RHYTHM CONTROL VS RATE CONTROL NEL PAZIENTE ANZIANO CON FIBRILLAZIONE ATRIALE

Samuele Baldasseroni

RHYTHM CONTROL

vs

RATE CONTROL

BEL MATCH

Draw

Or

Split decision

…..Although neither ventricular rate nor rhythm control has been established as superior,…

Rate control is background treatment for all patients with atrial fibrillation, including those receiving treatment with a rhythm control strategy…….

…….rhythm control is an important strategy to improve symptoms, functional status, and quality of life in patients with atrial fibrillation

LANCET-Atrial fibrillation SERIES 2016

AGENDA

A. Cosa ci dicono le Linee Guida.

B. Qual è l obiettivo della nostra scelta terapeutica.

- ✓ **Ridurre mortalità e stroke**
- ✓ **Controllare sintomi e migliorare qualità della vita**

C. Relazione con fragilità e declino cognitivo

2020 ESC Guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the European Association for Cardio-Thoracic Surgery (EACTS)

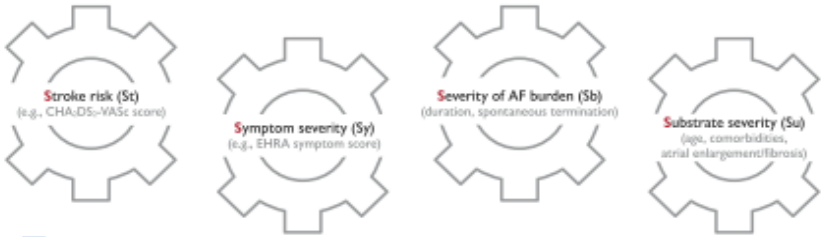
The Task Force for the diagnosis and management of atrial fibrillation of the European Society of Cardiology (ESC)

CC To ABC

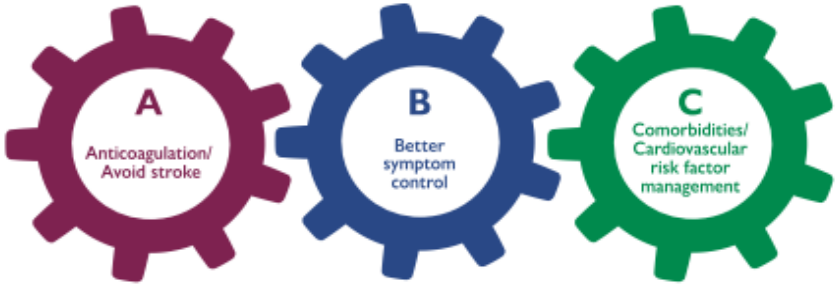
Confirm AF

A 12-lead ECG or a rhythm strip showing AF pattern for ≥30 s

Characterise AF (the 4S-AF scheme)



Treat AF: The ABC pathway



1. Identify low-risk patients CHA_2DS_2-VASc 0(m), 1(f)
2. Offer stroke prevention if CHA_2DS_2VASc ≥1(m), 2(f)

Assess bleeding risk, address modifiable bleeding risk factors

3. Choose OAC (NOAC or VKA with well-managed TTR)

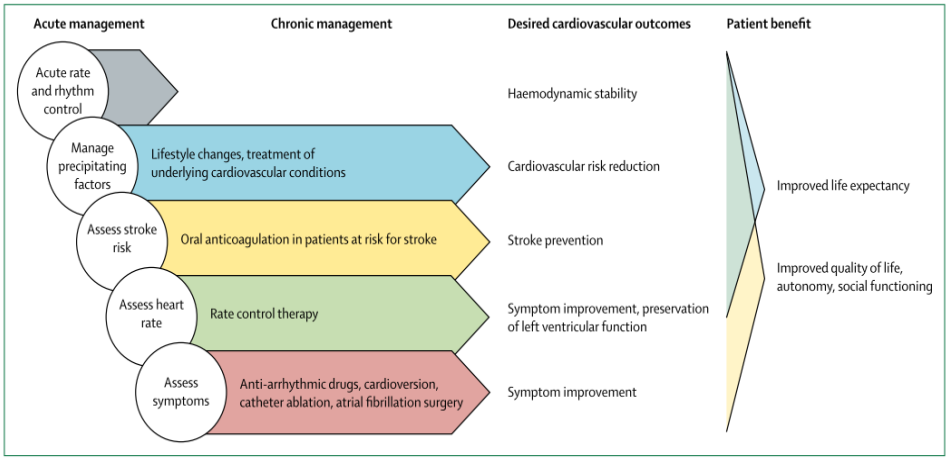
Assess symptoms, QoL and patient's preferences

Optimize rate control

Consider a rhythm control strategy (CV, AADs, ablation)

Comorbidities and cardiovascular risk factors

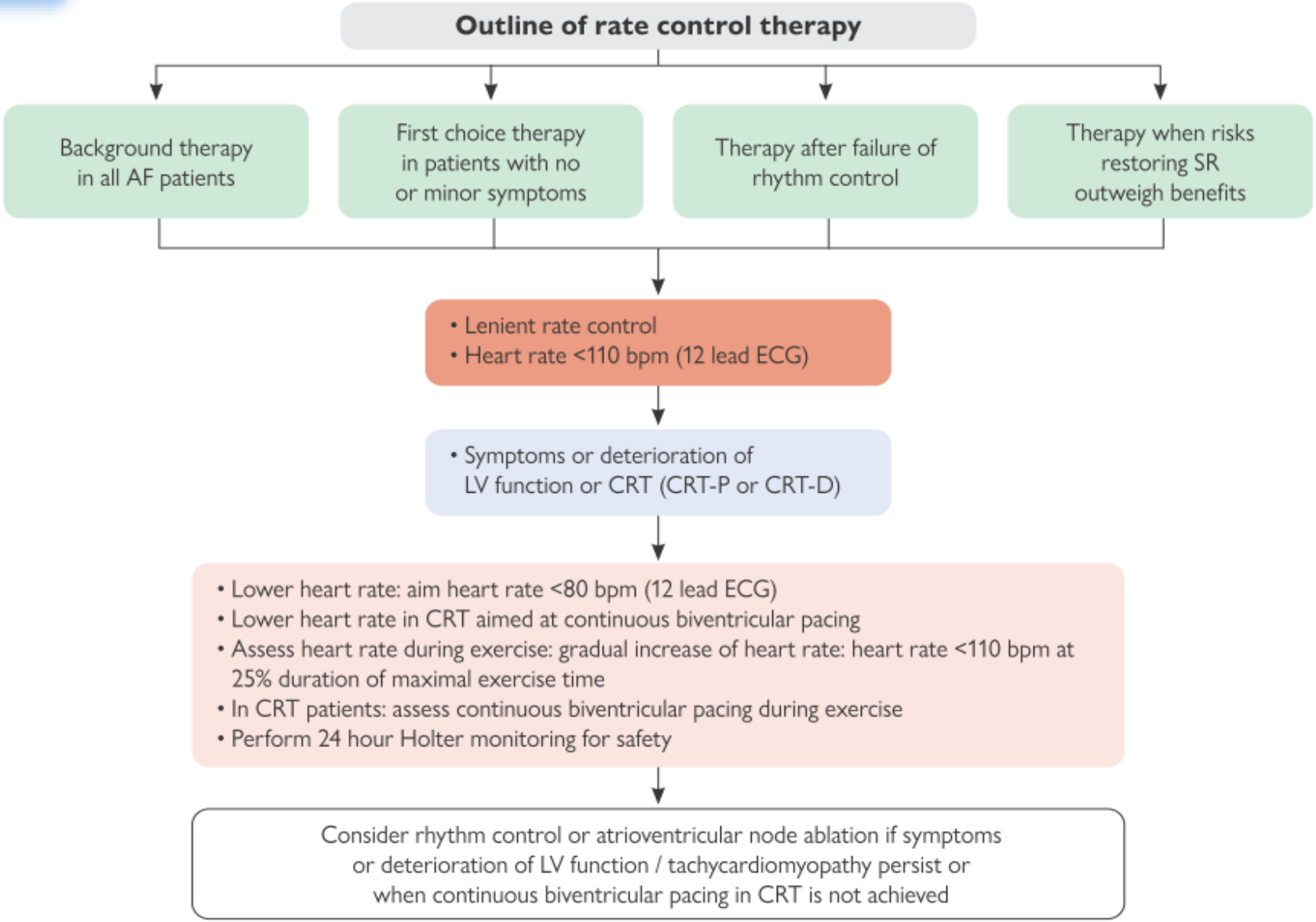
Lifestyle changes (obesity reduction, regular exercise, reduction of alcohol use, etc.)



