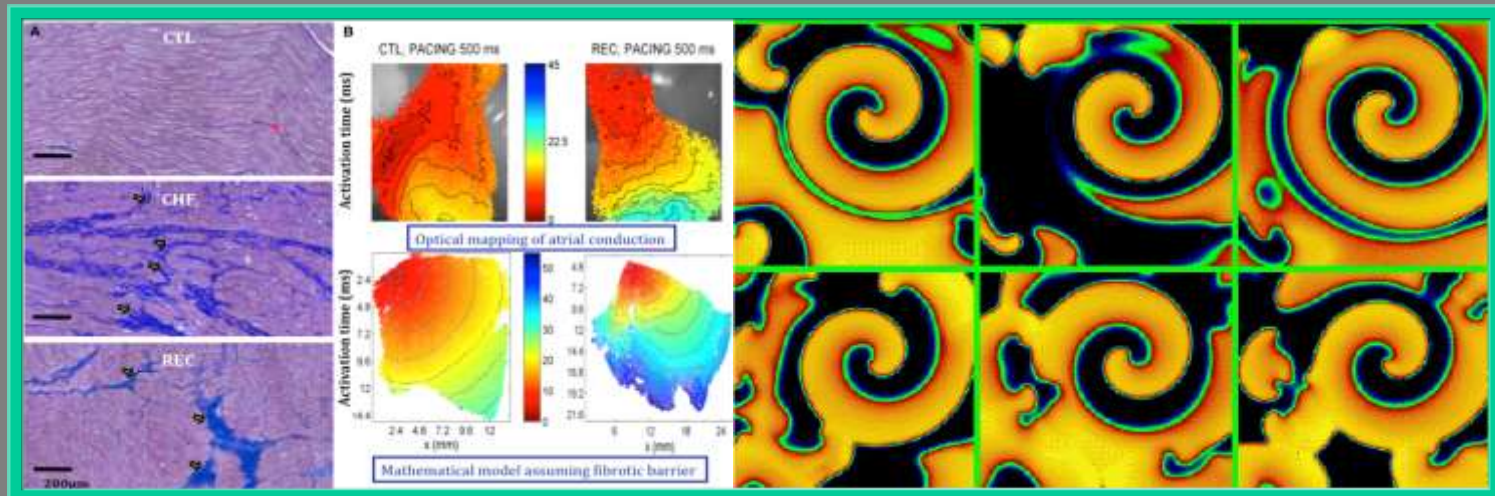


Right and left atrial mapping

Fibrosis plays a key-role in the pathophysiology of AF

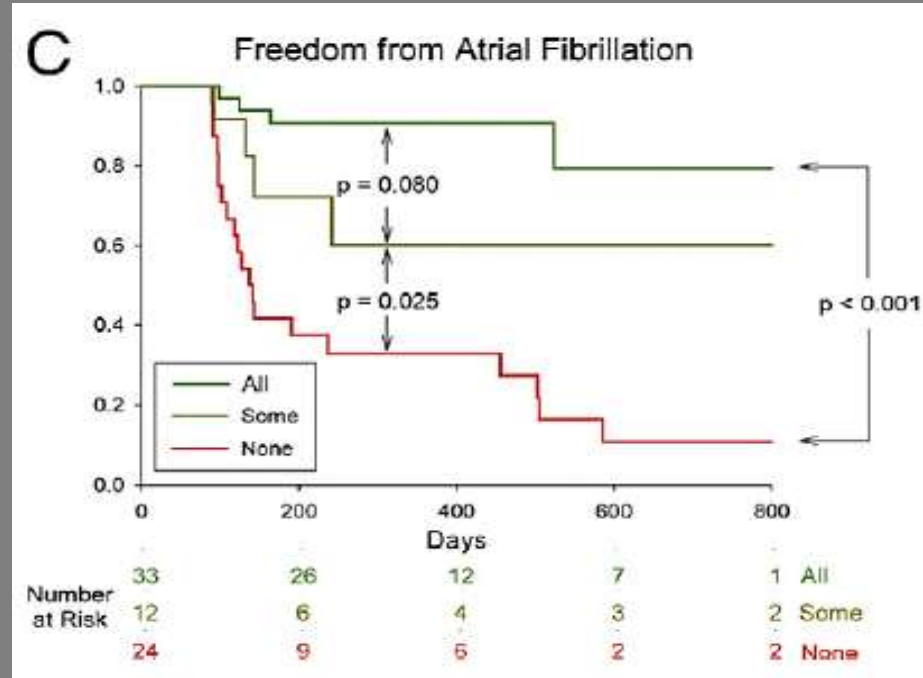
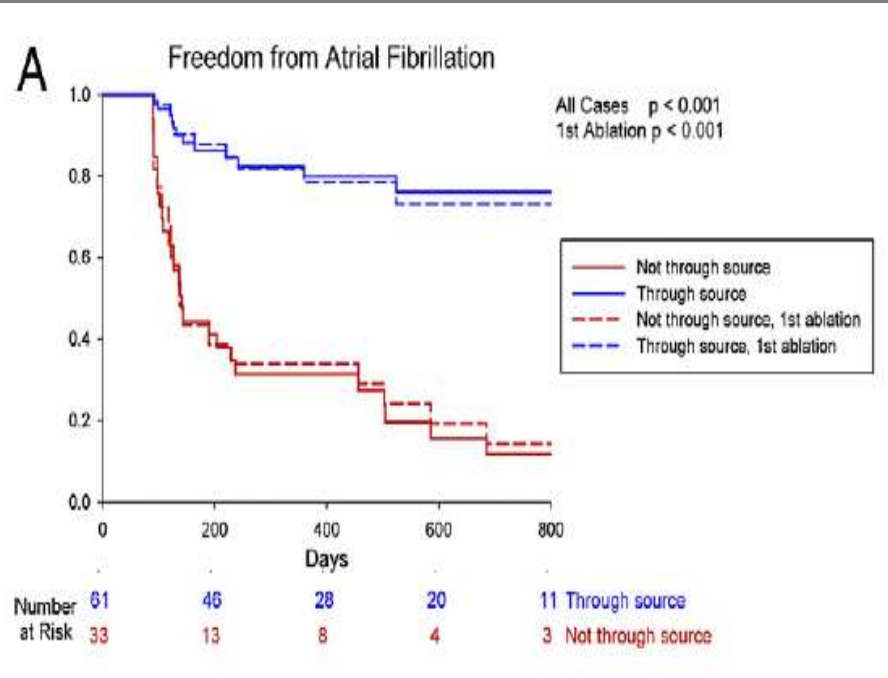
How fibrosis contribute to arrhythmogenesis?

