

Heart Rhythm Congress

Birmingham, October 5th, 2010

Motion:

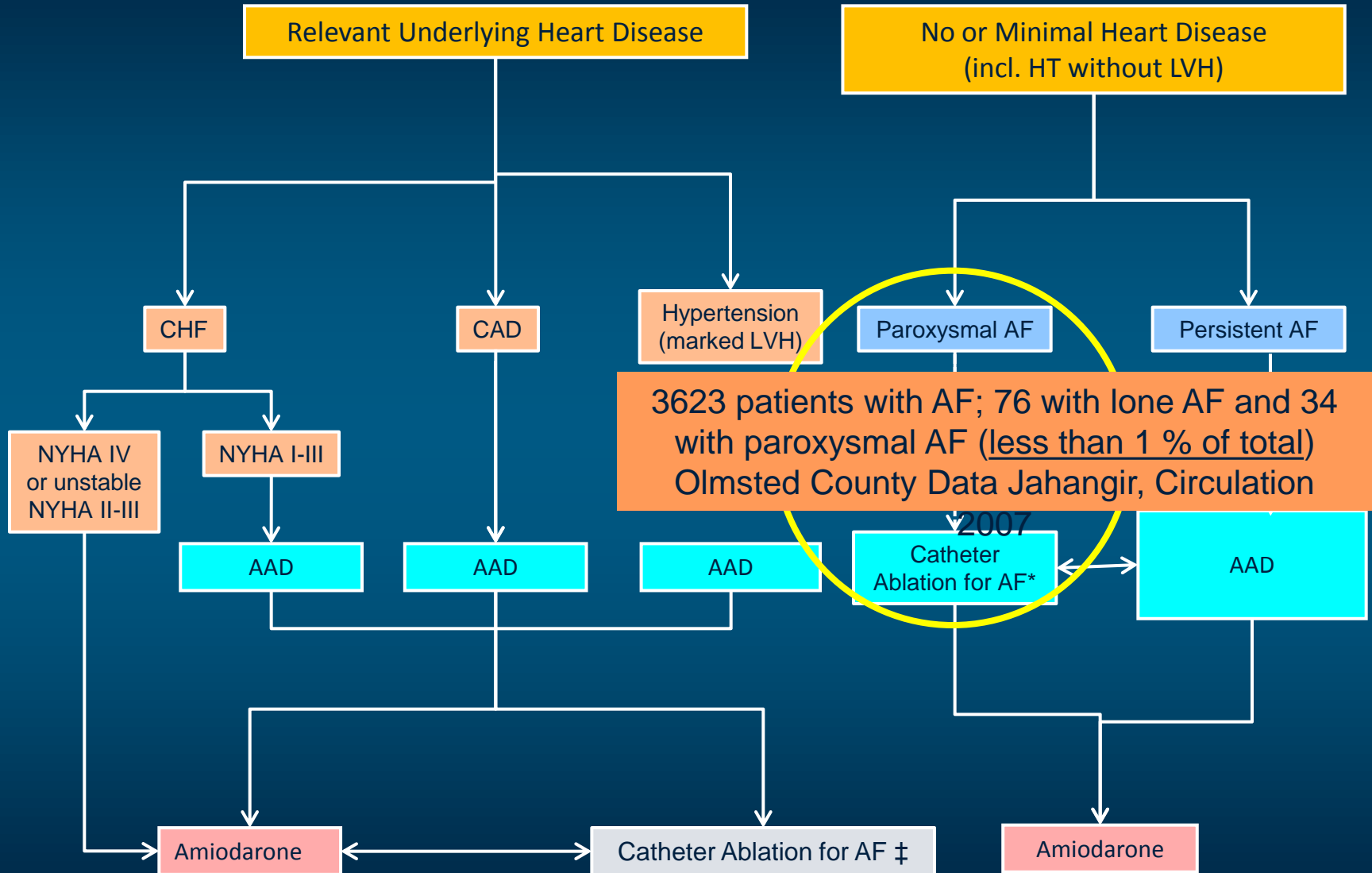
**Left Atrial Ablation will be
First Line Therapy for Most
Patients within Five Years**

Contra:

John Camm, St. George's University of London
United Kingdom



ESC 2010 AF Guidelines – Ablation for AF



‡ = more extensive LA ablation may be needed

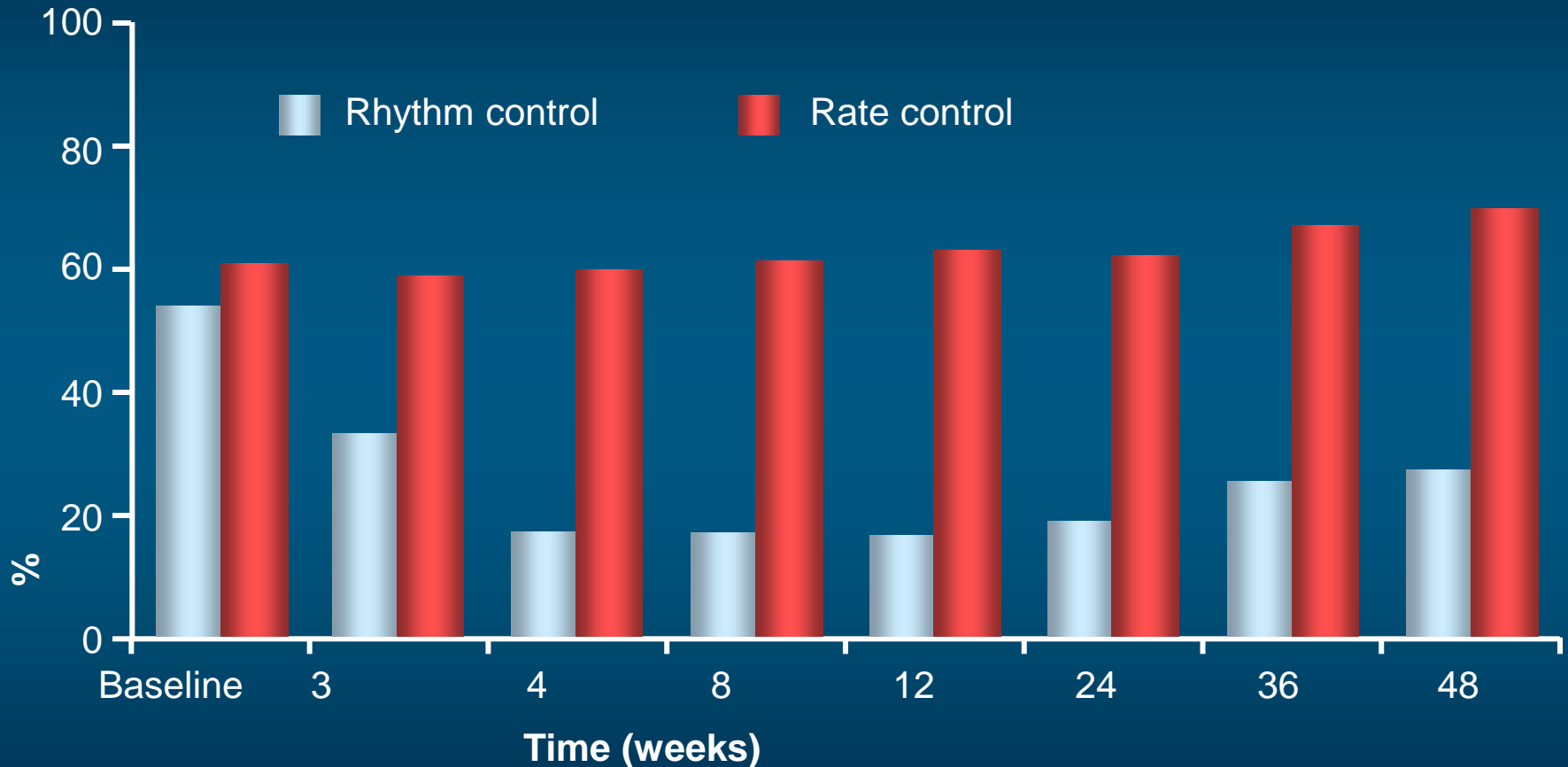
* = usually PVI is appropriate

The Case Against Ablation

- There is no evidence that sinus rhythm is preferable to AF with rate control
- There is abundant evidence that ablation is not the ideal therapy for patients with underlying heart disease
- AF is mostly associated with co-morbidities and is a progressive disease
- Studies of ablation are small, short term and observational. There are no large scale randomised studies evaluating major cardiovascular outcomes
- Ablation is expensive and is associated with important complications
- There are alternative treatments with proven benefit

