9ο ΠΑΝΕΛΛΗΝΙΟ ΑΡΡΥΘΜΙΟΛΟΓΙΚΟ ΣΥΝΕΔΡΙΟ

Η επέμβαση κατάλυσης ήταν απολύτως επιτυχής. Πως ορίζουμε την επιτυχία στην κατάλυση της κολπικής μαρμαρυγής;

Γιώργος Ανδρικόπουλος, MD, PhD, FESC, FEHRA
Α Καρδιολογική Κλινική/Ηλεκτροφυσιολογίας Βηματοδότησης
«Ερρίκος Ντυνάν» Hospital Center, Αθήνα

Presenter Disclosure Information

The presenter has received honoraria for participation in lectures and advisory boards from the following pharmaceutical and biotechnology companies:

- *Abbot*
- *AstraZeneca,*
- *Bard,*
- *Bayer Healthcare,*
- *Boehringer Ingelheim,*
- *Boston Scientific,*
- *Bristol-Myers Squibb,*
- *ELPEN,*
- *Galenica,*
- *Lilly,*
- *Medtronic,*
- *Menarini,*
- *MSD,*
- *Pfizer,*
- *Sanofi,*
- *Servier,*
- *Unifarma,*
- *Vianex.*

Ασθενής 44 ετών, που είχε προσέλθει με αγνώστου ενάρξεως εμμένουσα κολπική μαρμαρυγή το 2016

2016: Cryoablation (PVI only)

2017: Common CTI Flutter

ΕΠΙΤΥΧΙΑ ή ΑΠΟΤΥΧΙΑ;

Ασθενής 44 ετών, που είχε προσέλθει με αγνώστου ενάρξεως εμμένουσα κολπική μαρμαρυγή το 2016

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2023: Πολλαπλές κρίσεις Κολπικής Μαρμαρυγής

(ΚΕΑΚ=60%, ΑΚ=4.5 σε βελτίωση από το 2016)

ΕΠΙΤΥΧΙΑ ή ΑΠΟΤΥΧΙΑ;

Η επιτυχία είναι να προχωράς από αποτυχία σε αποτυχία, χωρίς να χάνεις τον ενθουσιασμό σου.

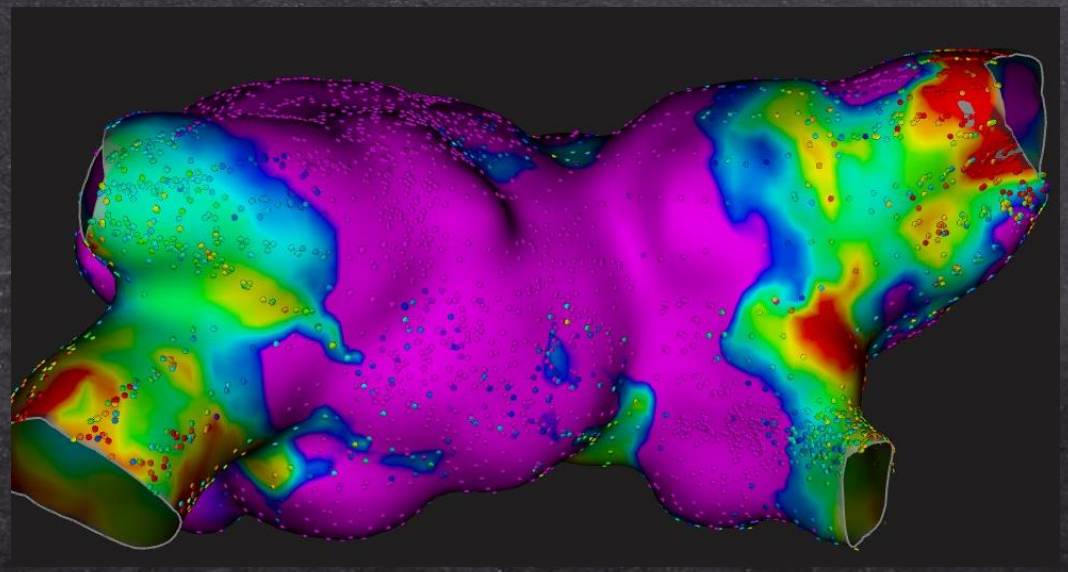
Ουίνστον Τσώρτσιλ

Βρετανός πρωθυπουργός, Νόμπελ 1953 (1874-1965)

2016: Cryoablation (PVI only)

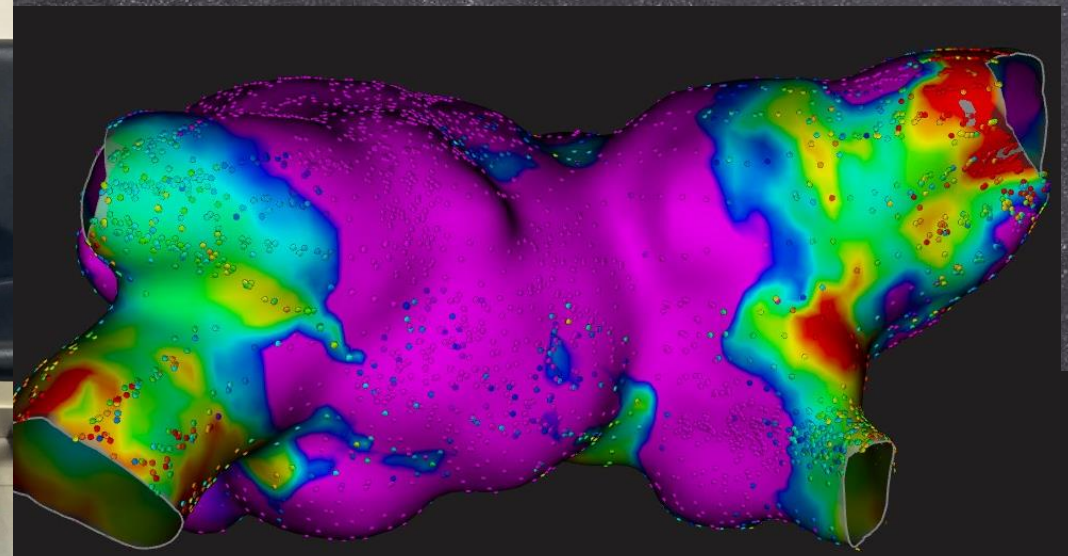
2017: Common CTI Flutter

2023: Πολλαπλές κρίσεις Κολπικής Μαρμαρυγής *(KEAK=60%, AK=4.5 σε βελτίωση από το 2016)*



Αρχείο Γ.Ανδρικόπουλου Σεπτέμβριος 2023, Ερρίκος Ντυνάν Hospital Center

Ασθενής 44 ετών, που είχε προσέλθει με αγνώστου ενάρξεως εμμένουσα κολπική μαρμαρυγή το 2016



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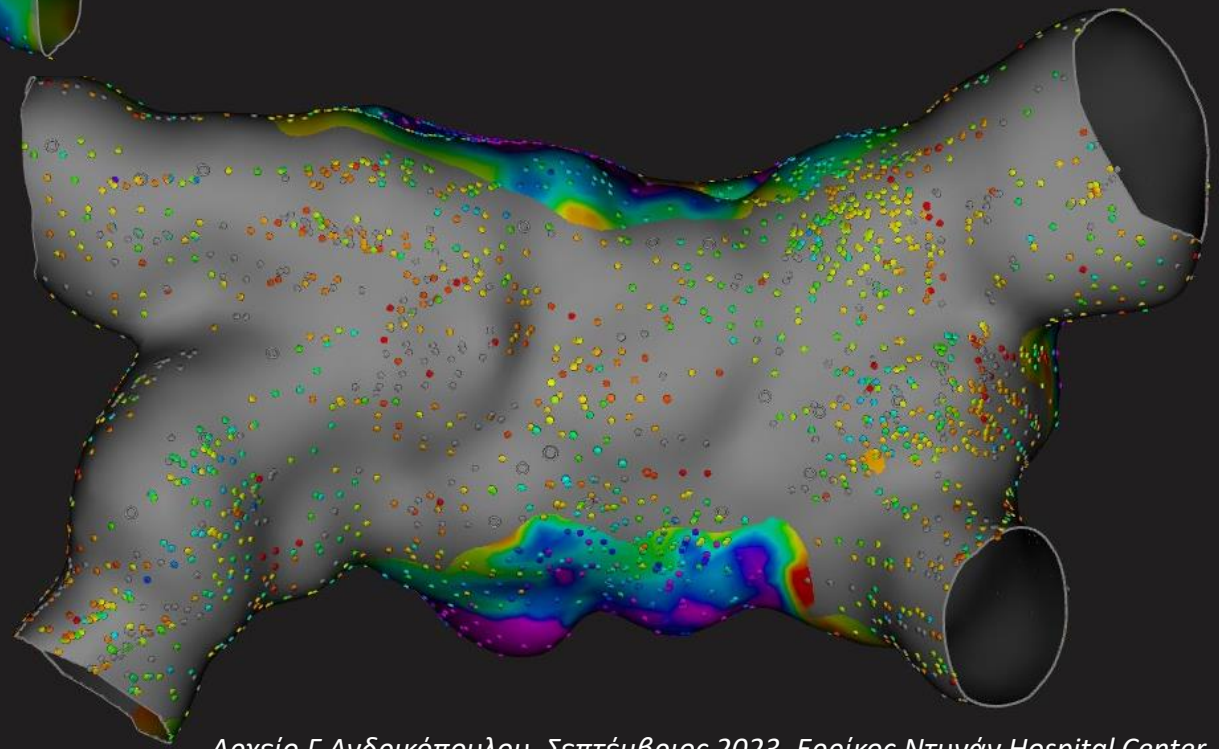
ΕΠΙΤΥΧΙΑ ή ΑΠΟΤΥΧΙΑ;