- There is general agreement between experimental observations and modeling results, supporting the notion that **fibrosis produces conduction barriers**.
- The presence of interstitial (micro-)fibrosis leading to changes in cellular coupling **results in spatial ‘non-uniform anisotropic’ impulse propagation** and is a potential cause of atrial activation abnormalities that may underlie the initiation and perpetuation of **re-entrant arrhythmias (rotors)**.



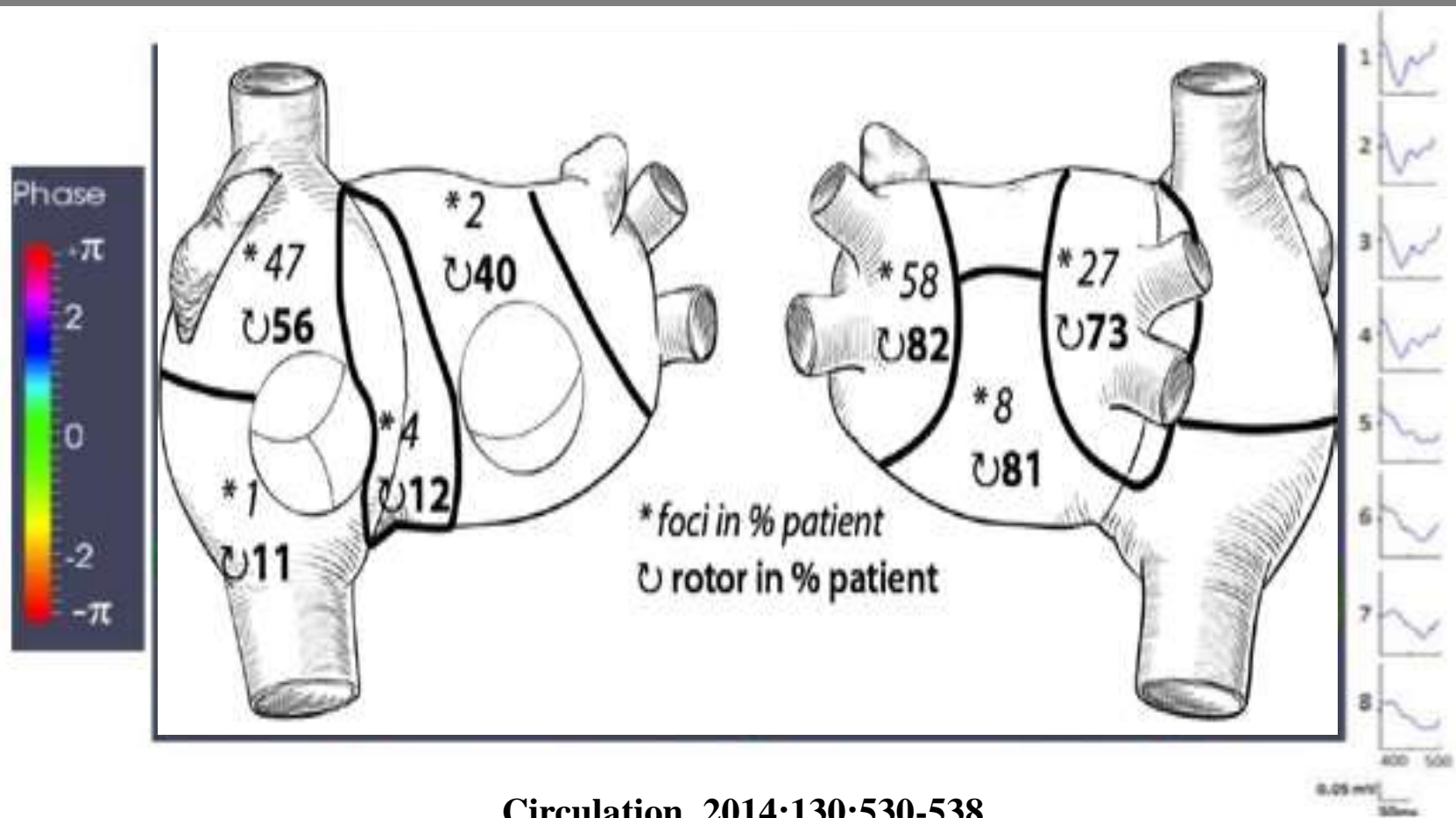
Direct or Coincidental Elimination of Stable Rotors or Focal Sources May Explain Successful Atrial Fibrillation Ablation