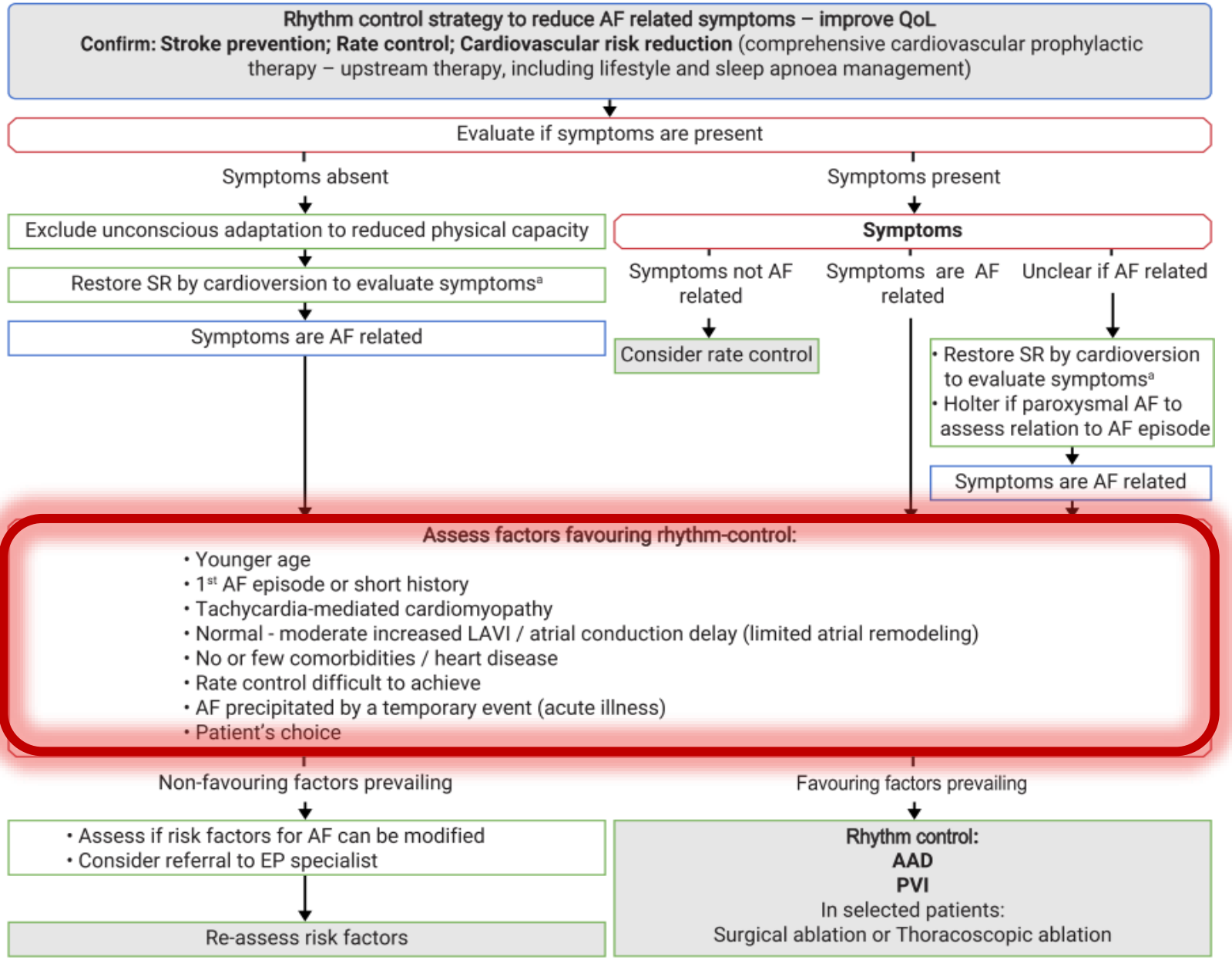
19. Gaps in evidence

The arrhythmia phenotype may differ among patients. Improved assessment of the pathophysiological process involved in the individual patient by using clinical characteristics, blood biomarkers, and non-invasive substrate determination (echo/MRI/CT) may improve personalized therapy (e.g. selection of rhythm control, yes or no; treatment of risk factors and comorbidities; type of antiarrhythmic drug; atrialablation; and which type/techniques used forAF)

LG: indicazione a Rate-control……



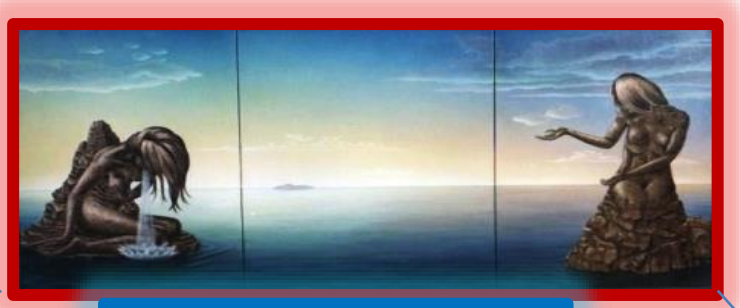
LG: indicazione a Rythm-control……



B

Outcomes primari: mortalità totale, cardiovascolare..