Ερρίκος Ντυνάν Hospital Center, Σεπτέμβριος 2023

Αρχείο Γ.Ανδρικόπουλου Σεπτέμβριος 2023, Ερρίκος Ντυνάν Hospital Center

Repeat catheter ablation for recurrent atrial fibrillation: Electrophysiologic findings and clinical outcomes

[1]Division of Cardiology, Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA

[2]Department of Biostatistics, Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland, USA

- 300 patients who underwent their first repeat AF ablations for symptomatic, recurrent AF
- All repeat ablations were performed using RF energy, 78% RF for 1st ablation
- 67% at SR before repeat ablation

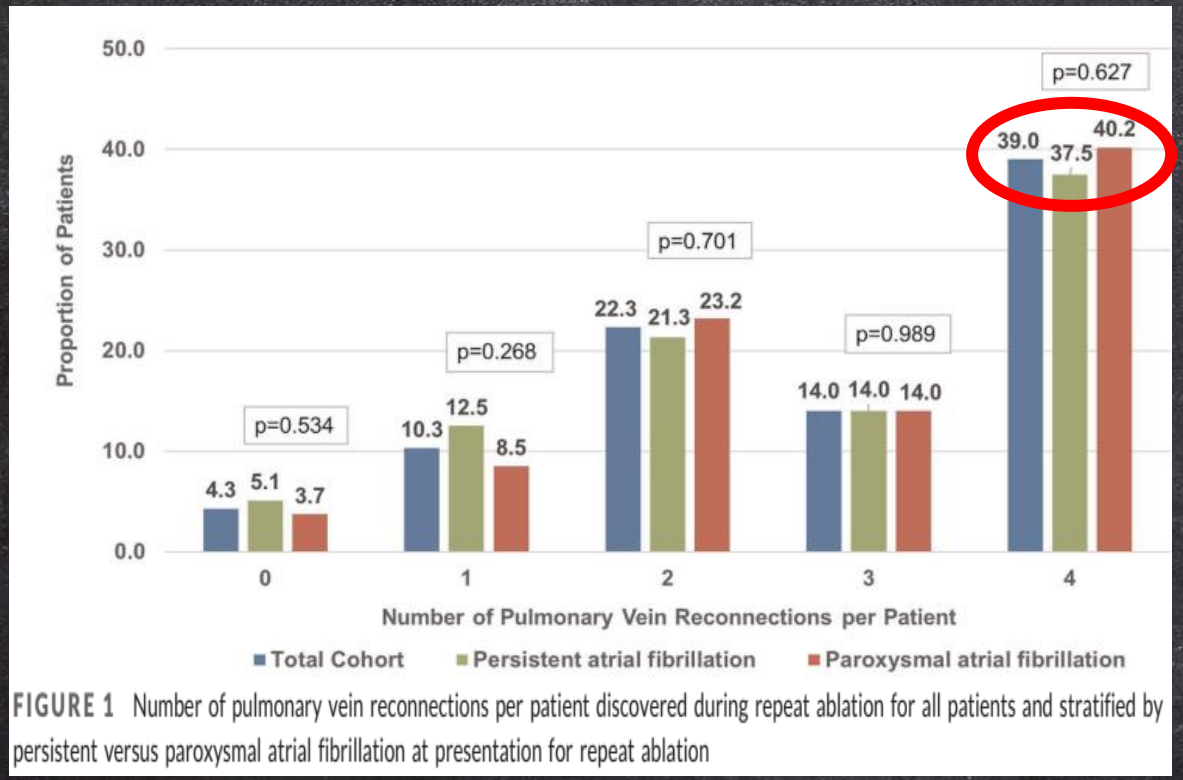


FIGURE 1 Number of pulmonary vein reconnections per patient discovered during repeat ablation for all patients and stratified by persistent versus paroxysmal atrial fibrillation at presentation for repeat ablation

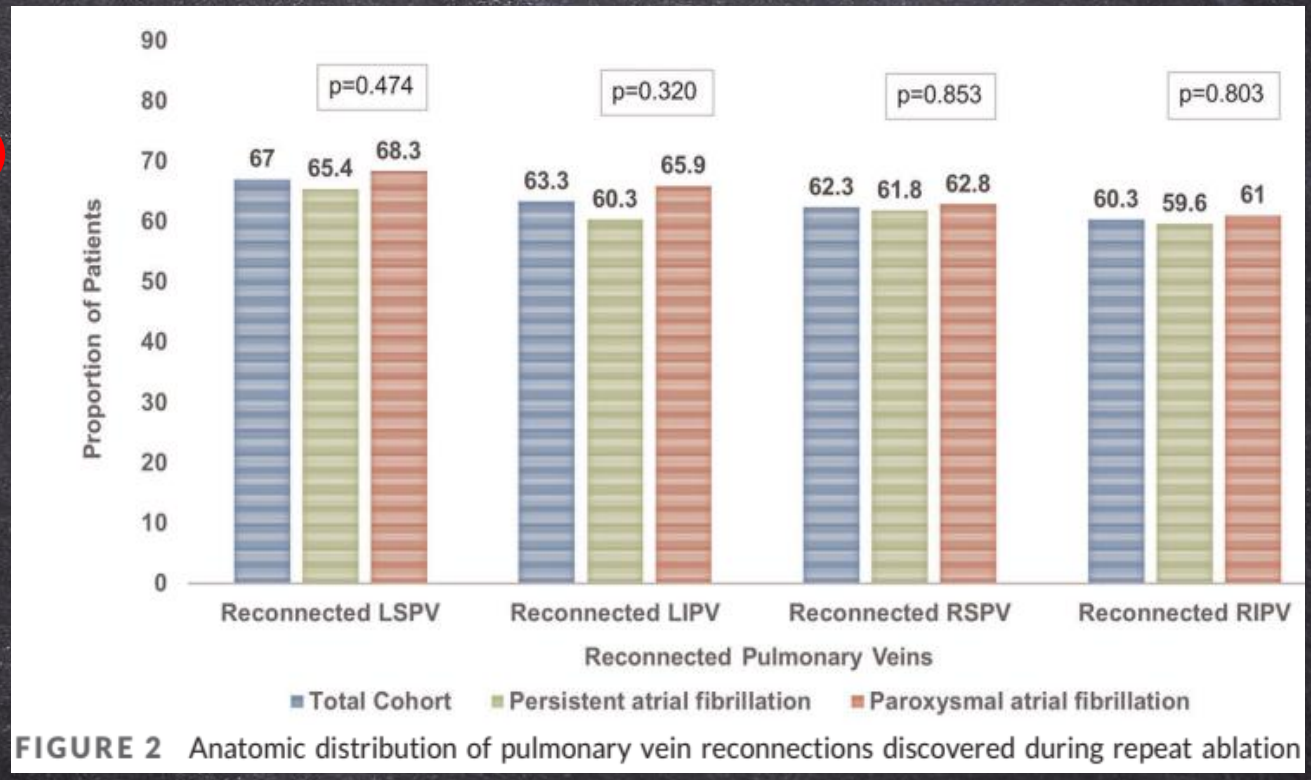
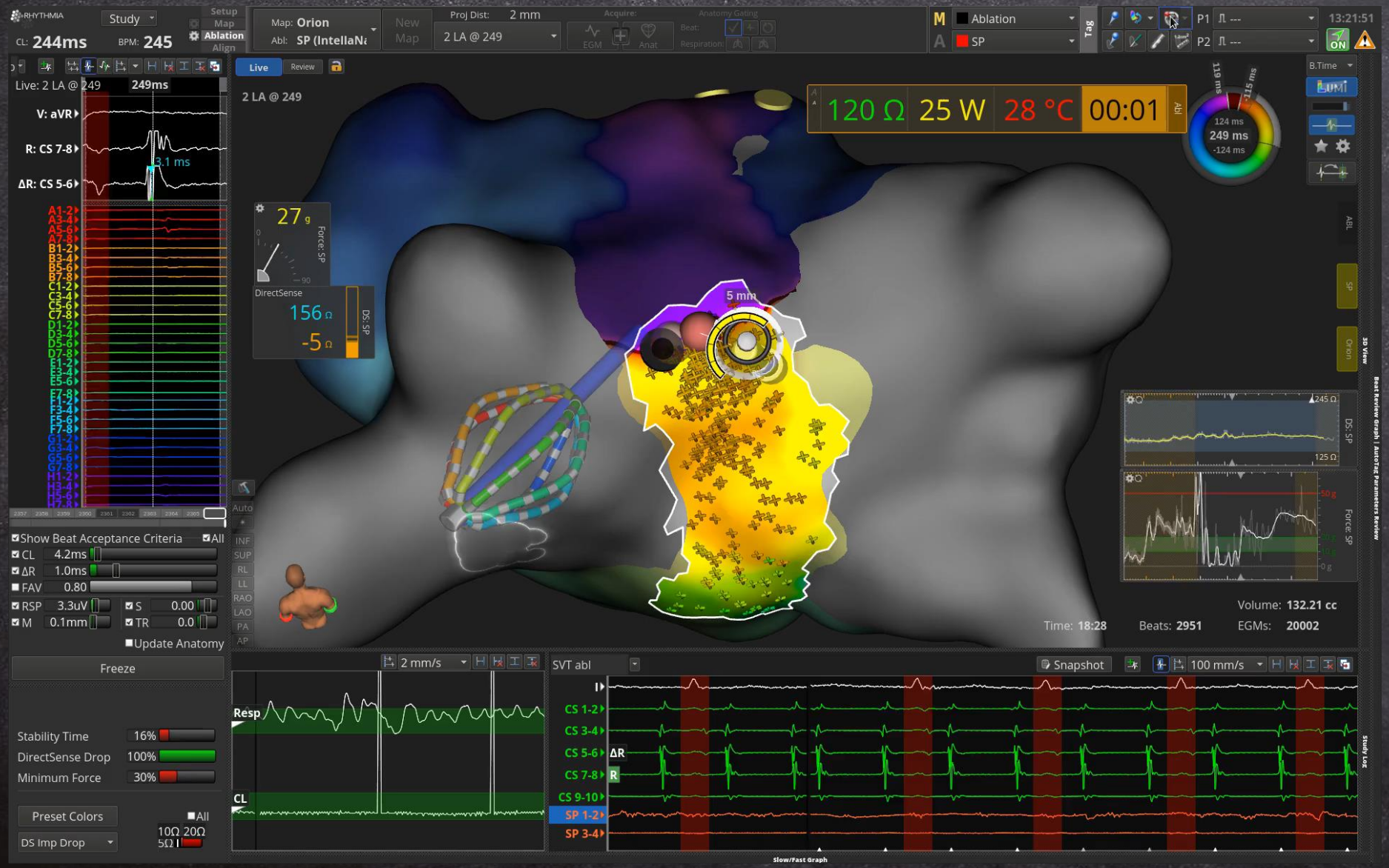