AF-CHF Trial

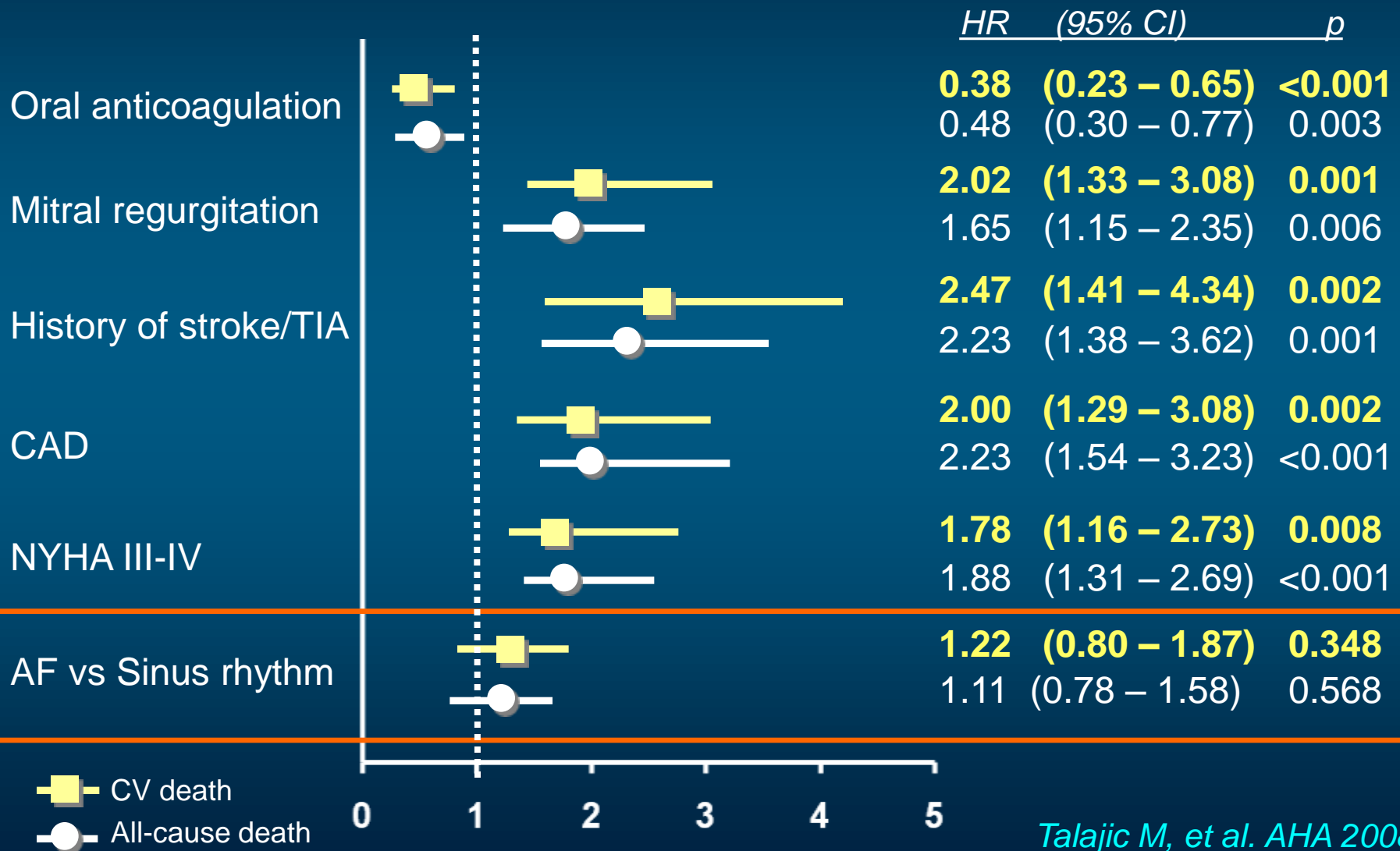
Prevalence of AF at follow-up visits



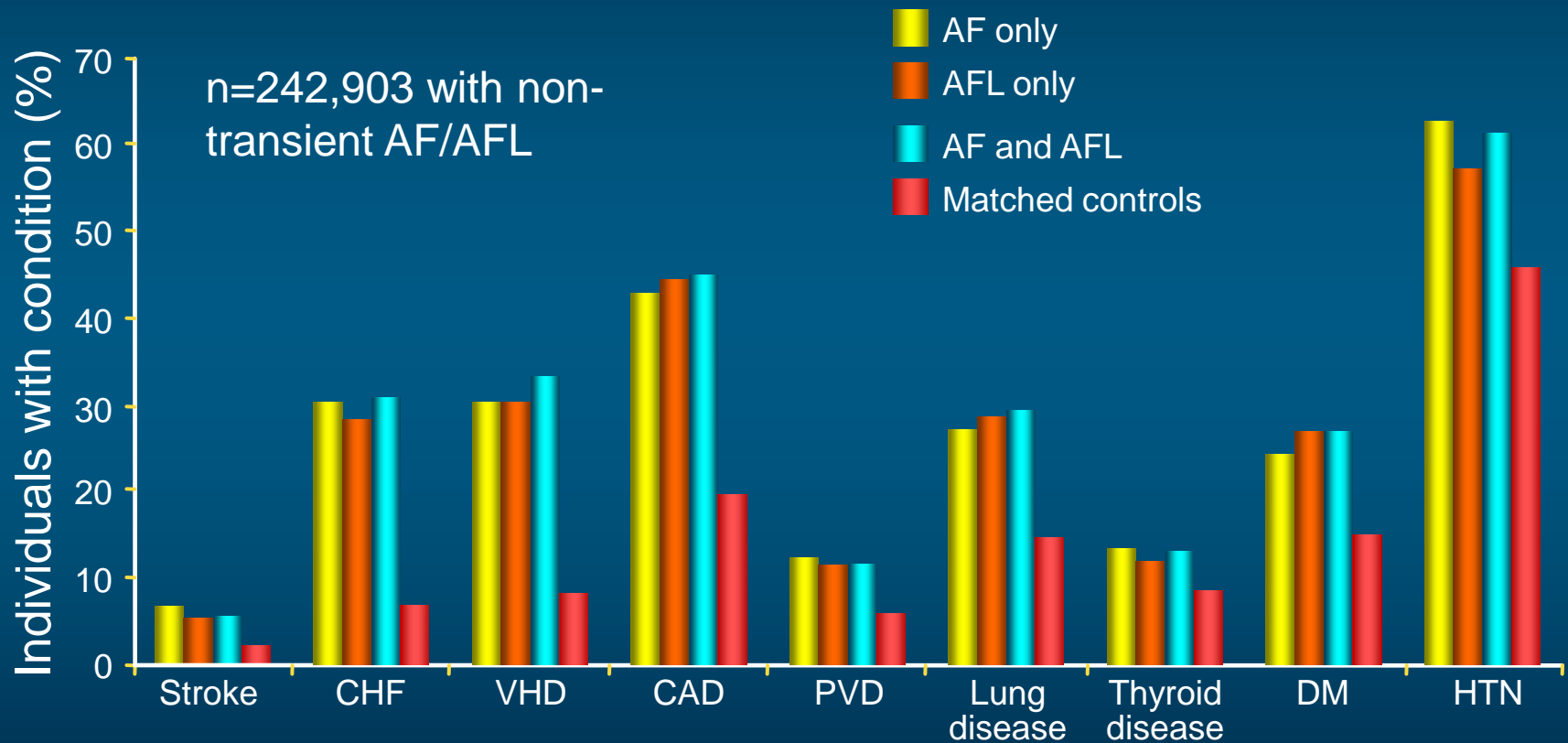
Rate control: 7% amiodarone

Rhythm control: 82% amiodarone

Rhythm vs Rate Control in CHF: On-Treatment Analysis of the AF-CHF Trial

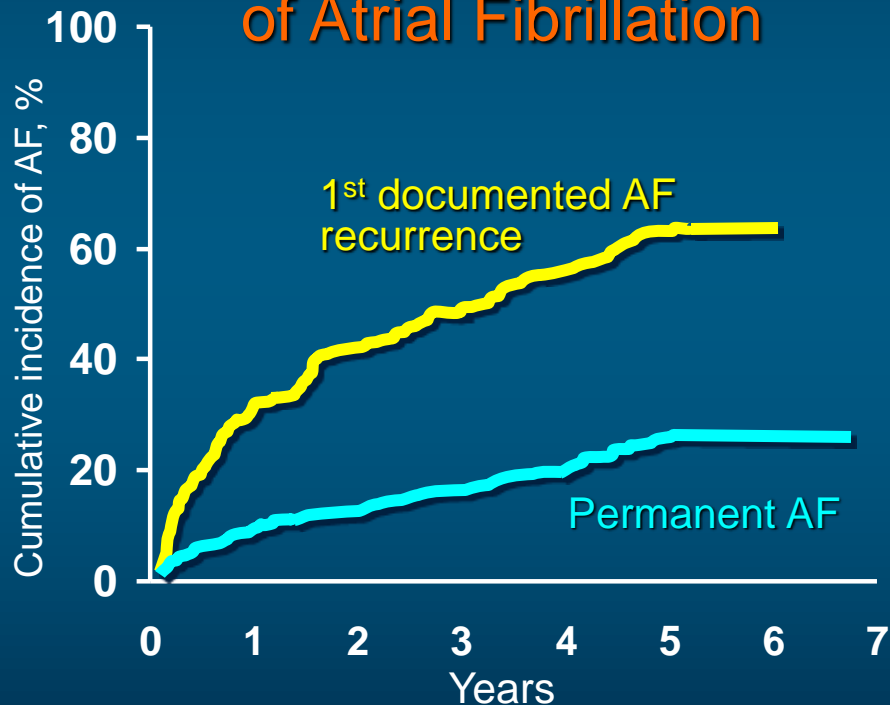


Prevalence of Common Co-morbidities in AF and Non-AF Patients



Natural History and Progression from Paroxysmal to Permanent AF

Canadian Registry of Atrial Fibrillation

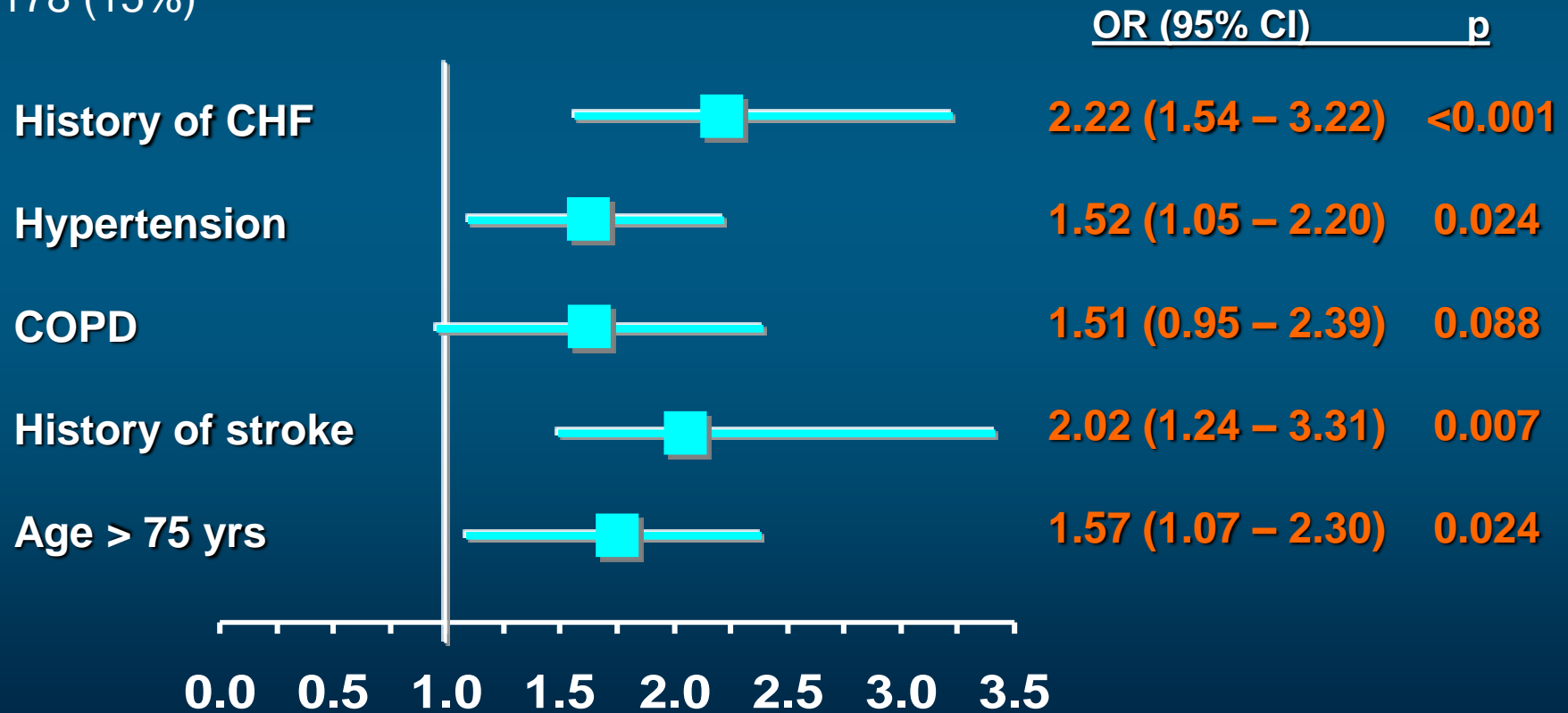


Kerr CR, et al. Am Heart J 2005;149:489-96

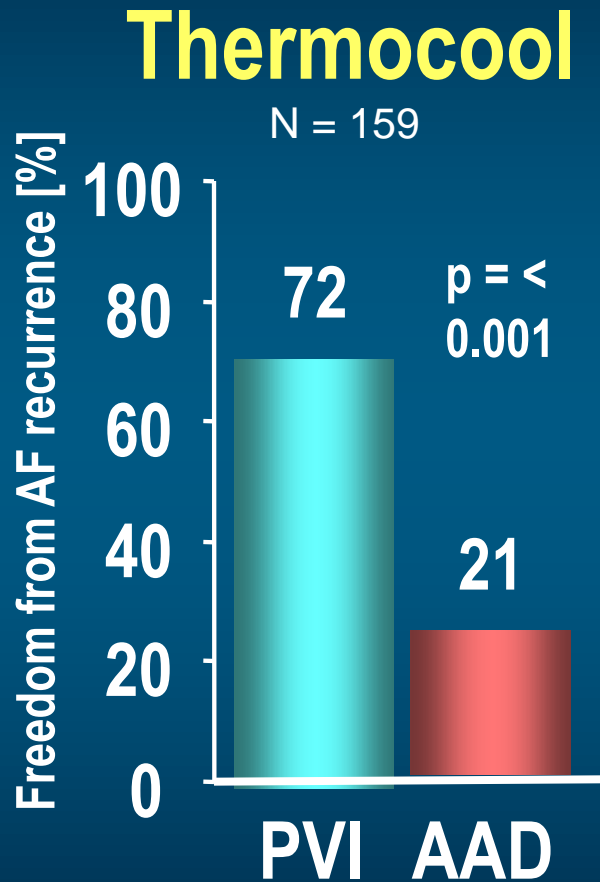