Scilla



Cariddi

2002

2020

AFFIRM study

…. Management of atrial fibrillation with the rhythm-control strategy offers **no survival advantage over the rate-control** strategy, and there are po tential advantages, such as a lower risk of adverse drug effects, with the rate-control strategy…

EAST-AFNET 4 Trial

…. **Early** rhythm-control therapy was associated with **a lower risk of adverse cardiovascular outcomes** than usual care among patients with **EARLY** atrial fibrillation and cardiovascular conditions….

The New England
Journal of Medicine

VOLUME 347 DECEMBER 5, 2002 NUMBER 23

A COMPARISON OF RATE CONTROL AND RHYTHM CONTROL IN PATIENTS WITH ATRIAL FIBRILLATION

THE ATRIAL FIBRILLATION FOLLOW-UP INVESTIGATION OF RHYTHM MANAGEMENT (AFFIRM) INVESTIGATORS*

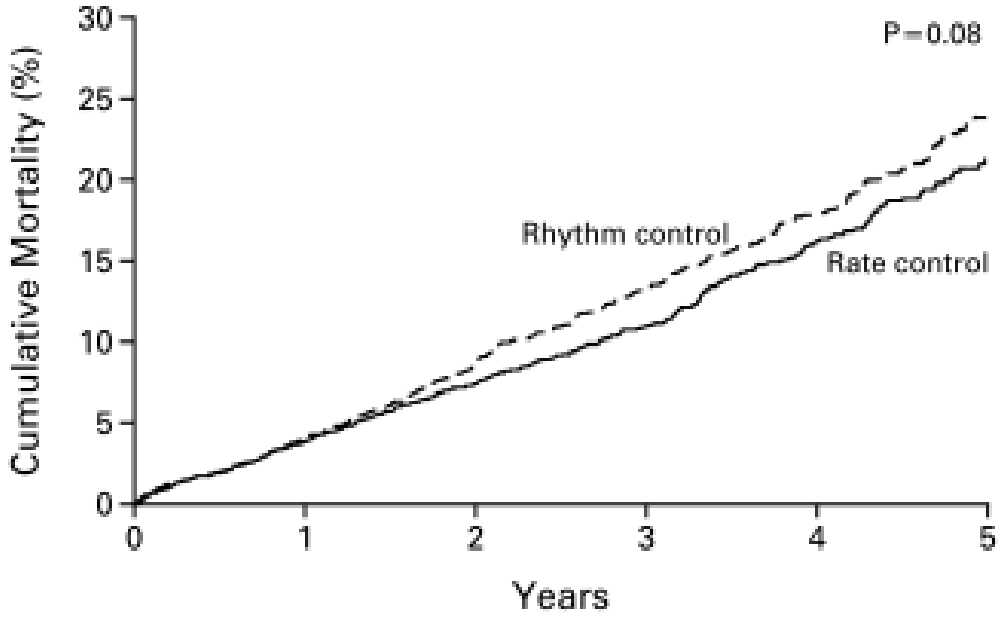


TABLE 1. BASE-LINE CHARACTERISTICS OF THE PATIENTS.*

CHARACTERISTIC	OVERALL (N=4060)	RATE-CONTROL GROUP (N=2027)	RHYTHM-CONTROL GROUP (N=2033)	P VALUE
Age — yr	69.7±9.0	69.8±8.9	69.7±9.0	0.82

TABLE 2. DRUGS USED IN THE RATE-CONTROL GROUP AND THE RHYTHM-CONTROL GROUP.*

DRUG	RATE-CONTROL GROUP		RHYTHM-CONTROL GROUP	
	USED DRUG FOR INITIAL THERAPY	USED DRUG AT ANY TIME	USED DRUG FOR INITIAL THERAPY	USED DRUG AT ANY TIME
	no. of patients (%)			
Rate control				
Data available	1957	2027	1266	2033
Digoxin	949 (48.5)	1432 (70.6)	417 (32.9)	1106 (54.4)
Beta-blocker	915 (46.8)	1380 (68.1)	276 (21.8)	1008 (49.6)
Diltiazem	583 (29.8)	935 (46.1)	198 (15.6)	610 (30.0)
Verapamil	187 (9.6)	340 (16.8)	56 (4.4)	204 (10.0)
Rhythm control				
Data available	1265	2027	1960	2033
Amiodarone	2 (0.2)†	207 (10.2)	735 (37.5)	1277 (62.8)
Sotalol	1 (0.1)†	84 (4.1)	612 (31.2)	841 (41.4)
Propafenone	2 (0.2)†	45 (2.2)	183 (9.3)	294 (14.5)
Procainamide	0	30 (1.5)	103 (5.3)	173 (8.5)
Quinidine	2 (0.2)†	14 (0.7)	92 (4.7)	151 (7.4)
Flecainide	0	29 (1.4)	88 (4.5)	169 (8.3)
Disopyramide	0	7 (0.3)	42 (2.1)	87 (4.3)
Moricizine	0	2 (0.1)	14 (0.7)	35 (1.7)
Dofetilide	0	5 (0.2)	0	13 (0.6)

Primary end point (death)	666 (26.3)	310 (25.9)	356 (26.7)	0.08†
Secondary end point (composite of death, disabling stroke, disabling anoxic encephalopathy, major bleeding, and cardiac arrest)	861 (32.3)	416 (32.7)	445 (32.0)	0.33

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 OCTOBER 1, 2020 VOL. 383 NO. 14

Early Rhythm-Control Therapy in Patients with Atrial Fibrillation

P. Kirchhof, A.J. Camm, A. Goette, A. Brandes, L. Eckardt, A. Elvan, T. Fetsch, I.C. van Gelder, D. Haase, L.M. Haegeli, F. Hamann, H. Heidbüchel, G. Hindricks, J. Kautzner, K.-H. Kuck, L. Mont, G.A. Ng, J. Rekosz, N. Schoen, U. Schotten, A. Suling, J. Taggeselle, S. Themistoclakis, E. Vettorazzi, P. Vardas, K. Wegscheider, S. Willems, H.J.G.M. Crijns, and G. Breithardt, for the EAST-AFNET 4 Trial Investigators*