FIGURE 2 Anatomic distribution of pulmonary vein reconnections discovered during repeat ablation

"During repeat ablation, at least one PV reconnection was found in 257 (85.6%) patients, while 159 (53%) had three to four reconnections"

Daimee UA, et al. Akhtar T, Boyle TA, Jager L, Arbab-Zadeh A, Marine JE, Berger RD, Calkins H, Spragg DD. Repeat catheter ablation for recurrent atrial fibrillation: Electrophysiologic findings and clinical outcomes. J Cardiovasc Electrophysiol. 2021 Mar;32(3):628-638.

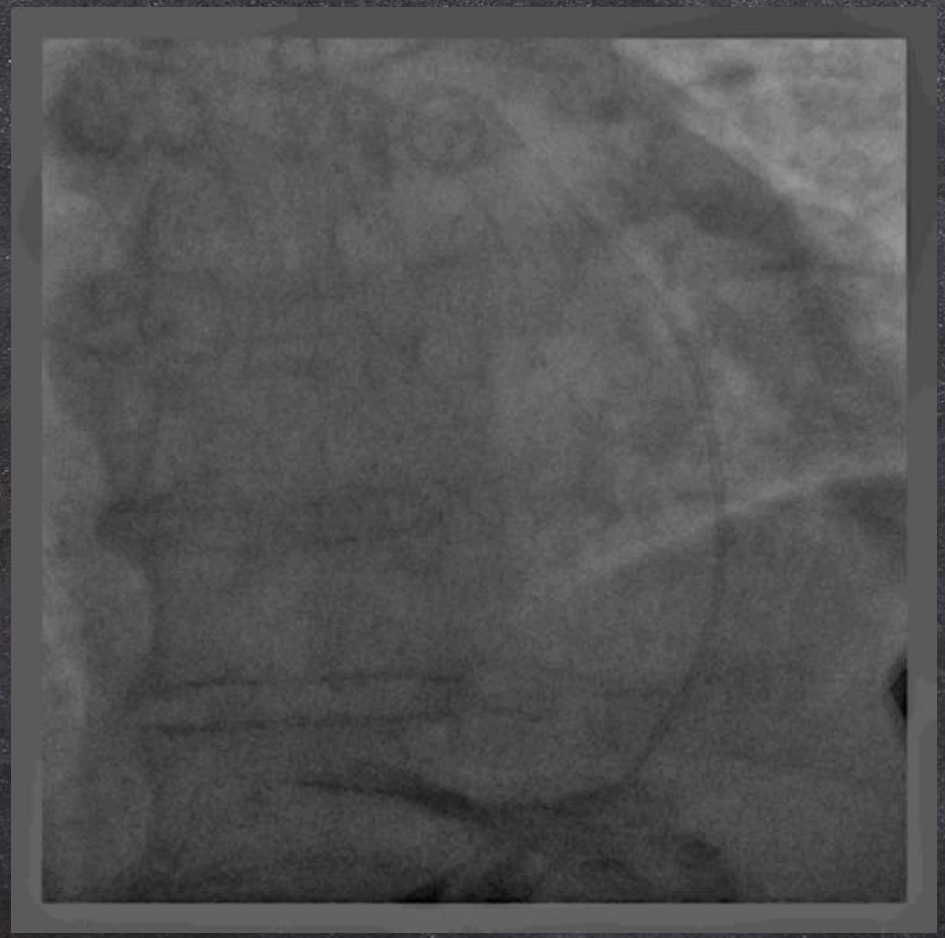
Roof-depended flutter 7 χρόνια μετά από επέμβαση κρυοκατάλυσης εμμένουσας κολπικής μαρμαρυγής



ΕΠΙΤΥΧΙΑ
ή
ΑΠΟΤΥΧΙΑ;

Αρχείο Γ.Ανδρικόπουλου Δεκέμβριος 2021, Ερρίκος Ντυνάν Hospital Center

Γυναίκα 72 ετών με πολλαπλές κρίσεις ΚΜ, παρουσιάζει πτώση της ΑΠ (80/30 mmHg) αμέσως μετά την απομόνωση της LSPV



ΕΠΙΤΥΧΙΑ ή ΑΠΟΤΥΧΙΑ;

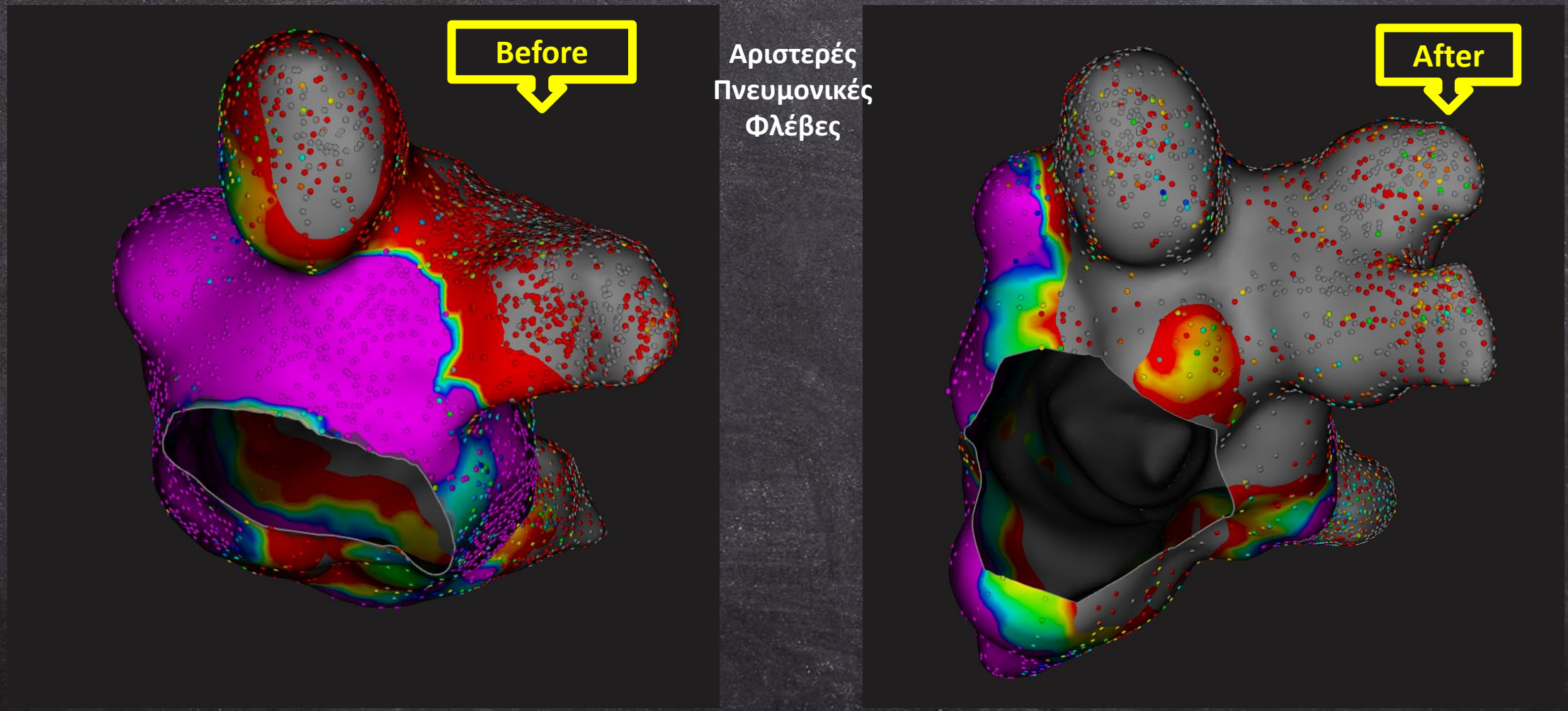
Risk and complications of atrial fibrillation therapy