Study	No. of pts	Follow-up, years	Progression to permanent AF
Euro Heart Survey, 2010	1219	1	15%
Tokyo study, 1995	137	1	22%
UK general practice, 2005	525	2.7	17%
CARAF, 2001	899	4.14	19%
Italian study (Pappone), 2008	106	5	28.8%
CARAF, 2005	757	8	25%
Danish study, 1986	426	9	33%
Parkinson, 1930	200	10	25%
Tokyo study, 2004	171	14	77%
Olmsted County (lone AF), 2007	71	25.2	31%

Progression of AF: HATCH

- Euro Heart Survey on AF
- 1219 patients with PAF
- Follow-up: 1 year
- Progression to permanent AF: 178 (15%)
- Hypertension x 1, Age > 75 yrs x 2, Stroke x 2, COPD x 1, Heart failure x 2



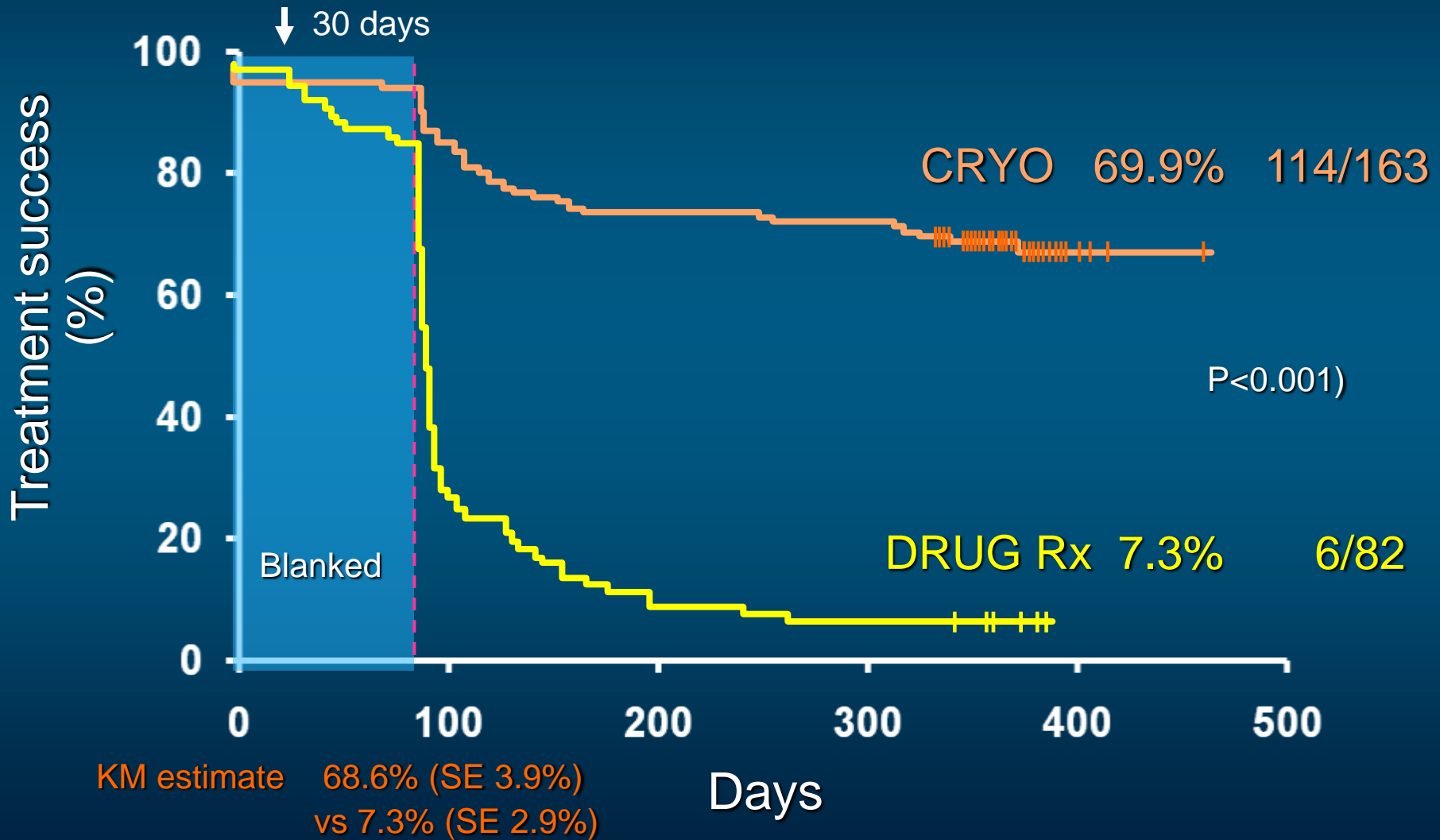
AF Ablation or Antiarrhythmic Drugs?



Study	No. of patients	Previous use of AAD	Crossed over to ablation	Patients without AF, %
				Ablation vs AAD or no AAD
Jais et al, 2008 (A4 study)	112	≥ 1 AAD failure	63%	89 vs 23
Krittayaphong et al, 2003	30	≥ 1 AAD failure ^d	Not stated	79 vs 40
Wazni et al, 2005 (RAAFT)	70	No	49%	87 vs 37
Stabile et al, 2006 (CACAF)	137	≥ 1 AAD failure	57%	56 vs 9
Oral et al, 2006	146	≥ 1 AAD failure (mean 2.1 ± 1.2)	77%	74 vs 4
Pappone et al, 2006 (APAF)	198	≥ 2 AAD failure (mean 2 ± 1)	42%	86 vs 22
Forleo et al, 2008	70	≥ 1 AAD failure	Not stated	80 vs 43