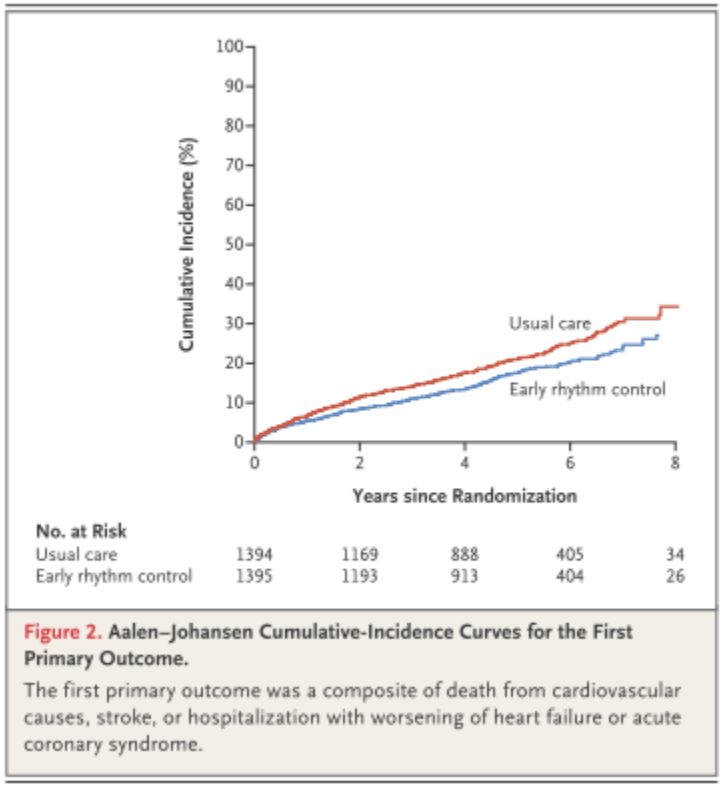


Figure 2. Aalen–Johansen Cumulative-Incidence Curves for the First Primary Outcome.

The first primary outcome was a composite of death from cardiovascular causes, stroke, or hospitalization with worsening of heart failure or acute coronary syndrome.

Characteristic	Early Rhythm Control (N=1395)	Usual Care (N=1394)
Age — yr	70.2±8.4	70.4±8.2

Patients were enrolled a median of 36 days (interquartile range, 6 to 112) after the first diagnosis of atrial fibrillation.

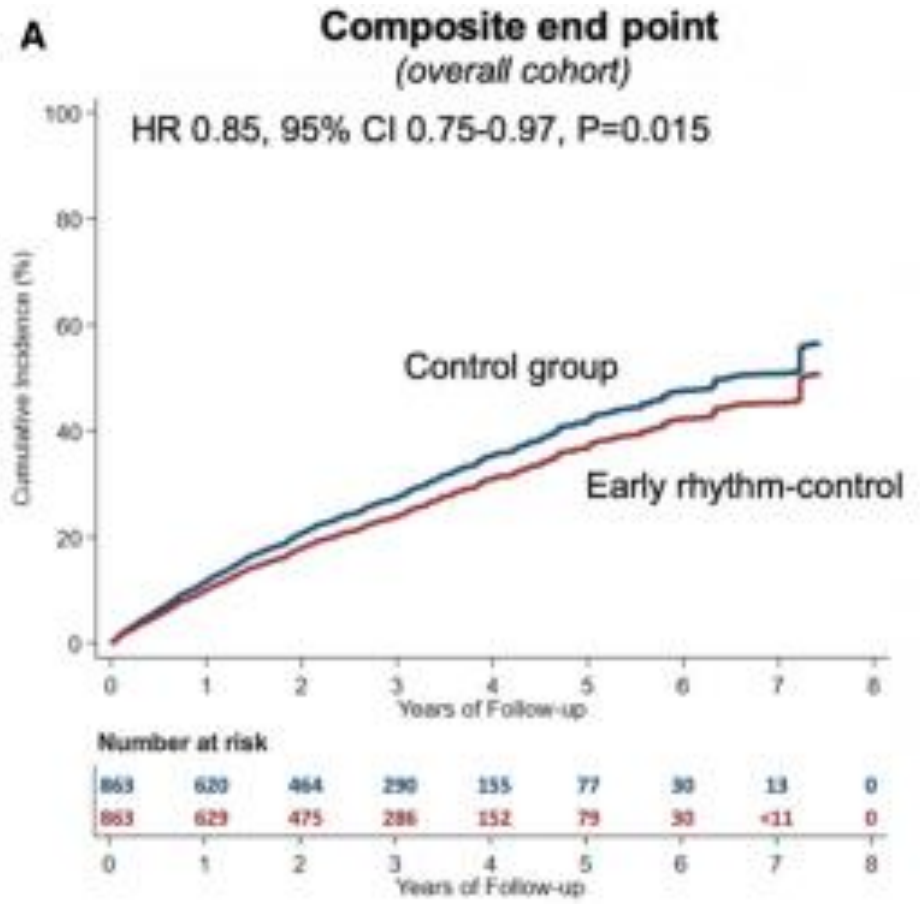
….Early rhythm control required antiarrhythmic drugs or atrial fibrillation ablation, as well as cardioversion of persistent atrial fibrillation……,

….Early rhythm-control therapy was associated with a lower risk of adverse cardiovascular outcomes than usual care among patients with early atrial fibrillation and cardiovascular conditions….

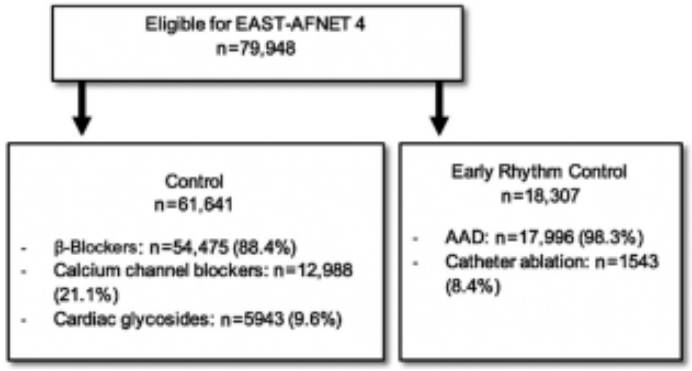
ORIGINAL RESEARCH

Generalizability of the EAST-AFNET 4 Trial: Assessing Outcomes of Early Rhythm-Control Therapy in Patients With Atrial Fibrillation

Jannis Dickow, MD; Paulus Kirchhof, MD; Holly K. Van Houten, BA; Lindsey R. Sangaralingham, MPH; Leon H. W. Dinshaw, MD; Paul A. Friedman, MD; Douglas L. Packer, MD; Peter A. Noseworthy, MD; Xiaoxi Yao, PhD, MPH



Using a US administrative database, we identified 109 739 patients with newly diagnosed AF during the enrollment period of **EAST- AFNET 4**.