16:30 - 18:00, Sunday 28 August, 2011
Prague - Zone B, ESC Congress 2011

Catheter ablation

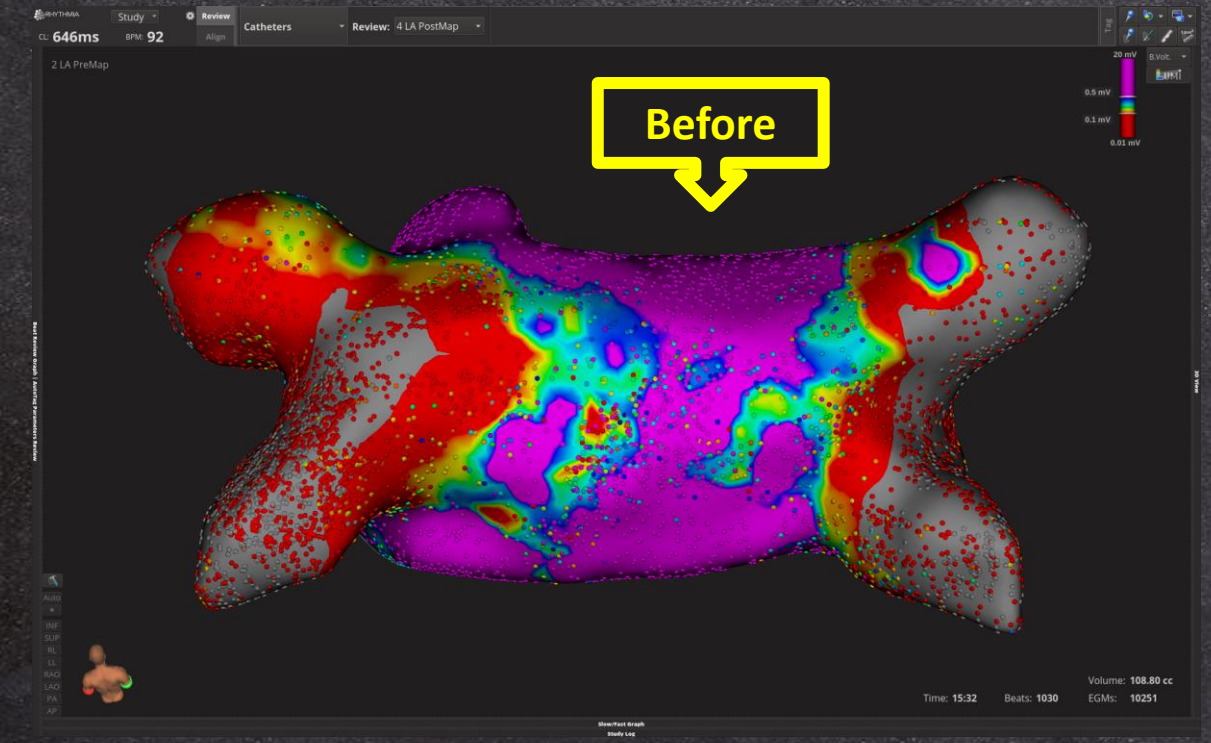
George Andrikopoulos, MD, PhD, FESC
Dep. Director, Henry Dunant Hospital, Athens, Greece

Άνδρας 50 ετών με πολλές κρίσεις ΚΜ υπό αντιαρρυθμική αγωγή (με όλα τα αντιαρρυθμικά), μετά από επέμβαση κρυοκατάλυσης προ 8 μηνών σε άλλο κέντρο, όπου είχε προσέλθει με αγνώστου ενάρξεως ΚΜ

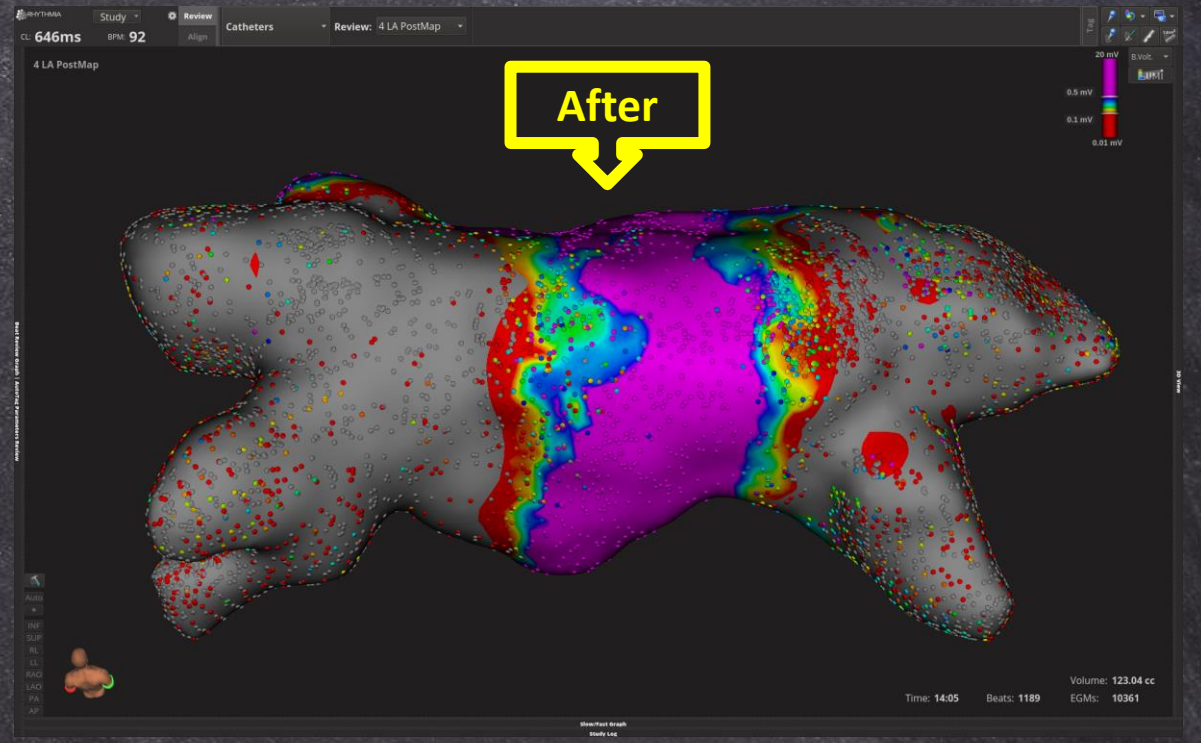


Αρχείο Γ.Ανδρικόπουλου Μάιος 2023, Ερρίκος Ντυνάν Hospital Center

Άνδρας 50 ετών με πολλές κρίσεις ΚΜ υπό αντιαρρυθμική αγωγή (με όλα τα αντιαρρυθμικά), μετά από επέμβαση κρυοκατάλυσης προ 8 μηνών σε άλλο κέντρο, όπου είχε προσέλθει με αγνώστου ενάρξεως ΚΜ



PA



ΕΠΙΤΥΧΙΑ ή ΑΠΟΤΥΧΙΑ;

Αρχείο Γ.Ανδρικόπουλου Μάιος 2023, Ερρίκος Ντυνάν Hospital Center

Randomized Controlled Trial for Pulsed Field Ablation versus Standard of Care Thermal Ablation for Paroxysmal Atrial Fibrillation

Primary Results of the *ADVENT* Trial

27 August 2023

Vivek Y. Reddy MD,[1] Edward P. Gerstenfeld MD,[2] Andrea Natale MD,[3] William Whang MD,[1] Frank A. Cuoco MD,[4] Chinmay Patel MD,[5] Stavros E. Mountantonakis MD,[6] Douglas N. Gibson MD,[7] John D. Harding MD,[8] Christopher R. Ellis MD,[9] Kenneth A. Ellenbogen MD,[10] David B. DeLurgio MD,[11] Jose Osorio MD,[12] Anitha B. Achyutha MTech MSE,[13] Christopher W. Schneider BSE MEng,[13] Andrew S. Mugglin PhD,[14] Elizabeth M. Albrecht PhD,[15] Kenneth M. Stein MD,[15] John W. Lehmann MD MPH,[16] and Moussa Mansour MD[17]

On behalf of the *ADVENT* Investigators.