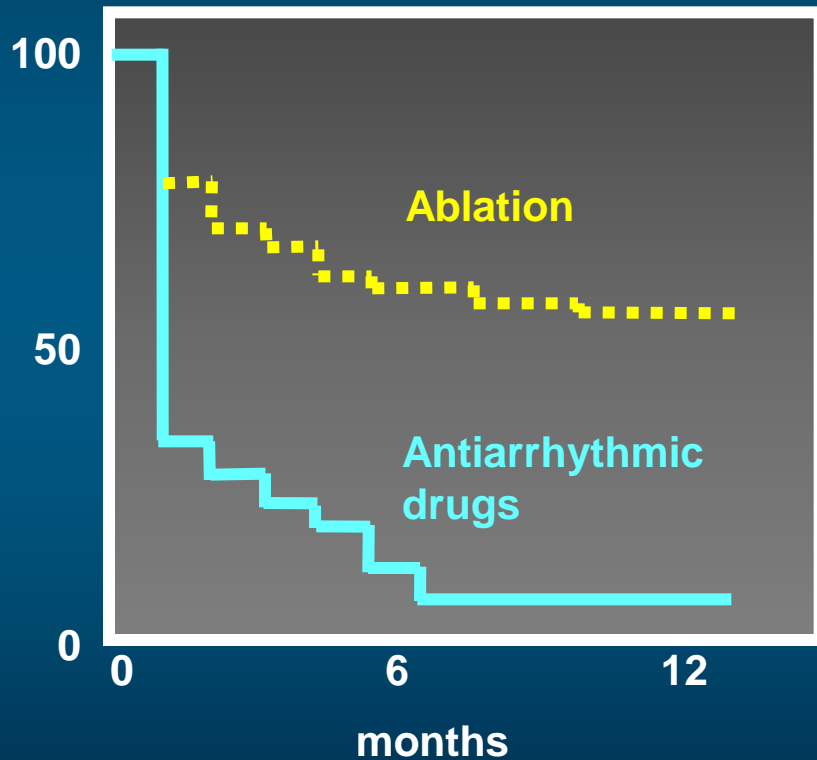
Primary Effectiveness Analysis

STOP-AF - Treatment Success



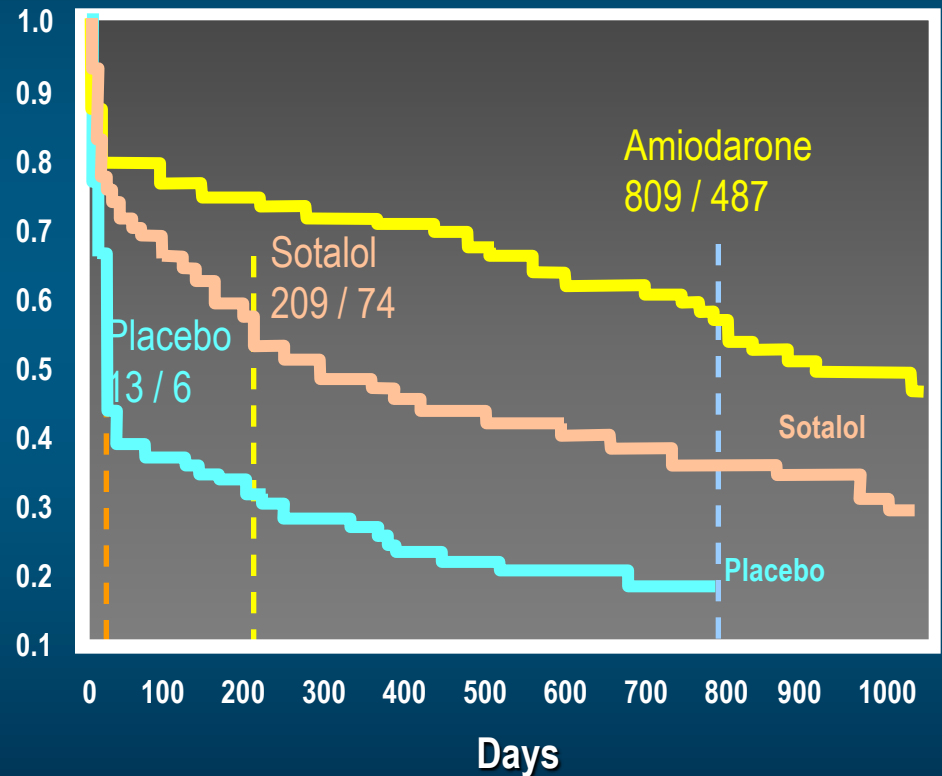
CACAF Study v SAFE-T

% freedom from recurrence



Stabile et al, European Heart Journal (2006) 27, 216–221

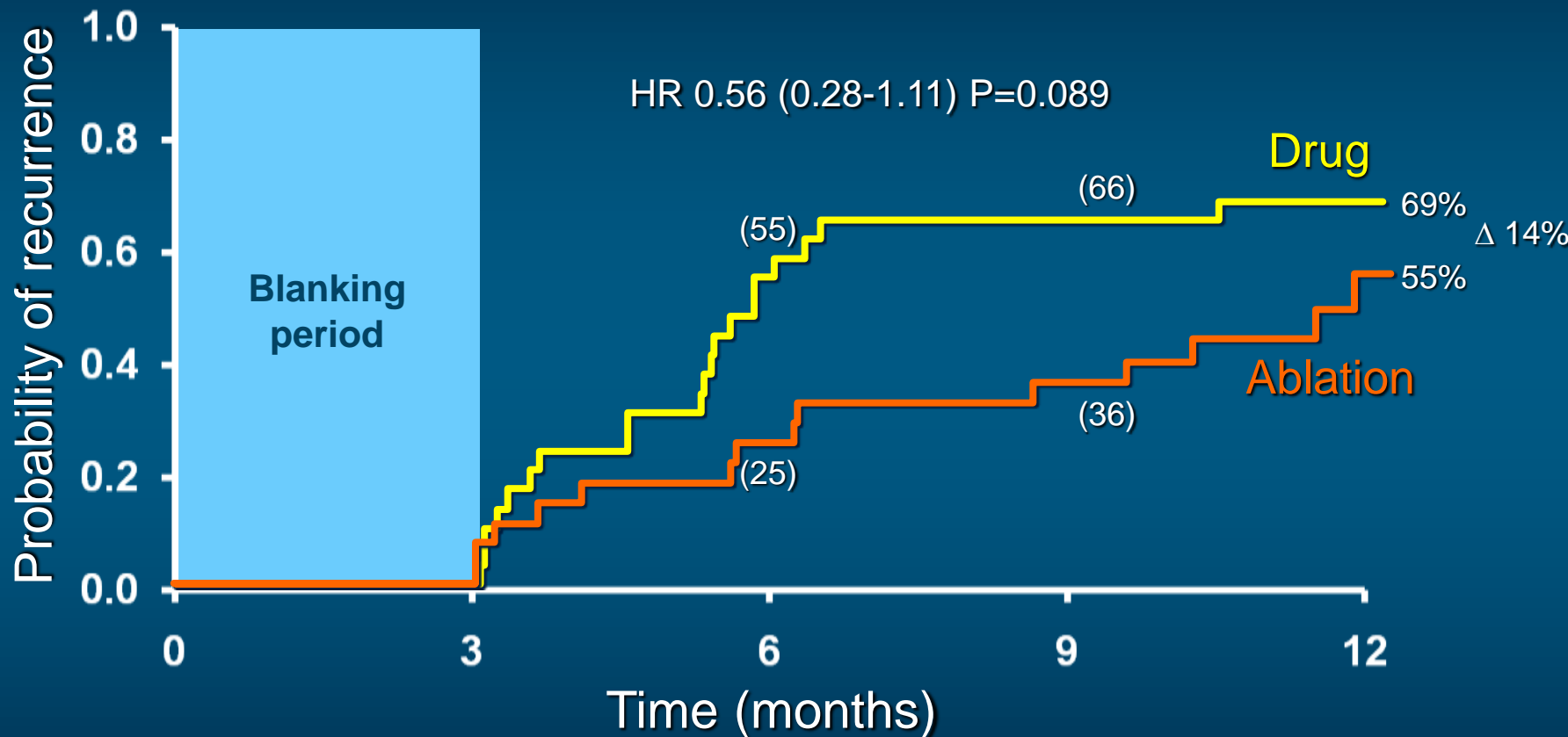
Free from AF recurrence (OT / ITT)



Singh BN, et al, NEJM 2005;352:1861-72

CABANA Pilot Study

Recurrence of *Any* Atrial Fibrillation



Abla Rx	28	26	21	18	5
Drug Rx	31	30	13	10	6

Treatment of AF With AADs and RFA

Systematic Review

- Studies between 1990 – 2007
- Size of the studies ≥ 40 pts
- Follow-up ≥ 30 days for AADs and ≥ 7 days for RFA

Baseline characteristics	RFA	AAD
# studies (pts)	63 (8789)	34 (6589)
Age, years	55.5	61.6
AF duration, yrs	6.0	3.1
PAF, %	69.8	56.4
PersAF, %	14.9	35.1
AAD failure	2.6	1.7
LVEF, %	57.7	49.0
LA size, mm	41.6	43.7
SHD, %	30.6	49.5
IHD, %	10.0	18.2
CHF, %	15.7	24.6
Prior CABG, %	0	41.6%
Diabetes, %	4.8	12.1
HTN, %	30.3	38.4