On-Treatment Analysis of the CONFIRM Trial (Conventional Ablation for AF With or Without Focal Impulse and Rotor Modulation)



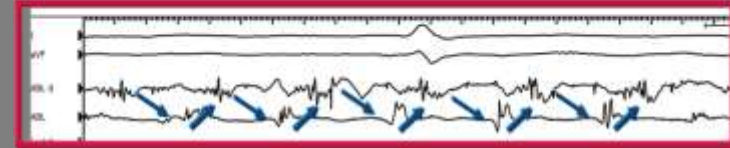
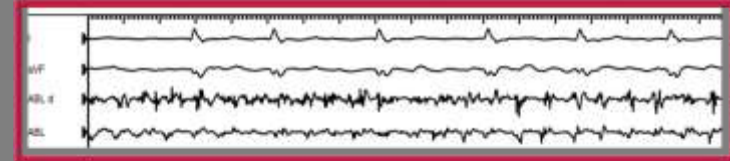
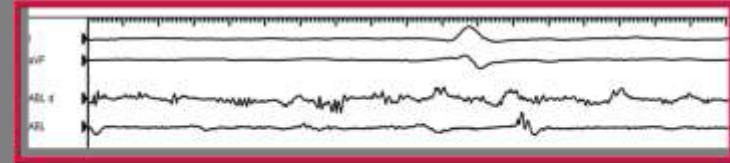
Driver Domains in Persistent Atrial Fibrillation

Michel Haissaguerre, MD; Meleze Hocini, MD; Arnaud Denis, MD; Ashok J. Shah, MD;
Yuki Komatsu, MD; Seigo Yamashita, MD; Matthew Daly, MD; Sana Amraoui, MD;
Stephan Zellerhoff, MD; Marie-Quitterie Picat, MD; Adam Quotb, PhD; Laurence Jesel, MD;
Han Lim, MD; Sylvain Ploux, MD; Pierre Bordachar, MD; Guillaume Attuel, PhD;
Valentin Meillet, MSc; Philippe Ritter, MD; Nicolas Derval, MD; Frederic Sacher, MD;
Olivier Bernus, PhD; Hubert Cochet, MD; Pierre Jais, MD; Remi Dubois, PhD