[1]Helmsley Electrophysiology Center, Icahn School of Medicine at Mount Sinai, New York, NY; [2]University of California San Francisco, San Francisco, CA; [3]Texas Cardiac Arrhythmia Institute, St. David's Medical Center, Austin, TX & Case Western Reserve University, Cleveland, OH; [4]Trident Medical Center, Charleston, SC; [5]UPMC Pinnacle, Harrisburg, PA; [6]Lenox Hill Hospital, Northwell Health, New York City, NY; [7]Scripps Clinic and Prebys Cardiovascular Institute, San Diego, CA; [8]Doylestown Hospital, Doylestown, PA; [9]Vanderbilt University Medical Center, Nashville, TN; [10]Virginia Commonwealth University, Richmond, VA; [11]Emory University Hospital, Atlanta, GA; [12]Grandview Medical Center, Birmingham, AL; [13]Boston Scientific Corporation, Menlo Park, CA; [14]Paradigm Biostatistics LLC, Anoka, MN; [15]Boston Scientific Corporation St. Paul, MN; [16]Lehmann Consulting, Naples, FL; [17]Massachusetts General Hospital, Boston MA.

Principal Investigators, DSMB & CEC

Principal Investigators	Investigational Site
William Whang	Mt. Sinai Hospital
David DeLurgio	Emory University Hospital
Jose Osorio	Grandview Medical Center
Anil Rajendra	
Benjamin D'Souza	Penn Presbyterian Medical Center
Frank Cuoco	Trident Health System
Marcos Daccarett	St. Luke's Regional Medical Center
John Harding	Doylestown Hospital
Robert Pickett	St. Thomas Heart at Baptist Hospital
Andrea Natale	Texas Cardiac Arrhythmia Research Foundation
Sanjaya Gupta	Saint Luke's Hospital of Kansas City
Moussa Mansour	Massachusetts General Hospital
Jeffrey Winterfield	Medical University of South Carolina
Tom McElderry	University of Alabama at Birmingham
Larry Chinitz	New York University Langone Medical Center
Hugh Calkins	Johns Hopkins Hospital
Zayd Eldadah	MedStar Washington Hospital Center

Principal Investigators	Investigational Site
Michael Mangrum	University of Virginia Medical Center
Douglas Gibson	Scripps Clinic
Christopher Woods	California Pacific Medical Center
Christopher Ellis	Vanderbilt University Medical Center
Edward Gerstenfeld	University of California, San Francisco
Stavros Mountantonakis	Northwell Health
Wilber Su	Banner University Medical Center – Phoenix
Pasquale Santangeli	Hospital of the University of Pennsylvania
David Lin	Catholic Medical Center - Manchester
Jamie Kim	Nebraska Methodist Hospital
Matthew Latacha	Pinnacle Health Cardiovascular Institute Inc.
Chinmay Patel	Virginia Commonwealth University Health System
Kenneth Ellenbogen	Providence St. Vincent Medical Center
Blair Halperin	Beth Israel Deaconess Medical Center
Andre D'Avila	

Data Safety Monitoring Board

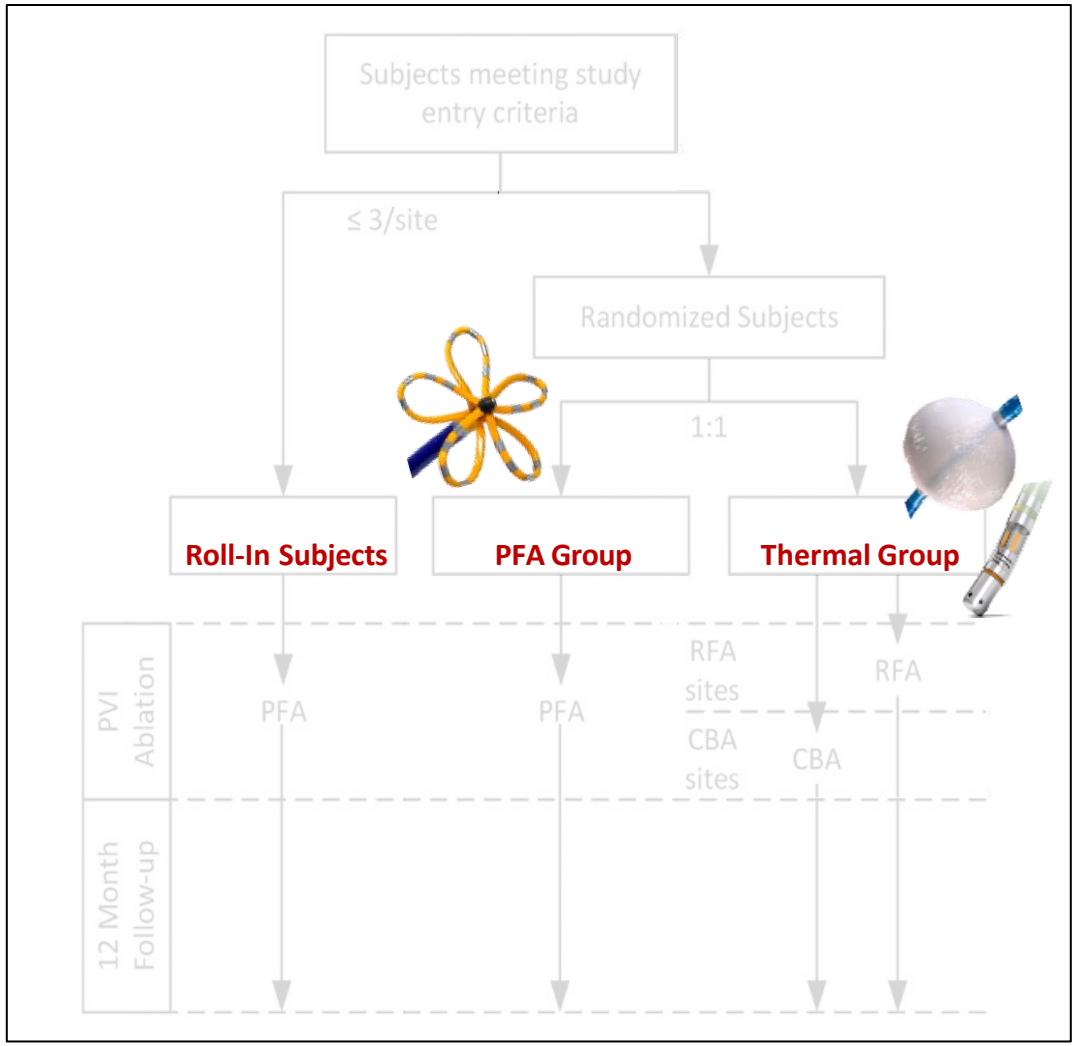
Jason T. Connor, PhD
John D. Day, MD
George Neal Kay, MD (Chair)
Eric N. Prystowsky, MD

Clinical Events Committee

Henry Hsia, MD
Daniel Lustgarten, MD, PhD (Chair)
Peter Zimetbaum, MD

ADVENT: Study Design

- Multicenter, prospective, **single-blind, non-inferiority,** randomized controlled trial
- **Objective:** Compare the effectiveness and safety of **PFA** to standard-of-care, **thermal ablation** using either force-sensing RF or cryoballoon ablation
- **Indication:** Drug-refractory (Class I-IV) paroxysmal AF
  - **Randomized 1:1 PFA to thermal**
  - Each center was assigned to either RF or Cryo as their control
- **Follow-up Duration: 12 months**
- **Follow-up Efficacy Assessments:**
  - 72-hr Holter at 6 and 12 months
  - Trans-telephonic ECG monitoring: Weekly & for Symptoms



Study Design - Endpoints

Effectiveness	Safety
Primary Endpoint Treatment success required both **acute procedural** and **chronic success** which includes: ○ Freedom from documented **AF, AFL, or AT ≥30s** ○ Freedom from **repeat ablation** for AF, AFL, or AT at any time ○ Freedom from **cardioversion** for AF, AFL, or AT ○ Freedom from use of **Class I or III AAD** after the blanking period ***or*** amiodarone at any time Tested for **non-inferiority** to thermal ablation	**Primary Endpoint** Composite of defined device- or procedure-related serious adverse events **(SAEs) occurring within 7 days** of the primary procedure and SAEs **(PV stenosis and atrio-esophageal fistula) out to 12 months** Tested for **non-inferiority** to thermal ablation
Secondary Endpoint Same as primary but tested for **superiority** to thermal ablation	**Secondary Endpoint** Change in aggregate **PV cross-sectional area** between baseline and 3 months compared between randomization groups Tested for **superiority** of PFA to thermal ablation

Comparison in efficacy of catheter ablation for elderly versus non-elderly patients with persistent atrial fibrillation

Y. Matsuoka[1], Y. Sotomi[1], S. Hikoso[1], D. Nakatani[1], K. Okada[1], T. Dohi[1], H. Kida[1], A. Sunaga[1], T. Sato[1], T. Kitamura[1], N. Tanaka[2], M. Masuda[3], T. Watanabe[4], K. Inoue[5], Y. Sakata[1]