Placebo in AAD trials

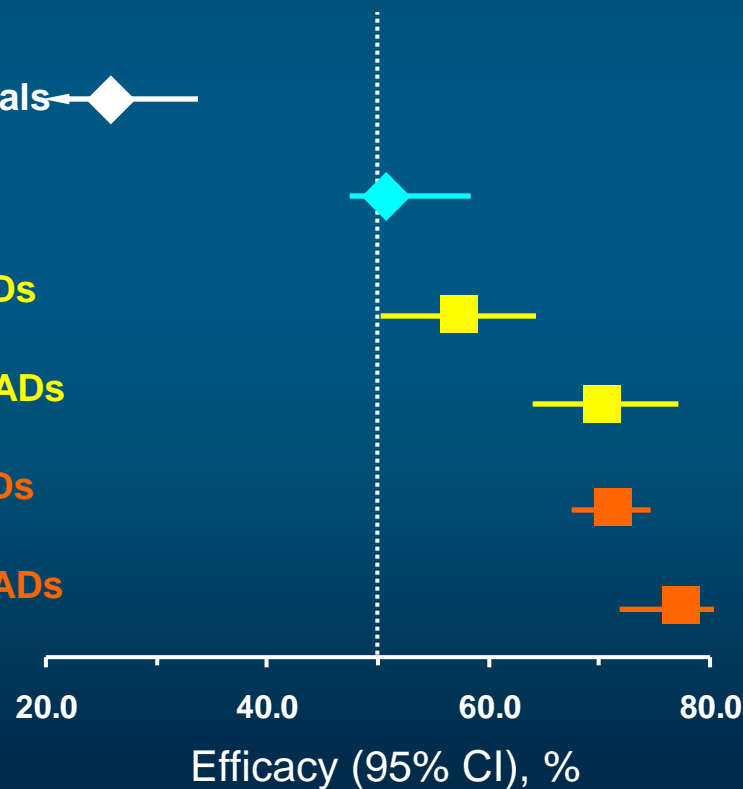
AAD trials

Single RFA off AADs

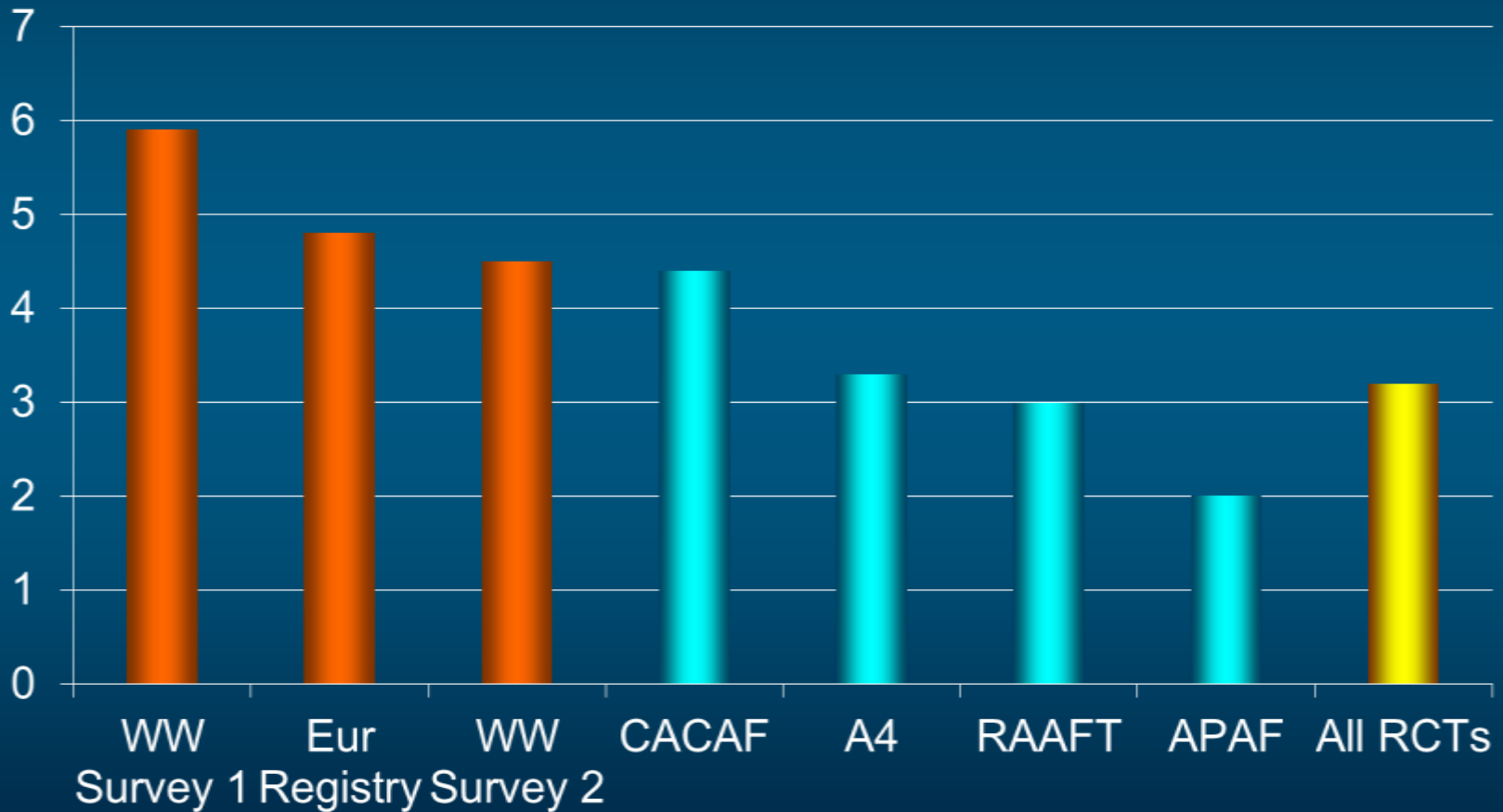
Multiple RFA off AADs

Single RFA on AADs

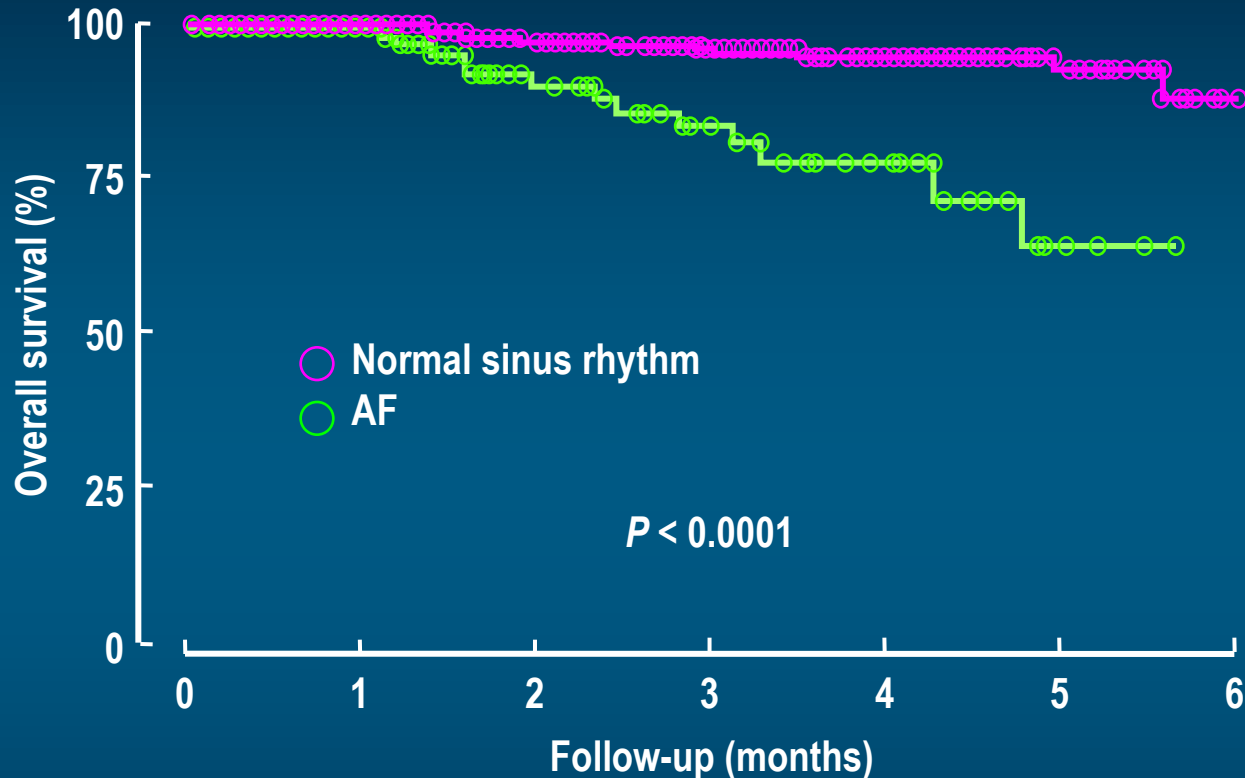
Multiple RFA on AADs



Major Complication Rates Registries and RCTS



Can Sinus Rhythm Improve Survival?

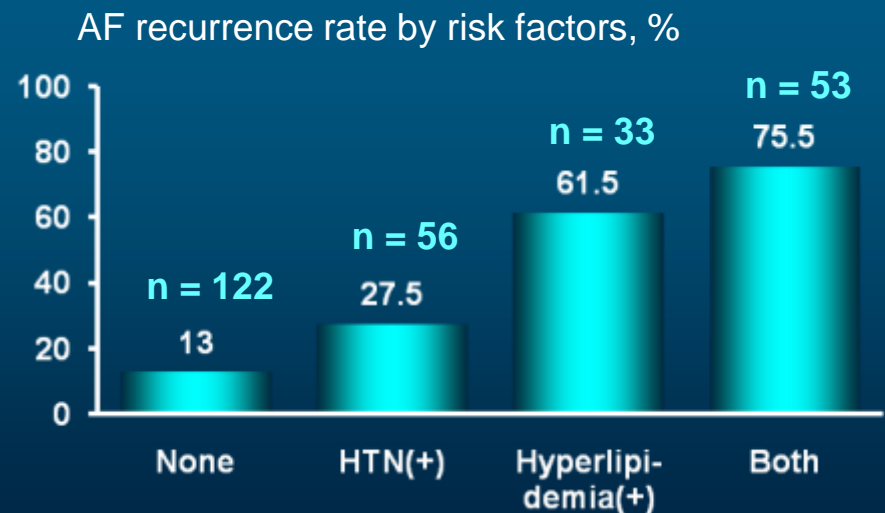
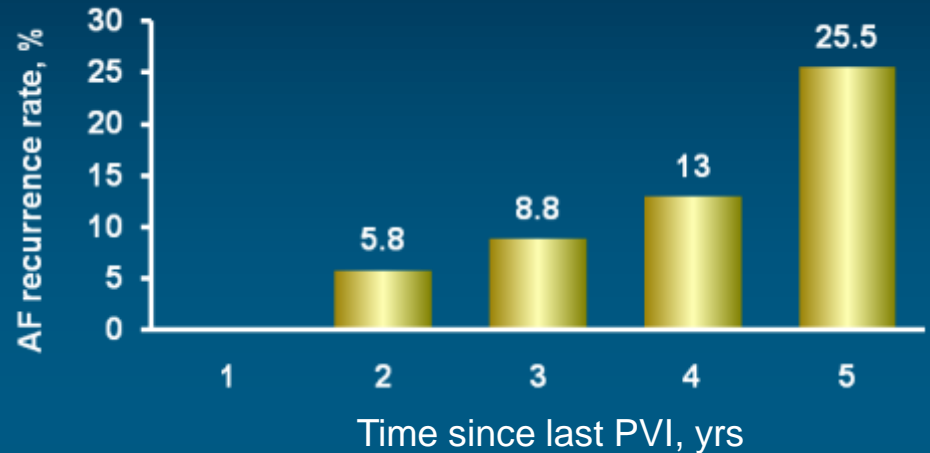


NSR	517	378	253	174	99	43	12
AF	118	82	49	31	21	6	2

517 patients age ≥ 65 years or < 65 years with ≥ 1 risk factor for stroke, 56% persistent AF

Long-term Outcome after PVI: Late Recurrence

- n = 264 of 350 without recurrence in year one