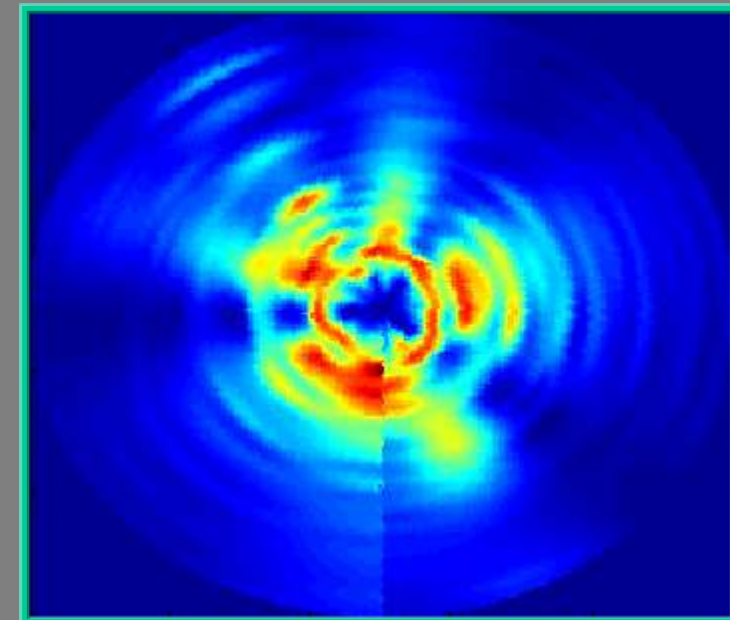


Catheter ablation of persistent atrial fibrillation

- PVAI
- Electrograms-guided ablation



- DF-guided ablation
- End-points
 - SR restoration
 - Conversion to AT



Complications

2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the Heart Rhythm Society

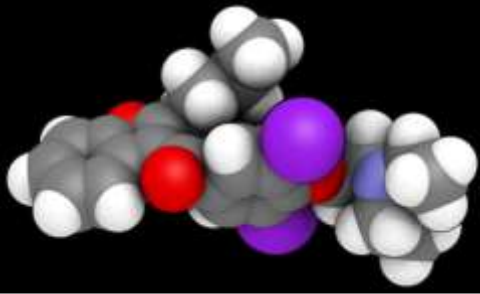
Craig T. January, L. Samuel Wann, Joseph S. Alpert, Hugh Calkins, Joseph C. Cleveland, Jr, Joaquin E. Cigarroa, Jamie B. Conti, Patrick T. Ellinor, Michael D. Ezekowitz, Michael E. Field, Katherine T. Murray, Ralph L. Sacco, William G. Stevenson, Patrick J. Tchou, Cynthia M. Tracy and Clyde W. Yancy

Complications of Radiofrequency Catheter Ablation for AF

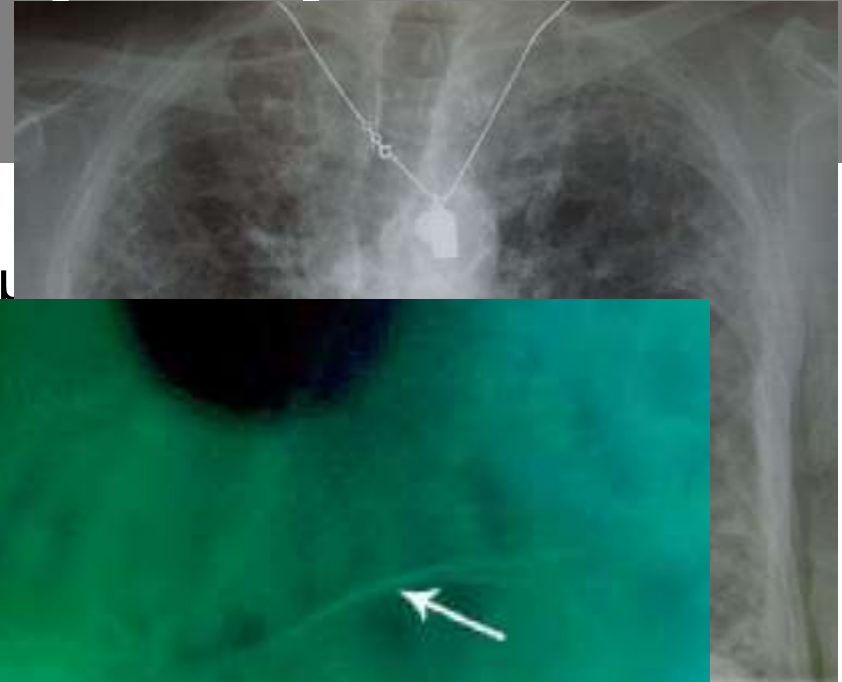
Complication	Symptoms/Signs	Treatment
Air embolism	Acute ischemia, cardiac arrest, AV block, hypotension	Supplemental oxygen, fluids, CPR, or pacing if indicated
Atrial-esophageal fistula	Usually 1–4 wk after ablation, dysphagia, unexplained fever, chills, sepsis, neurological events (septic emboli)	CT or MRI of esophagus, avoiding endoscopy, immediate surgical correction
Cardiac tamponade/perforation	Abrupt or gradual fall in BP	Pericardiocentesis, emergent surgical drainage if pericardiocentesis fails
Phrenic nerve injury resulting in diaphragmatic paralysis	Shortness of breath, elevated hemidiaphragm	None, usually resolves spontaneously
Iatrogenic atrial flutter	Tachycardia	Cardioversion, antiarrhythmic drugs, or repeat ablation

Early pulmonary vein reconnection as a predictor of left atrial ablation outcomes for paroxysmal atrial fibrillation