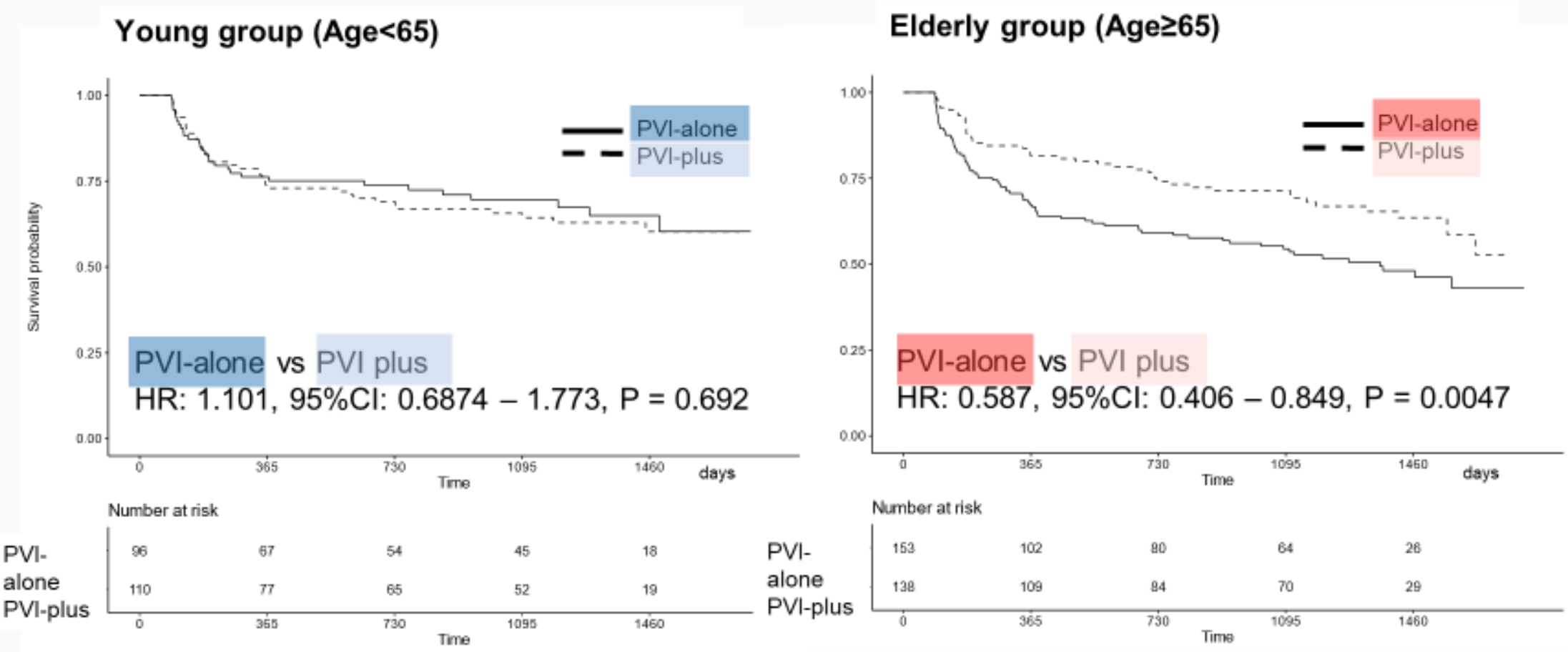
(1) Osaka University Graduate School of Medicine, Osaka, Japan (2) Sakurabashi-Watanabe Hospital, Osaka, Japan

(3) Kansai Rosai Hospital, Hyogo, Japan (4) Osaka General Medical Center, Osaka, Japan

(5) National Hospital Organization Osaka National Hospital, Osaka, Japan

26 August 2023

Primary endpoint (AF recurrence)



P for interaction 0.0411

- There were no fatal complications in this study.

HR: hazard ratio, CI: confidence interval

CASTLE-HTx

Catheter Ablation versus Medical Therapy to Treat Atrial Fibrillation in End-stage Heart Failure

Christian Sohns, Maximilian Mörsdorf, Harry Crijns,
Jan Tijssen and Philipp Sommer; for the CASTLE-HTx Investigators

Amsterdam, August 27th 2023

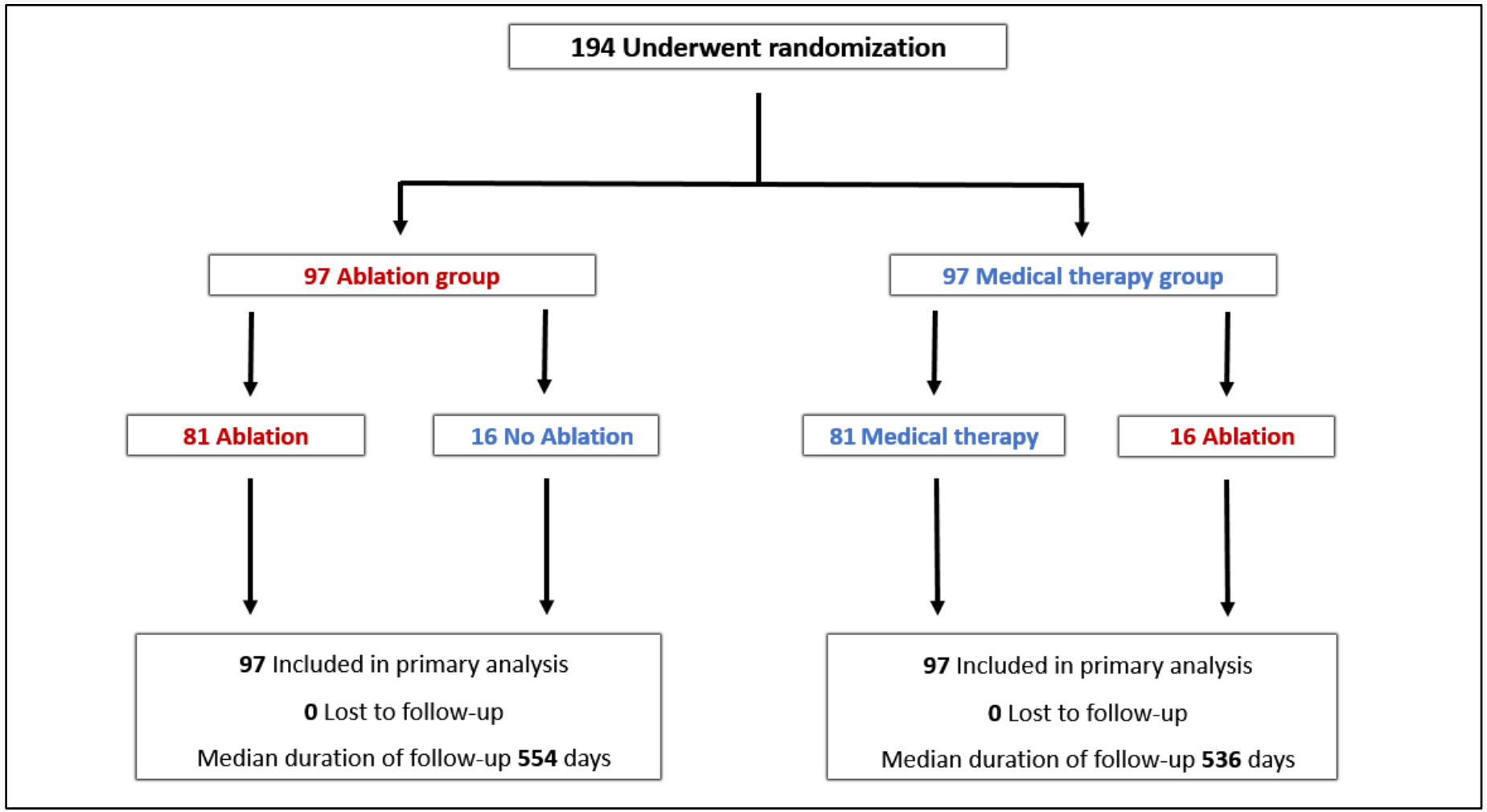
Hypothesis

Catheter ablation of atrial fibrillation is superior to medical treatment in patients with end-stage heart failure in terms of mortality, need for LVAD implantation, and urgent heart transplantation