Età 70±12 yrs

Età 75+= 43.6%

CONCLUSIONS

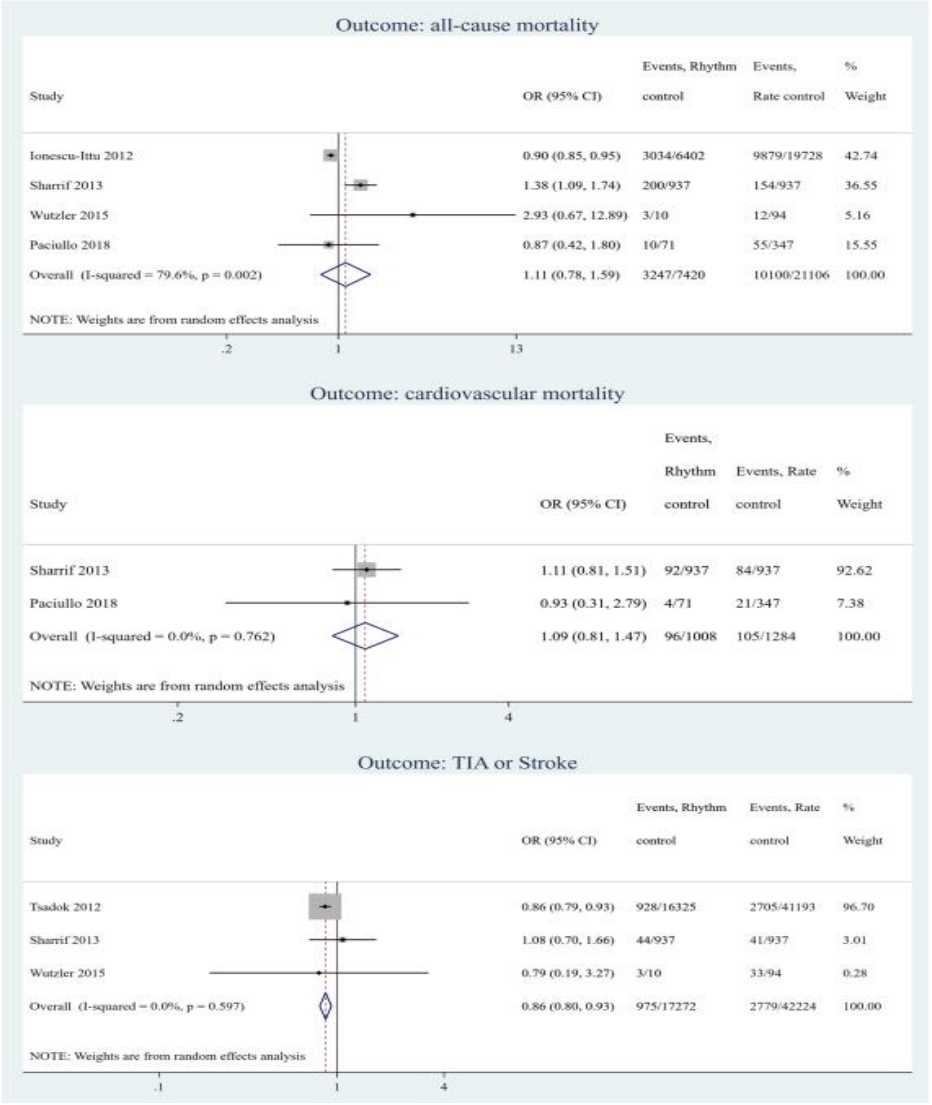
In this large routine-care data set, three quarters of patients with new-onset AF would be eligible for early rhythm control as tested in EAST-AFNET 4. ERC was associated with lower rates of a composite of stroke, death, and hospitalization for HF or MI. Our data support the routine initiation of ERC as part of the management of patients with recently diagnosed AF.

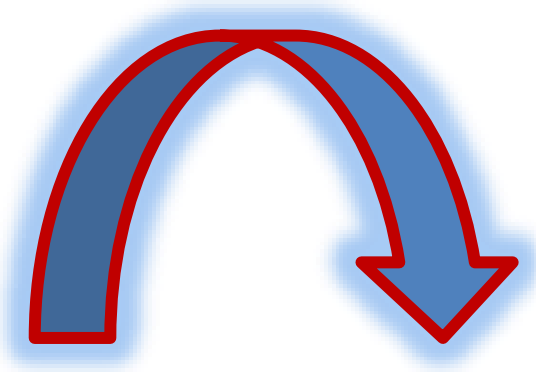
Drugs & Aging (2020) 37:19–26
https://doi.org/10.1007/s40266-019-00722-4

SYSTEMATIC REVIEW

Clinical Outcomes of Rate vs Rhythm Control for Atrial Fibrillation in Older People: A Systematic Review and Meta-Analysis

Laurence Depoorter[1] · Liza Sels[1] · Mieke Deschodt[2,3] · Bastiaan Van Grootven[4,5] · Lorenz Van der Linden[6,7] · Jos Tournoy[1,2]





2020

Key Points

Our meta-analysis found no differences in all-cause mortality and cardiovascular mortality between rhythm and rate control strategies in older patients with atrial fibrillation (AF).

Rhythm control was associated with fewer strokes than was rate control in the meta-analysis. However, this result was because of the effects observed in one large observational study and remains to be confirmed by randomized controlled trials.

Randomized controlled trial data are lacking as to whether rate or rhythm control should be preferred in terms of the clinical outcomes of patients aged ≥ 75 years with AF.

Drug safety profiles and patient preferences should largely determine the treatment strategy used in older adults with AF.

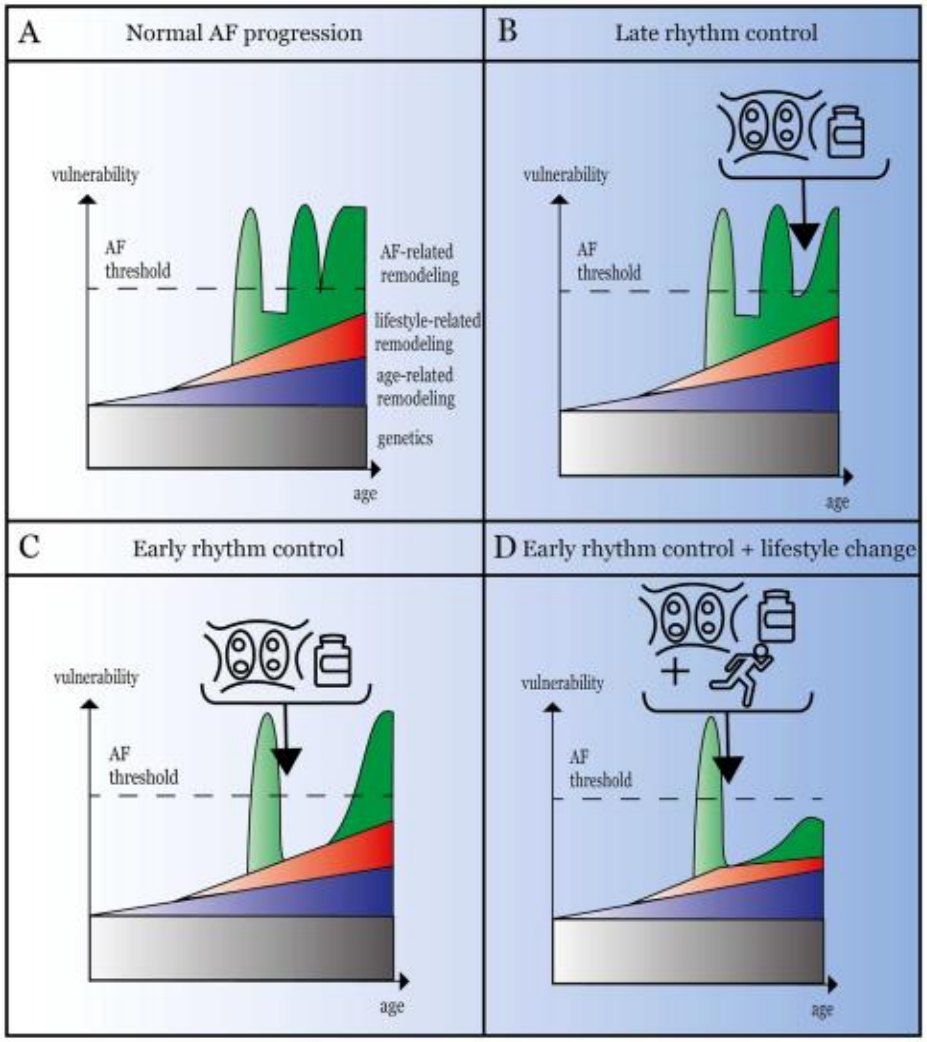
Contents lists available at ScienceDirect