- 57 ± 12 yrs
- Follow-up 28 ± 12 months (up to 5 years)
- 23 (8.7%) recurrent AF
- Repeat ablation in 18/23



ICER of AF Rx Strategy by Stroke Risk

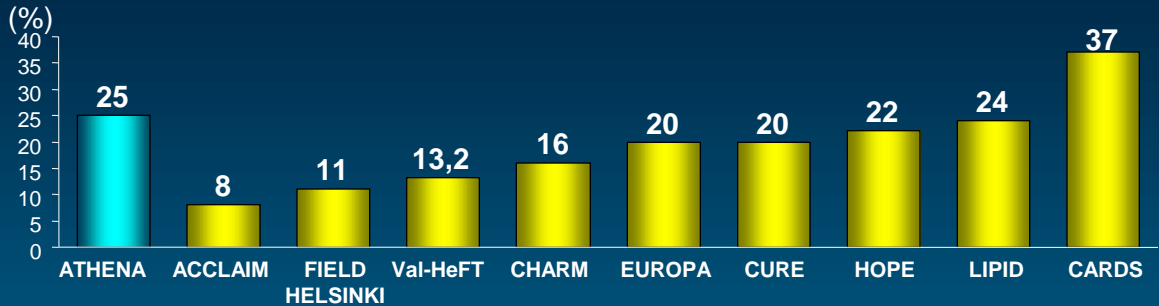
Markov model

Ablation – 80% efficacy, 30% redo
 CVA risk: 3.0 and 1.4%, Aspirin - 22%; Warfarin -35/40%

Stroke Risk	Strategy	Cost	QALYs	ICER (\$/QALY)
Moderate	Rate Control + warfarin	\$39,391	10.81	Reference
	Amiodarone + warfarin	\$43,358	10.75	Dominated
	LACA + warfarin	\$52,369	11.06	\$51,800
Low	Rate Control + aspirin	\$25,540	11.21	Reference
	Amiodarone + aspirin	\$38,425	11.02	Dominated
	LACA + aspirin	\$43,036	11.40	\$98,900