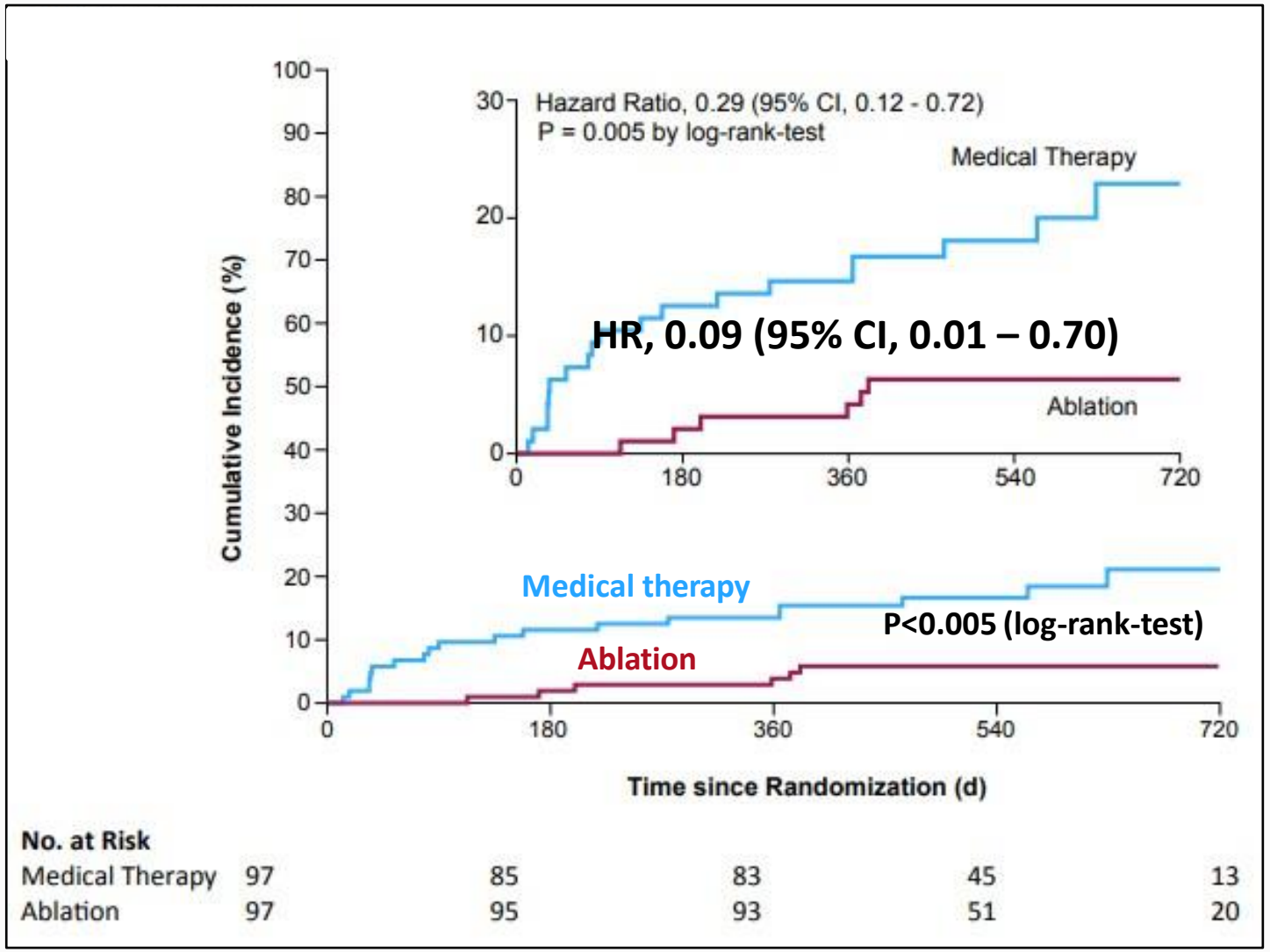
Early termination by May 15th 2023

- Approximately one year after enrollment was completed the DSMB recommended immediate cessation of the protocol-mandated medical-therapy arm
- We now report outcomes until May 15th 2023

Treatment


194 Underwent randomization
97 Ablation group
97 Medical therapy group
81 Ablation
16 No Ablation
81 Medical therapy
16 Ablation
97 Included in primary analysis
0 Lost to follow-up
Median duration of follow-up 554 days
97 Included in primary analysis
0 Lost to follow-up
Median duration of follow-up 536 days

Death from any cause

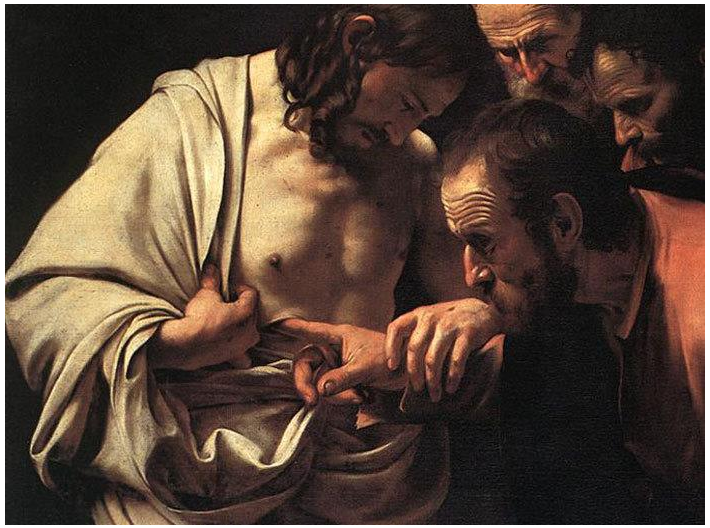


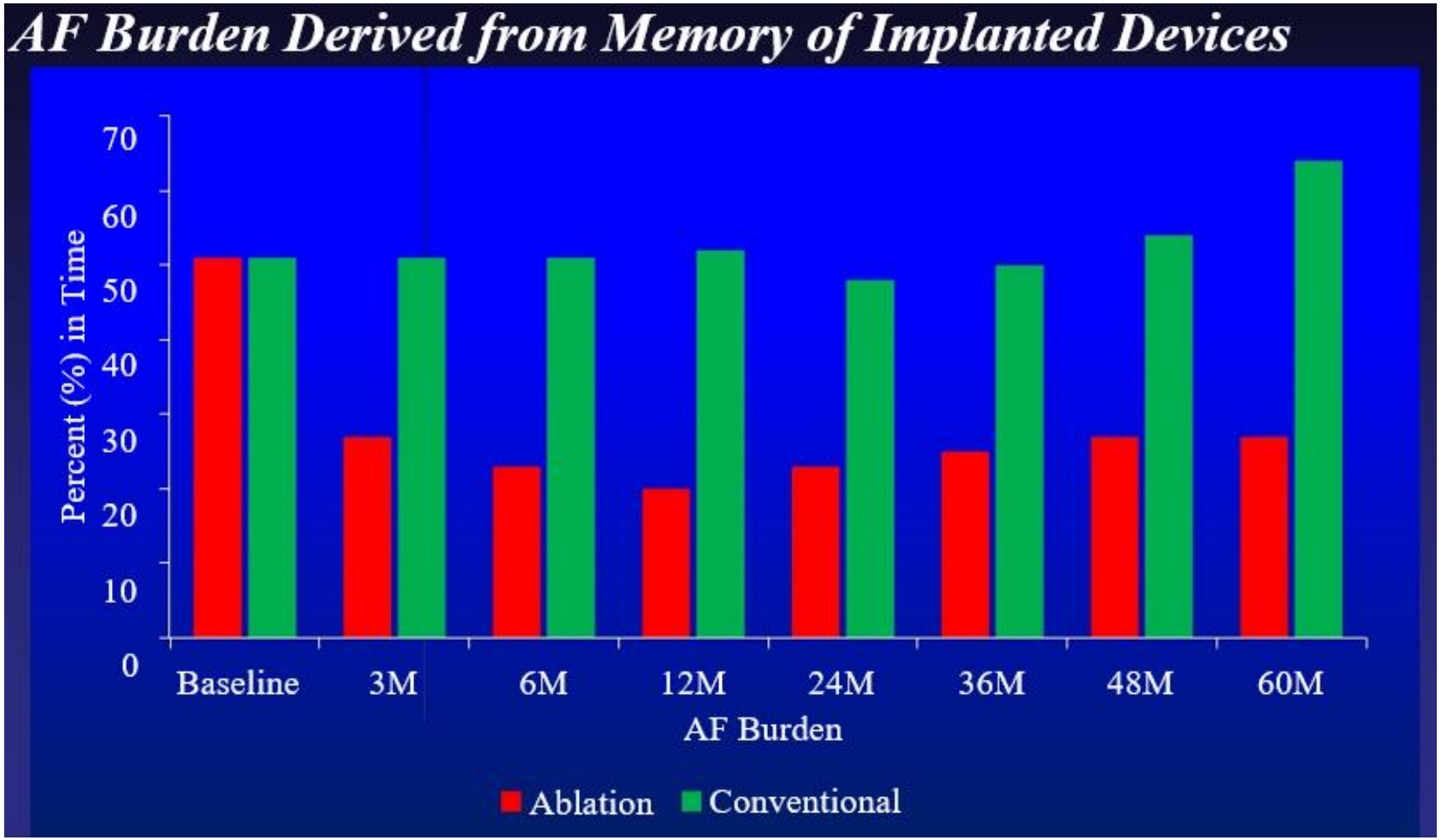
The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 FEBRUARY 1, 2018 VOL. 378 NO. 5

Catheter Ablation for Atrial Fibrillation with Heart Failure

«Άπιστος Θωμάς»
Michelangelo Merisi da Caravaggio
(1571–1610)





Marrouche H, et al. New Eng J Med 2018:378(5);417-427

Effect of Outcome Measures on the Apparent Efficacy of Ablation for Atrial Fibrillation: Why "Success" is an Inappropriate Term

200 patients with symptomatic AF, refractory to antiarrhythmic drugs (AADs)

1. **'Strict Endpoint'**: patients were considered to have a recurrence with any symptomatic or documented recurrence for ≥30 seconds with no blanking period, and off their AADs
2. **'Liberal Endpoint'**: only documented recurrences after the blanking period, either on or off AADs were counted
3. **'Patient-defined Outcome endpoint'** which was the same as the Liberal endpoint but allowed for up to two recurrences and one repeat ablation or DCCV during follow-up

We also surveyed 50 patients on the waiting list for an AF ablation and asked them key questions regarding what they would consider to be a successful result for them

Jackson N, et al. Heart, Lung and Circulation (2021)

Effect of Outcome Measures on the Apparent Efficacy of Ablation for Atrial Fibrillation: Why "Success" is an Inappropriate Term

Freedom from recurrence of atrial tachyarrhythmias (AT) at 5 years was **62% f**or the Strict Endpoint, **73%** for the Liberal Endpoint, and **80%** for the Patient-defined Outcome endpoint (p,0.001).