Trends in Cardiovascular Medicine

journal homepage: www.elsevier.com/locate/tcm

Benefits of early rhythm control of atrial fibrillation

L. Eckardt[a,b,*], J. Wolfes[a,b], G. Frommeyer[a,b]



The core problem in the management of AF remains the lack of understanding individual AF mechanisms and sequelae.

In selected patients, early rhythm management may be beneficial for prevention of severe cardiovascular events.

Patients with ERC may undergo less negative atrial remodeling compared to those with rate control.

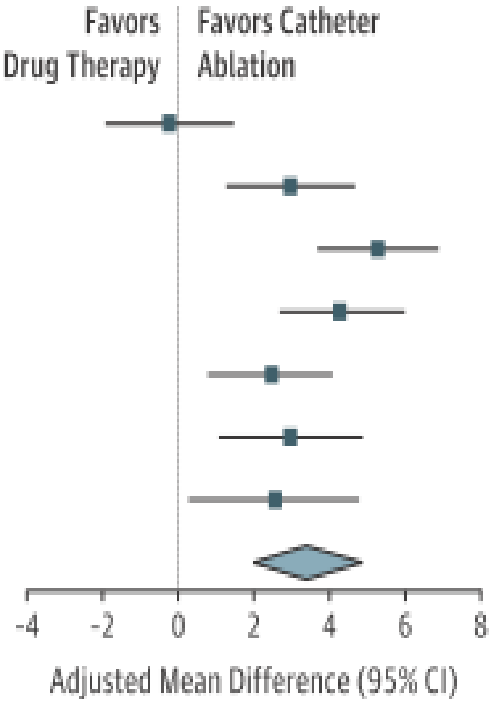
Based on these results, clinicians implementing ERC should aim for early and sustained restoration of sinus rhythm in patients with recently diagnosed AF and cardiovascular comorbidities

JAMA | Original Investigation

Effect of Catheter Ablation vs Medical Therapy on Quality of Life Among Patients With Atrial Fibrillation
The CABANA Randomized Clinical Trial

B Between-group AFEQT summary score difference

Interval, mo	No. of Patients Ablation (n = 1108)	No. of Patients Drug Rx (n = 1096)	Adjusted Mean Difference (95% CI)
Baseline	1084	1078	-0.2 (-1.9 to 1.5)
3	971	983	3.0 (1.3 to 4.7)
12	915	903	5.3 (3.7 to 6.9
24	856	798	4.3 (2.7 to 6.0)
36	645	605	2.5 (0.8 to 4.1)
48	476	473	3.0 (1.1 to 4.9)
60	329	320	2.6 (0.3 to 4.8)
All	4192	4082	3.4 (2.1 to 4.8)



JAMA 2019

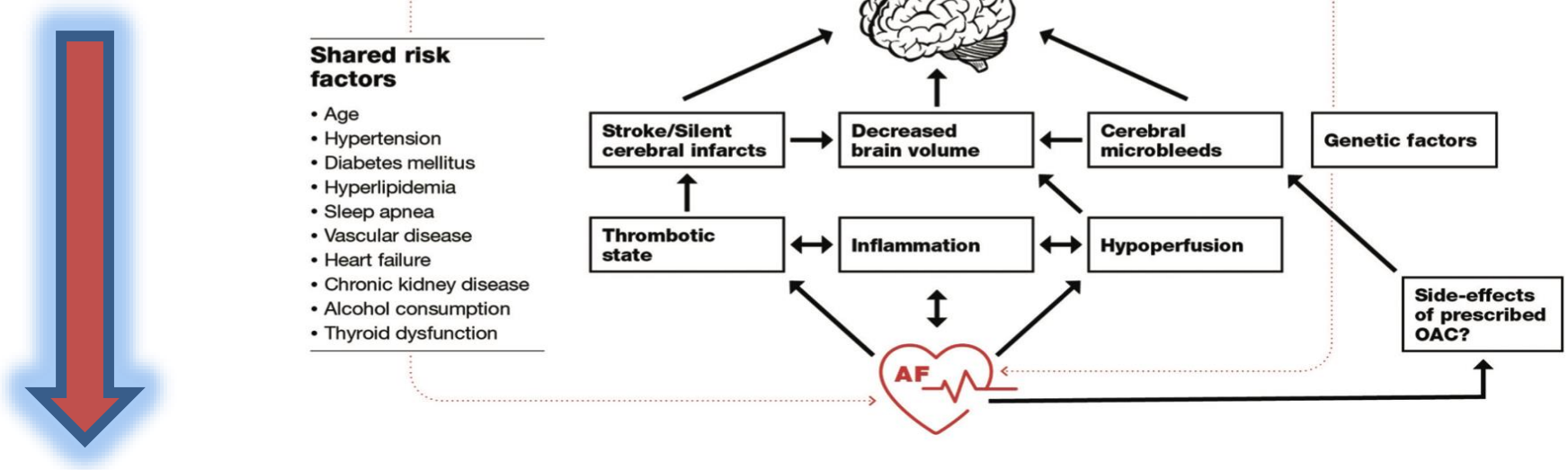
CONCLUSIONS AND RELEVANCE

Among patients with **symptomatic** atrial fibrillation, **catheter ablation, compared with medical therapy, led to clinically important and significant improvements in quality of life at 12 months.** These findings can help guide decisions regarding management of atrial fibrillation.