Variable	PVR30 test group (n = 144)	Control group (n = 128)	P value
Age (years)	56.8 ± 12.3	58.1 ± 10.7	0.37
Gender (male) (%)	95 (66.0)	86 (67.2)	0.89
Body mass index (kg/m ²)	27.7 ± 4.3	28.2 ± 4.0	0.31
Hypertension (%)	62 (43.1)	57 (44.5)	0.81
Diabetes (%)	23 (16.0)	21 (16.4)	1.00
Dyslipidaemia/statin use (%)	59 (41.0)	55 (43.0)	0.81
CAD (%)	10 (6.9)	12 (9.4)	0.51
AF duration (years)	4.9 ± 4.3	5.1 ± 4.6	0.73
AADs after AF ablation ^a			
Class I (%)	9 (6.3)	6 (4.7)	0.61
Class III (%)	61 (42.4)	67 (52.3)	0.11
LAD (mm)	39.3 ± 5.5	40.1 ± 4.7	0.19
Creatinine (mg/dL)	0.8 ± 0.2	0.8 ± 0.2	0.34
White blood cell count (/μL)	8949 ± 2352	8438 ± 2234	0.07
Fluoroscopy time	13.2 ± 7.5	13.1 ± 6.9	0.91
Procedure time	209.3 ± 48.6	183.1 ± 15.4	<0.01
TIA (%)	1 (0.7)	2 (1.6)	0.60
Tamponade (%)	2(1.4)	1(0.8)	1.00
PVR 30 min (%)	64 (44.4)	N/A	
Follow-up duration (months)	16.5 ± 7.0	17.7 ± 6.2	0.14



Αμιοδαρόνη



- Σκευάσματα: tb. Angoron 200 mg
- Υψηλή λιποδιαλυτότητα – χρόνος ημί-ζωής (μέση τιμή 60 ημέρες)
- Vaughan-Williams class III

Original Article

Amiodarone and the risk of cancer

A nationwide population-based study

Vincent Yi-Fong Su MD^{1,†}, Yu-Wen Hu MD^{2,3,4,†}, Kun-Ta Chou MD^{1,3}, Shuo-Ming Ou MD⁵, Yu-Chin Lee PhD^{1,3}, Elizabeth Ya-Hsuan Lin BSc⁶, Tzeng-Ji Chen PhD^{3,7}, Cheng-Hwai Tzeng PhD^{3,8}, Chia-Jen Liu MD^{3,4,8,9,*}

Article first published online: 8 APR 2013

DOI: 10.1002/cncr.27881

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Issue



V
μός

παθεια

- 10% παραπονιούνται για «κυανή άλω»), σπάνια εκφύλιση ωχράς κηλίδας, οπτική νευρίτιδα (1-2%)
- Φωτοευαισθησία (φωτοεξαρτώμενο εξάνθημα ~10%)
- Επιδιδυμίτιδα

Προσοχή...

Αμιοδαρόνη

- Νόσος φλεβοκόμβου ή διαταραχές αγωγής (υπερκομβικές ή υποκομβικές)
- Πνευμονοπάθεια
 - Σοβαρή θυρεοειδοπάθεια
- Παρατεταμένο QT

Φλεκαϊνίδη

- Δυσλειτουργία φλεβοκόμβου ή ΚΚ κόμβου
 - Καρδιακή ανεπάρκεια
 - Στεφανιαία νόσος
 - Κολπικός πτερυγισμός
- Υποκομβική διαταραχή της αγωγής
 - Σύνδρομο Brugada
 - Ηπατοπάθεια
 - Νεφρική ανεπάρκεια

Προπαφαινόνη

- Δυσλειτουργία φλεβοκόμβου ή ΚΚ κόμβου
 - Καρδιακή ανεπάρκεια
 - Στεφανιαία νόσος
 - Κολπικός πτερυγισμός
- Υποκομβική διαταραχή της αγωγής
 - Σύνδρομο Brugada
 - Ηπατοπάθεια
 - Άσθμα

Σοταλόλη

- Παρατεταμένο QT
- Νεφρική ανεπάρκεια
- Υποκαλιαιμία, υπομαγνησσαιμία
 - Διουρητικά
- Ταυτόχρονη θεραπεία με άλλα φάρμακα που παρατείνουν το QT
- Δυσλειτουργία φλεβοκόμβου ή ΚΚ κόμβου
 - Καρδιακή ανεπάρκεια
 - Άσθμα