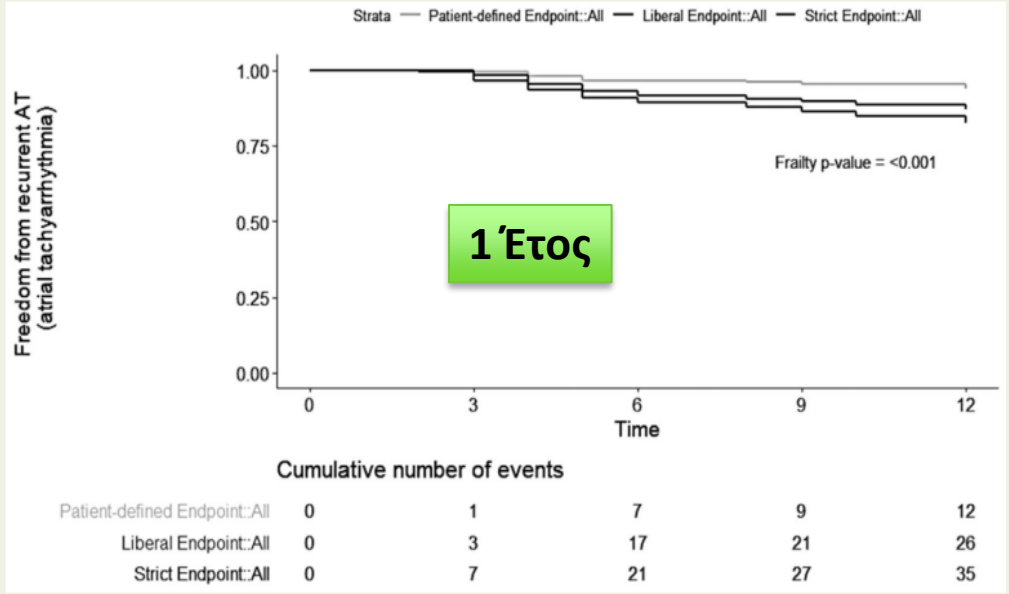


Figure 1 The survival free from atrial tachyarrhythmia recurrence according to the three definitions of success: Strict Outcome, Liberal Outcome and Patient-defined Outcome out to one year.

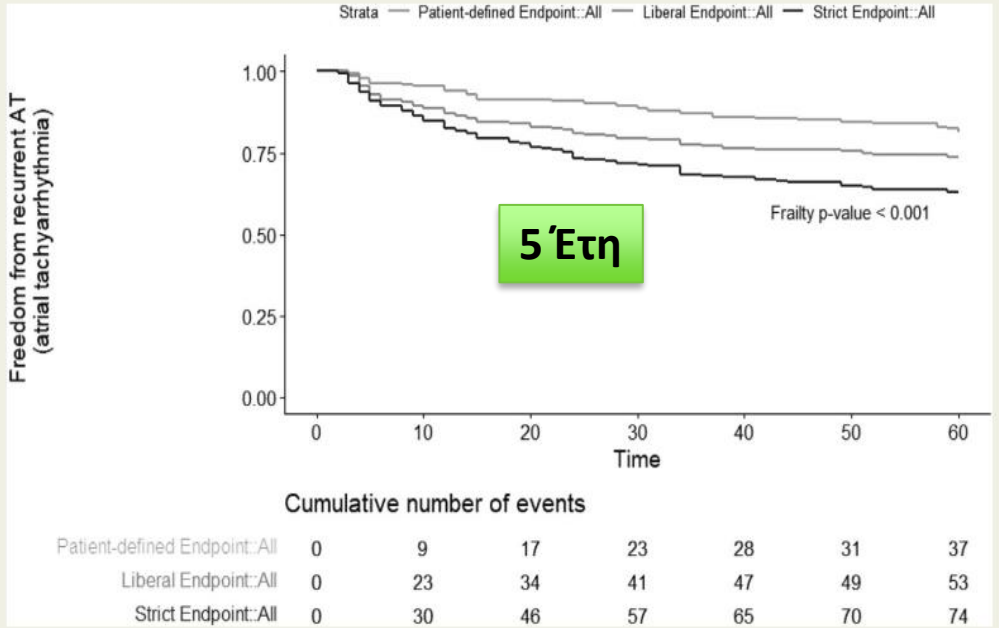


Figure 2 The survival free from atrial tachyarrhythmia recurrence according to the three definitions of success: Strict Outcome, Liberal Outcome and Patient-defined Outcome out to 5 years.

Jackson N, et al. Heart, Lung and Circulation (2021)

Effect of Outcome Measures on the Apparent Efficacy of Ablation for Atrial Fibrillation: Why "Success" is an Inappropriate Term

200 patients with symptomatic AF, refractory to antiarrhythmic drugs (AADs)

We also surveyed 50 patients on the waiting list for an AF ablation and asked them key questions regarding what they would consider to be a successful result for them

Results

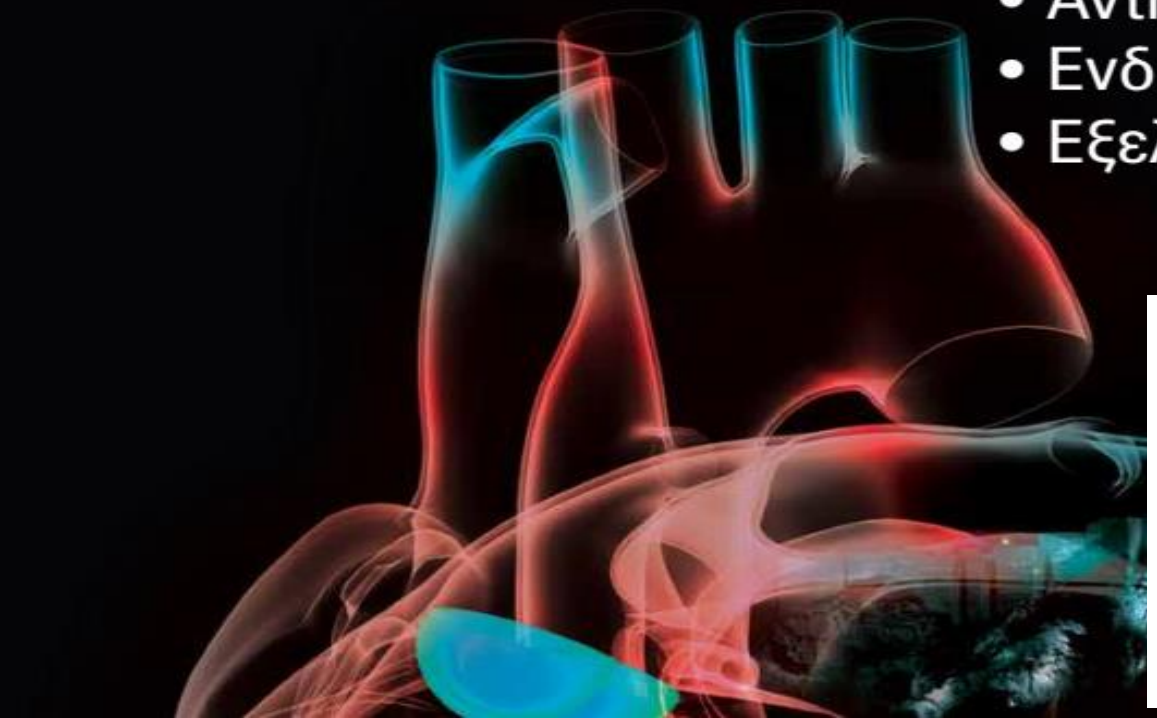
Freedom from recurrence of atrial tachyarrhythmias (AT) at 5 years was 62% for the Strict Endpoint, 73% for the Liberal Endpoint, and 80% for the Patient-defined Outcome endpoint ($p<0.001$). Of the 50 patients surveyed awaiting AF ablation, 70% said they would still consider the procedure a success if it required one repeat ablation or one DCCV ($p=0.004$), and 76% would be accepting of one or two recurrences during follow-up ($p<0.001$).

Jackson N, et al. Heart, Lung and Circulation (2021)

9ο WORKSHOP

Αρρυθμιών & Βηματοδότησης

- Ενδιαφέροντα ηλεκτροκαρδιογραφήματα
- Αντιπαραθέσεις
- Ενδιαφέροντα περιστατικά
- Εξελίξεις στην αντιμετώπιση των αρρυθμιών



SAVE THE DATE

9ο Workshop Αρρυθμιών & Βηματοδότησης

8 – 10 Δεκεμβρίου 2023 | Divani Caravel, Αθήνα