DECLINO COGNITIVO

Rivard L,
Circulation 2022

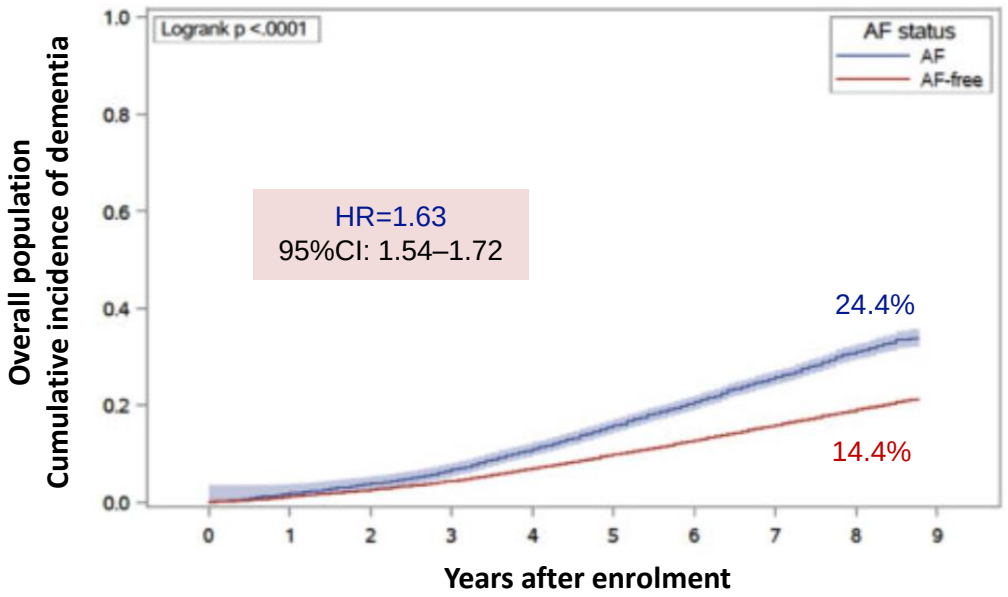
Atrial Fibrillation and Dementia: A Report From the AF-SCREEN International Collaboration



Risk of dementia in stroke-free patients diagnosed with atrial fibrillation: data from a population-based cohort

Incidence of dementia in the overall population of the Korean NHIS-Senior. 2005-13

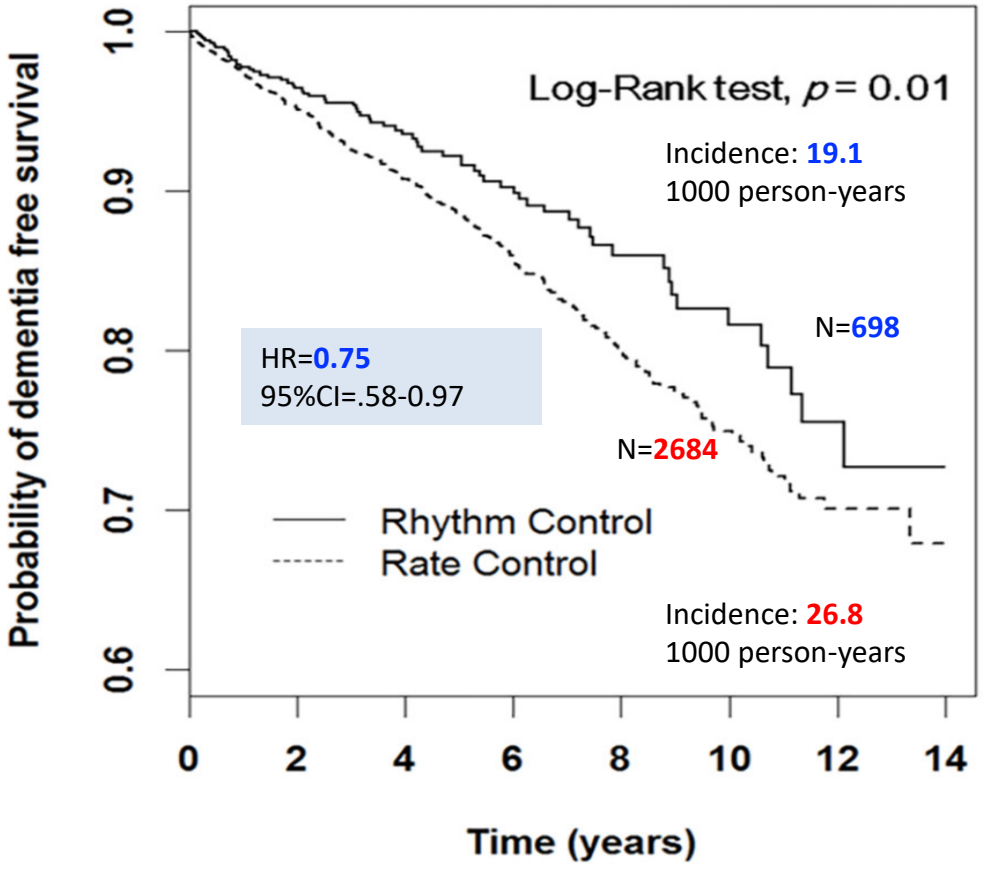
71/72 years,
FU: 85/86 m



Article

Rhythm Control Better Prevents Dementia than Rate Control Strategies in Patients with Atrial Fibrillation—A Nationwide Cohort Study

Kaplan–Meier survival curves for dementia outcomes in AF patients receiving rate and rhythm-control strategies (Rhythm/Rate - Age: 75/76 years;1999-2013; FU: 4.9 years; the National Health Insurance Research Database, Taiwan)

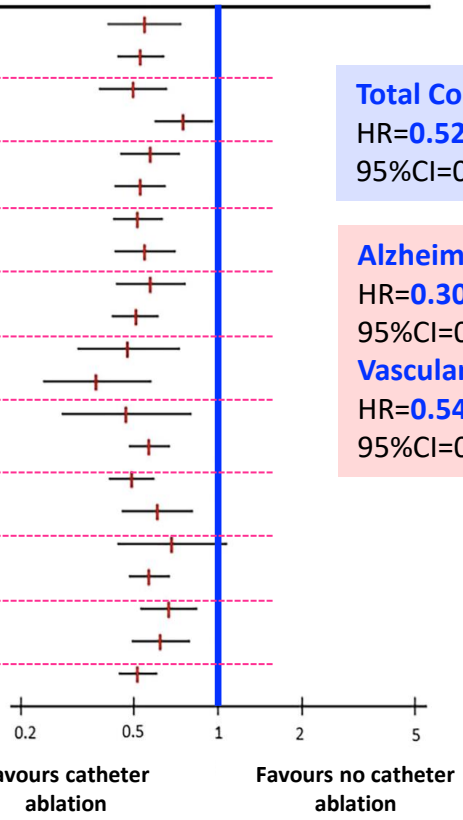


Lin J-C, 2022

Catheter ablation and lower risk of incident dementia and mortality in older adults with atrial fibrillation