Quality of Life

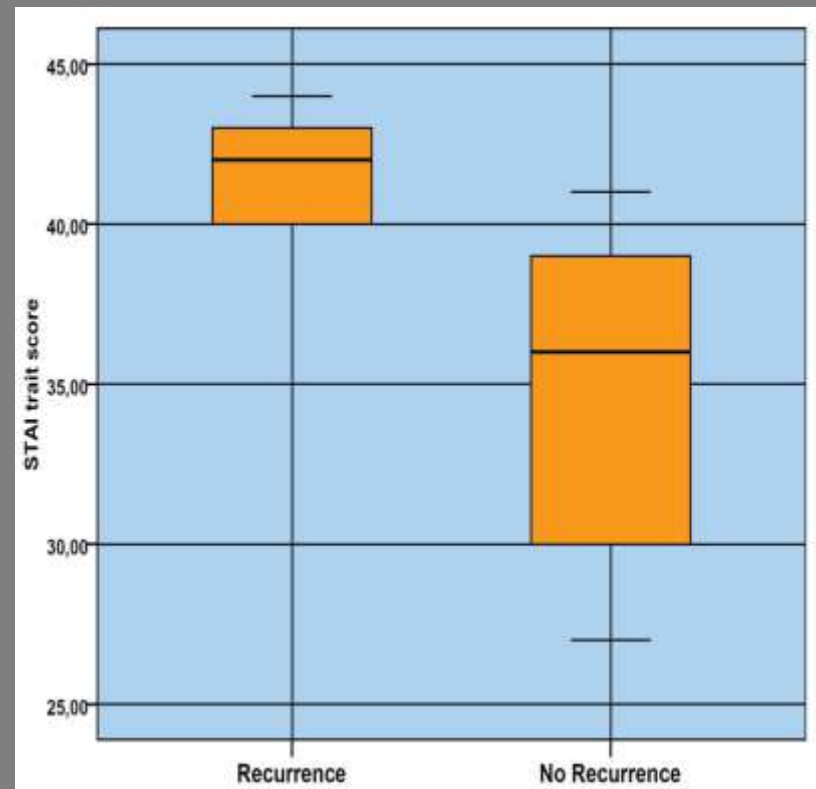
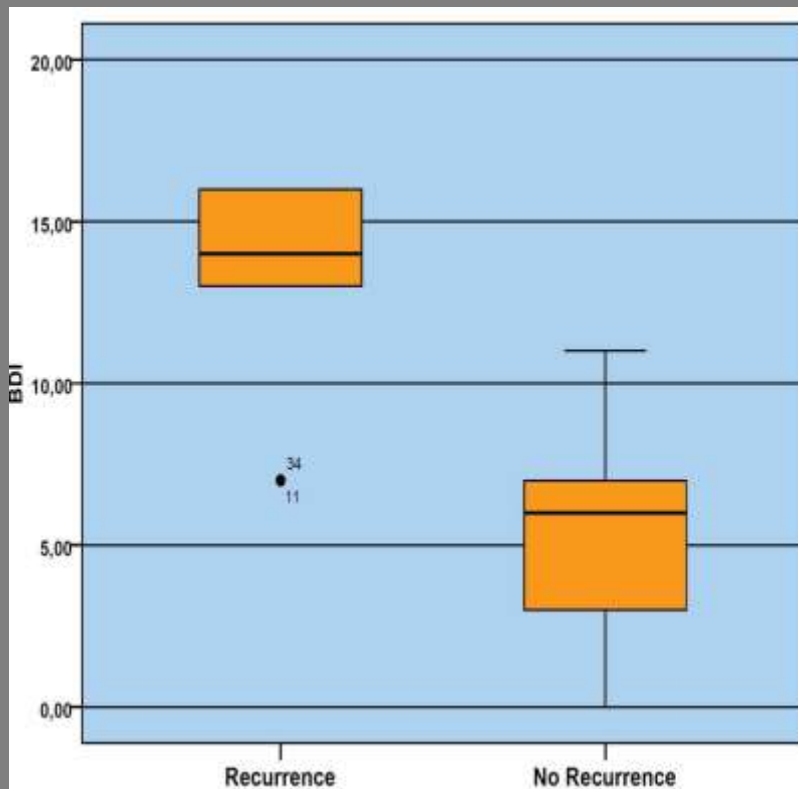
The Impairment of Health-Related Quality of Life in Patients With Intermittent Atrial Fibrillation: Implications for the Assessment of Investigational Therapy

Paul Dorian, MD,* Werner Jung, MD,† David Newman, MD, FACC,* Miney Paquette, MSc,* Kathryn Wood, PhD,‡ Gregory M. Ayers, MD, PhD,§ John Camm, MD,|| Masood Akhtar, MD, FACC,¶ Berndt Luderitz, MD†

SF-36 Scale	AF Patients (n = 152)	PTCA Patients (n = 69)	PTCA Patients¶ (n = 78)	CHF Patients (n = 216)	Post MI Patients (n = 69)	Healthy Subjects (n = 47)
General health	54 ± 21	51 ± 23	65 ± 22†	47 ± 24†	59 ± 19‡	78 ± 17†
Physical functioning	68 ± 27	60 ± 29	76 ± 25‡	48 ± 31†	70 ± 26	88 ± 19†
Role physical	47 ± 42	47 ± 45	71 ± 39†	34 ± 40†	51 ± 39	89 ± 28†
Vitality	47 ± 21	48 ± 26	60 ± 20†	44 ± 24	58 ± 19†	71 ± 14†
Mental health	68 ± 18	74 ± 18	75 ± 16†	75 ± 21†	76 ± 16†	81 ± 11†
Role emotional	65 ± 41	64 ± 44	83 ± 35†	64 ± 43	73 ± 38	92 ± 25†
Social functioning	71 ± 28	74 ± 29	87 ± 21†	71 ± 33	85 ± 21†	92 ± 14†
Bodily pain	69 ± 19	68 ± 17	73 ± 27	63 ± 31‡	73 ± 25	77 ± 15‡