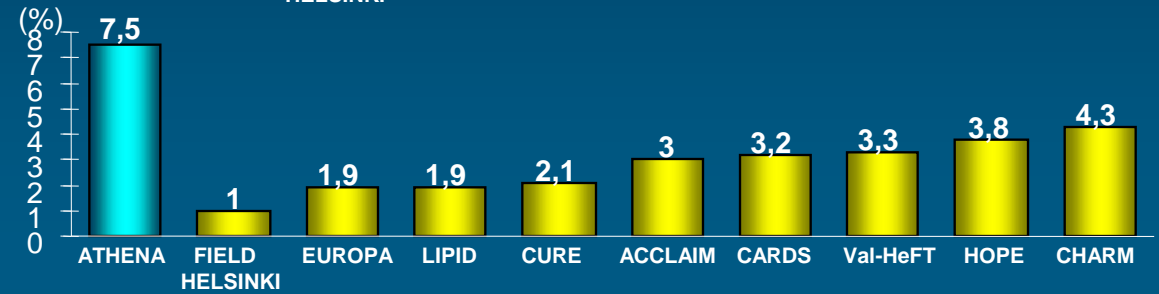
CV Morbi-Mortality Outcome Studies

Relative Risk Reduction



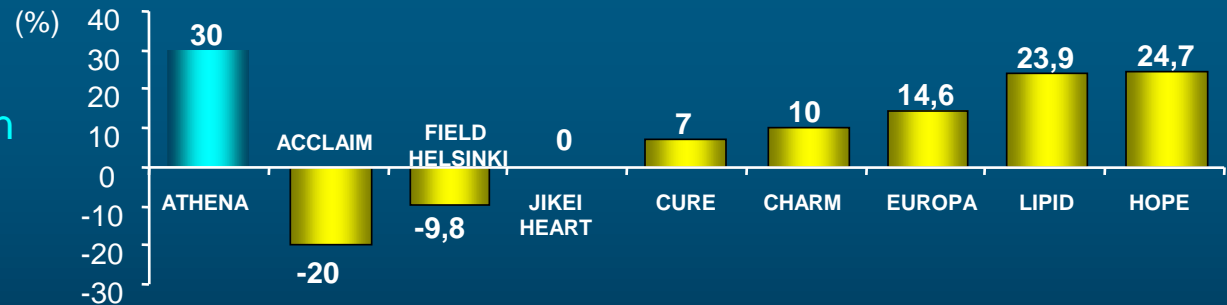
Morbi-Mortality
annualised

Absolute Risk Reduction



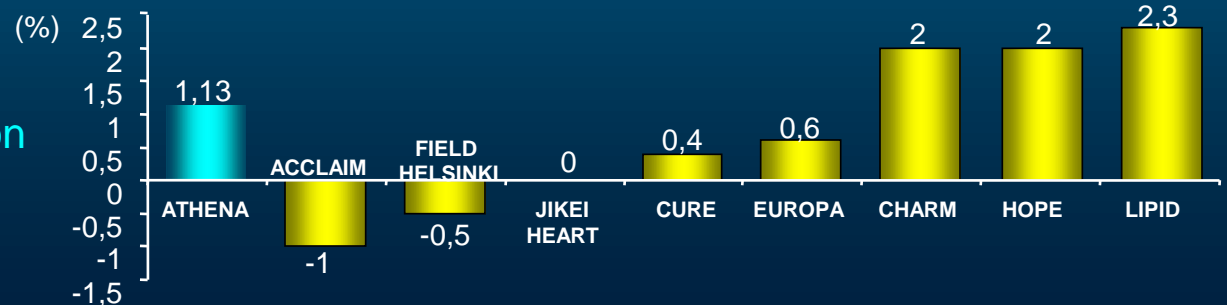
DRONEDARONE

Relative Risk Reduction



CV Mortality
annualised

Absolute Risk Reduction



What does my opponent really believe?

[Heart 2009, McKenna,...Todd D...et al](#)

In conclusion, the analysis suggests that RFCA is potentially cost-effective for the treatment of paroxysmal AF in patients predominantly refractory to AAD therapy if the QoL benefits are maintained for more than 5 years. These findings remain subject to important uncertainties regarding both the magnitude of QoL benefits and the prognostic value of restoring NSR achieved with RFCA.

[Health Technology Assessment 2008, Rodgers M...Todd D...et al](#)

CONCLUSIONS: RFCA is a relatively safe and efficacious procedurein patients with drug-refractory paroxysmal AF in terms of freedom from arrhythmia at 12 months. RFCA appears to be cost-effective if the observed quality of life benefits are assumed to continue over a patient's lifetime. However, there remain uncertainties around longer-term effects of the intervention and the extent to which published effectiveness findings can be generalised to 'typical' UK practice.

Gee whiz! -
it's wonderful

It has its
place!

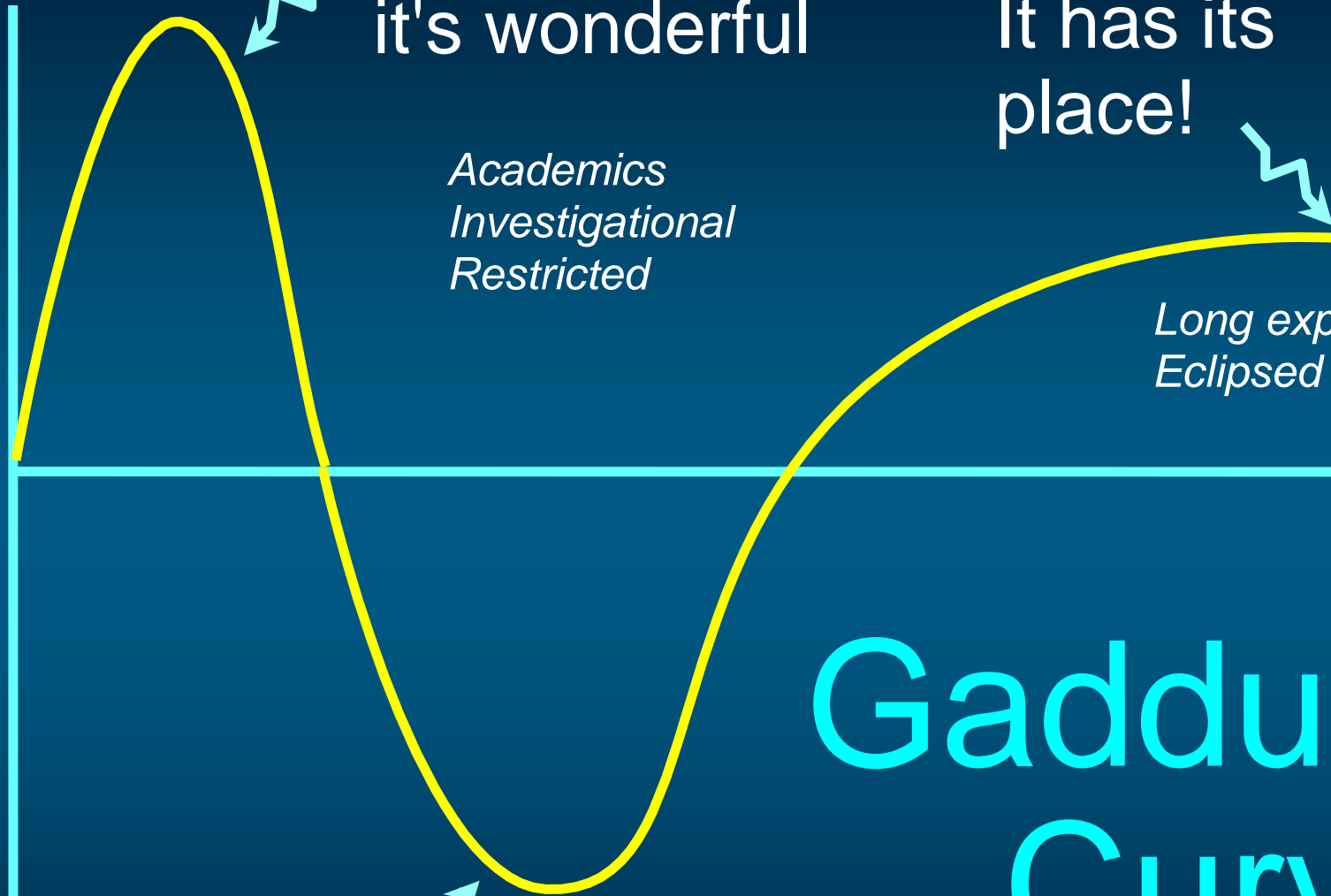
*Academics
Investigational
Restricted*

*Long experience
Eclipsed by new therapy*

I wouldn't
give it to a dog!

*Practitioners
General release*

Gaddum's
Curve





Thank you for your attention

John Camm

St George's
University of London

Catheter Ablation: The Truth!