Associations between catheter ablation and risk of dementia in the TriNetX Network after PSM (Catheter Ablation Yes/No – N=20746/20746; Age: 68 years; Men: 59%; FU: 5 years)

Characteristic	Total number of patients after PSM	Hazard Ratio (95% CI)
Age 65-79 years	23,230	0.55 [0.41, 0.74]
Age ≥80 years	18,254	0.53 [0.44, 0.64]
Paroxysmal AF	8,198	0.50 [0.38, 0.66]
Non-paroxysmal AF	10,966	0.75 [0.59, 0.95]
No CKD	25,068	0.57 [0.45, 0.73]
CKD	16,424	0.53 [0.43, 0.65]
No diabetes	27,076	0.52 [0.43, 0.64]
Diabetes	14,416	0.55 [0.43, 0.70]
No heart failure	18,478	0.58 [0.44, 0.76]
Heart failure	23,010	0.51 [0.42, 0.61]
HFpEF	5,240	0.48 [0.32, 0.73]
HFrEF	8,126	0.37 [0.24, 0.58]
No hypertension	7,112	0.47 [0.28, 0.80]
Hypertension	34,374	0.57 [0.48, 0.67]
No ischaemic stroke	36,464	0.49 [0.41, 0.59]
Ischaemic stroke	5,028	0.61 [0.46, 0.81]
No OACs during follow-up	4,946	0.69 [0.44, 1.07]
OACs during follow-up	36,544	0.57 [0.48, 0.67]
Female	16,914	0.67 [0.53, 0.84]
Male	24,538	0.63 [0.50, 0.79]
Total cohort age ≥65 years	41,492	0.52 [0.45, 0.61]



Total Cohort ≥65
HR=**0.52**
95%CI=0.45-0.61

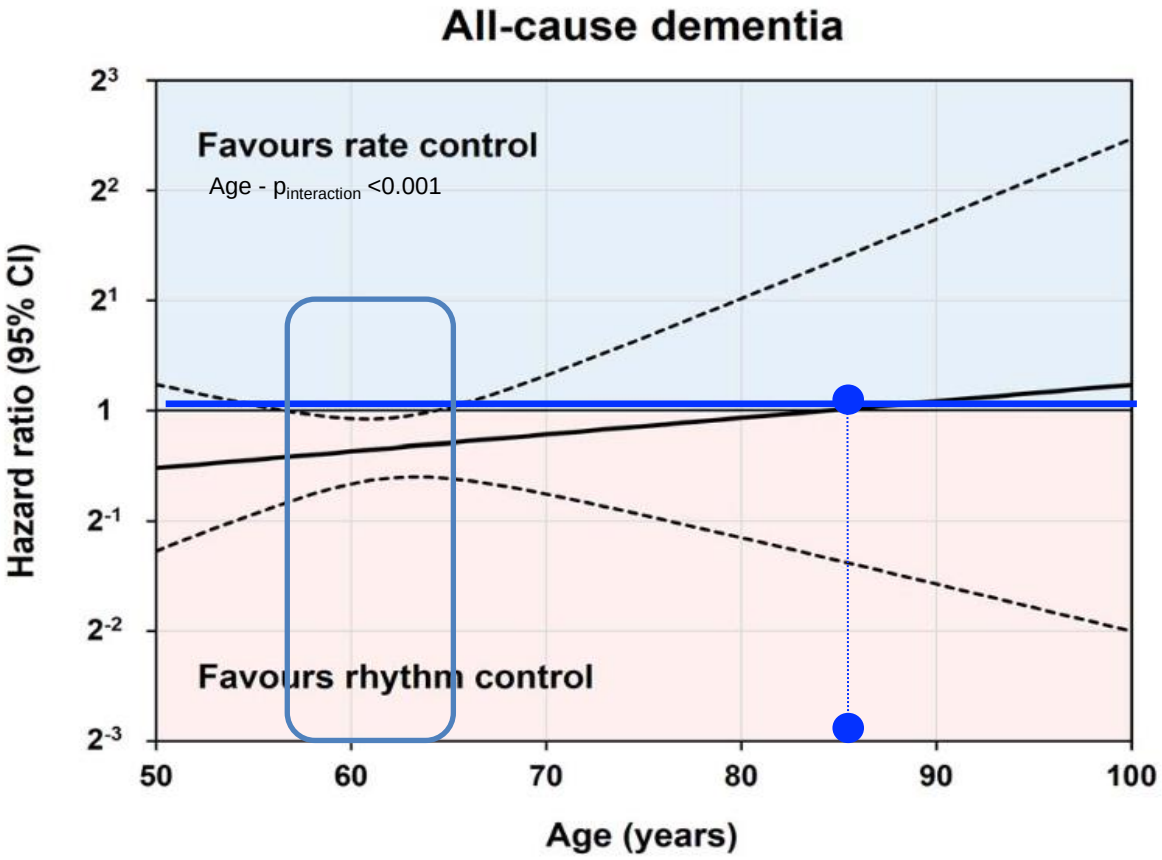
Alzheimer
HR=**0.30**
95%CI=0.19-0.45

Vascular
HR=**0.54**
95%CI=0.35-0.82

Harrison SL, JAGS, 2023

Association of rhythm control with incident dementia among patients with atrial fibrillation: a nationwide population-based cohort study

Relation between age at treatment initiation and risk of dementia for rhythm-control or rate-control among the NHIS participants



The relation is more pronounced if:
No Heart Failure – $p_{interaction}$=0.036
Lower CHA_2DS_2-VASc - $p_{interaction}$ <0.001

Kim D, Age and Ageing 2022

FRAILTY

Impact of frailty on early rhythm control outcomes in older adults with atrial fibrillation: A nationwide cohort study

Weighted cumulative incidence curves for primary composite outcome by frail status

In the present study, we conducted a stratified analysis according to frailty, and the main finding were that, compared to early rate-control treatment, early rhythm-control treatment among non-frail patients with AF was related to a 14% decreased risk (absolute decrease in risk: 1.4 events per 100 person-years) in primary efficacy composite outcomes without an increased risk of safety outcomes……. Further, although statistical significance was decreased, a consistent trend toward a lower risk of early rhythm-control was seen in the moderately frail

A composite of death from CV causes, ischemic stroke, hospitalization for heart failure, or acute MI

P for interaction = 0.180

Yu G-I, Front Cardiovasc Med 2023

Riflessione finale

AF is too complex for a **"one intervention fits all"** strategy irrespective of the clinical history….

Careful balance of the expected effectiveness and safety as well as health-care resources is required…

Though catheter ablation may be the single best ther- apy for rhythm-control **resources do not allow it to be used for all AF patients**……

Rate control will continue to be **an important part** in the management of AF……

Further information **to select patients** who will benefit from early catheter ablation or antiarrhythmic drugs is warranted.

TRIELLO più che un DUELLO nel prossimo futuro?

Catether ablation

Antiarrhythmic drugs

Rate control drugs