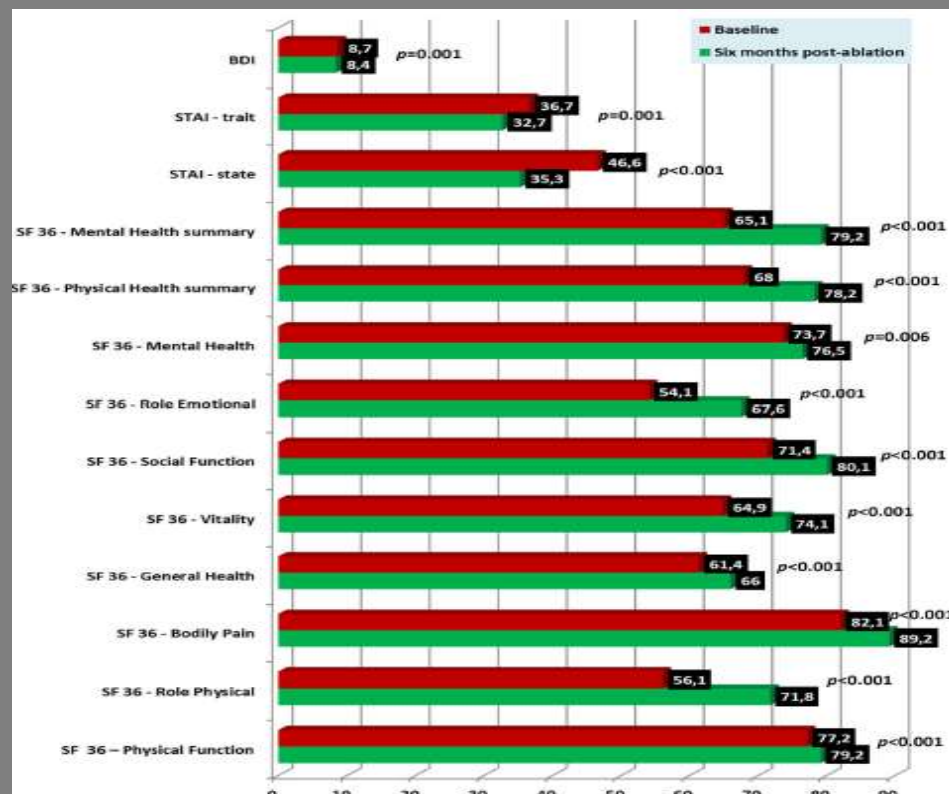
Association of quality of life, anxiety and depression with left atrial ablation outcomes

Michael Efremidis¹, MD; Konstantinos P. Letsas¹, MD; Louiza Lioni¹, MD; Georgios Giannopoulos^{2,3}, MD; Panagiotis Korantzopoulos⁴, MD; Konstantinos Vlachos¹, MD; Nikolaos P. Dimopoulos⁴, MD; Dimitrios Karlis¹, MD; Georgios Bouras², MD; Antonios Sideris¹, MD; Spyridon Deftereos², MD



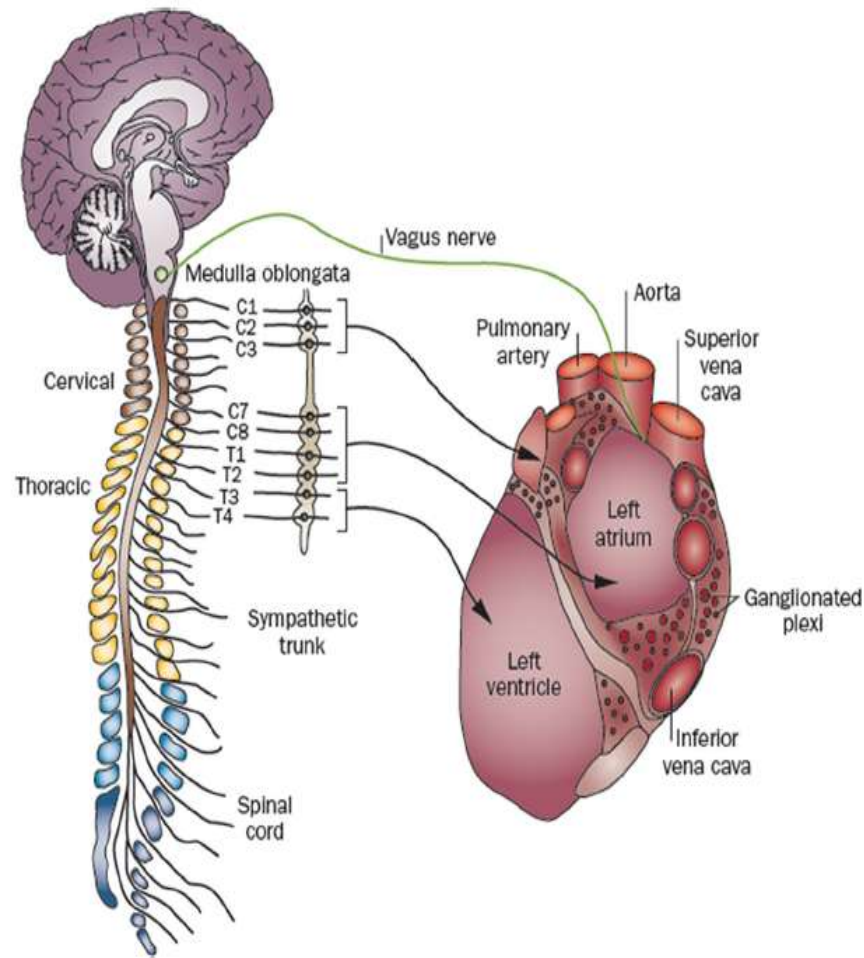
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Role of the Autonomic Nervous System in Modulating Cardiac Arrhythmias

Mark J. Shen, Douglas P. Zipes

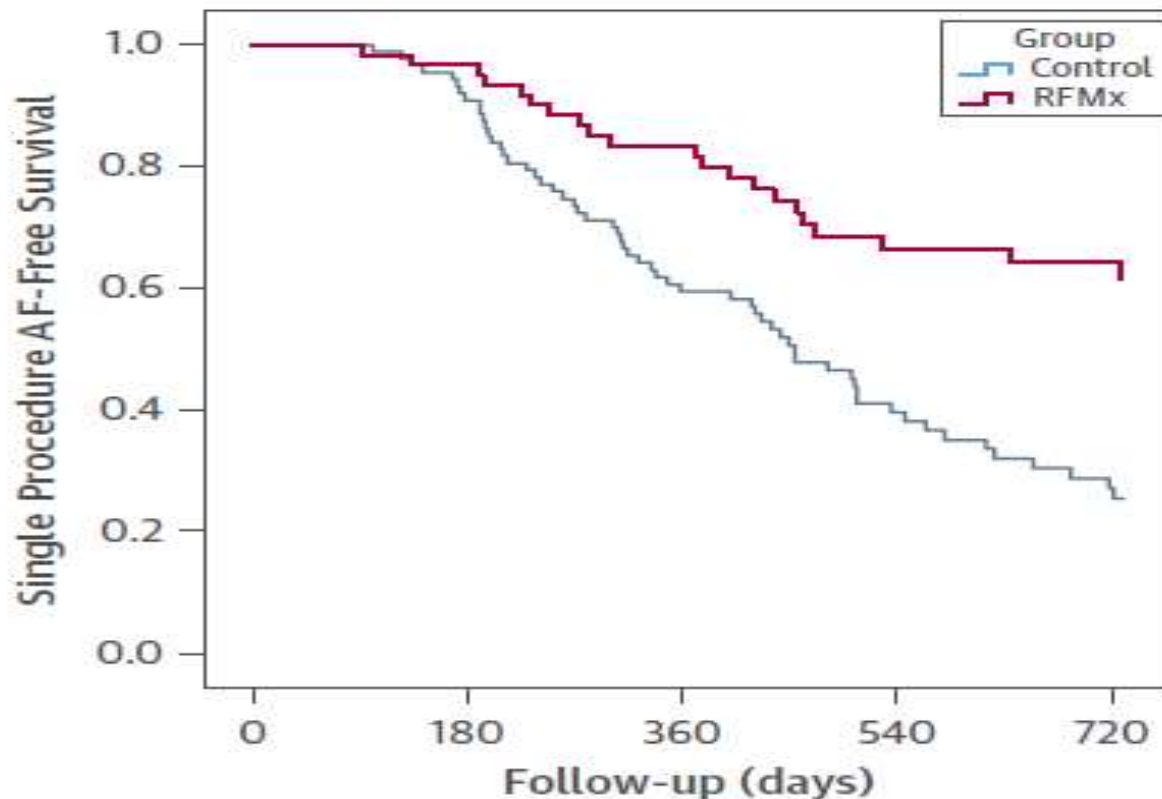


In 1628, William Harvey hinted at a link between the brain and the heart when he wrote, “For every affection of the mind that is attended with either pain or pleasure, hope or fear, is the cause of an agitation whose influence extends to the heart.”¹ For the past half century, numerous anatomic and

Aggressive Risk Factor Reduction Study for Atrial Fibrillation and Implications for the Outcome of Ablation

The ARREST-AF Cohort Study

Rajeev K. Pathak, MBBS,* Melissa E. Middeldorp,* Dennis H. Lau, MBBS, PhD,* Abhinav B. Mehta, MACTST,† Rajiv Mahajan, MD,* Darragh Twomey, MBBS,* Muayad Alasady, MBBS,*† Lorraine Hanley, BSc,* Nicholas A. Antic, MBBS, PhD,‡ R. Doug McEvoy, MBBS, MD,‡ Jonathan M. Kalman, MBBS, PhD,§ Walter P. Abhayaratna, MBBS, PhD,|| Prashanthan Sanders, MBBS, PhD*



Thank you for your attention

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