Fibrillazione Atriale: L'Ablazione quando e perchè

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23 Settembre 2017

In Italia

- 1 - 1.5 milioni con FA
- 8-10.000 ablazioni all'anno
- 20-30% asintomatici
- 20-30% Recidive di FA post Ablazione

I 3 motivi per cui il Ritmo Sinusale è meglio della Fibrillazione Atriale

- Se siamo stati creati in ritmo sinusale ci sarà un motivo
- Se in 2 milioni di anni l'uomo si è evoluto in ritmo sinusale ci sarà un motivo
- Se gli animali che vivono più a lungo hanno mediamente una frequenza minore ci sarà un motivo

I 3 motivi per cui il Controllo del Ritmo è meglio del Controllo della Frequenza

- Se siamo stati creati in ritmo sinusale ci sarà un motivo

Fede

- Se in 2 milioni di anni l'uomo si è evoluto in ritmo sinusale ci sarà un motivo

Razionale

- Se gli animali che vivono più a lungo hanno mediamente una frequenza minore ci sarà un motivo

Empirica

Ritmo sinusale è meglio della Fibrillazione Atriale?

Si vive più a lungo

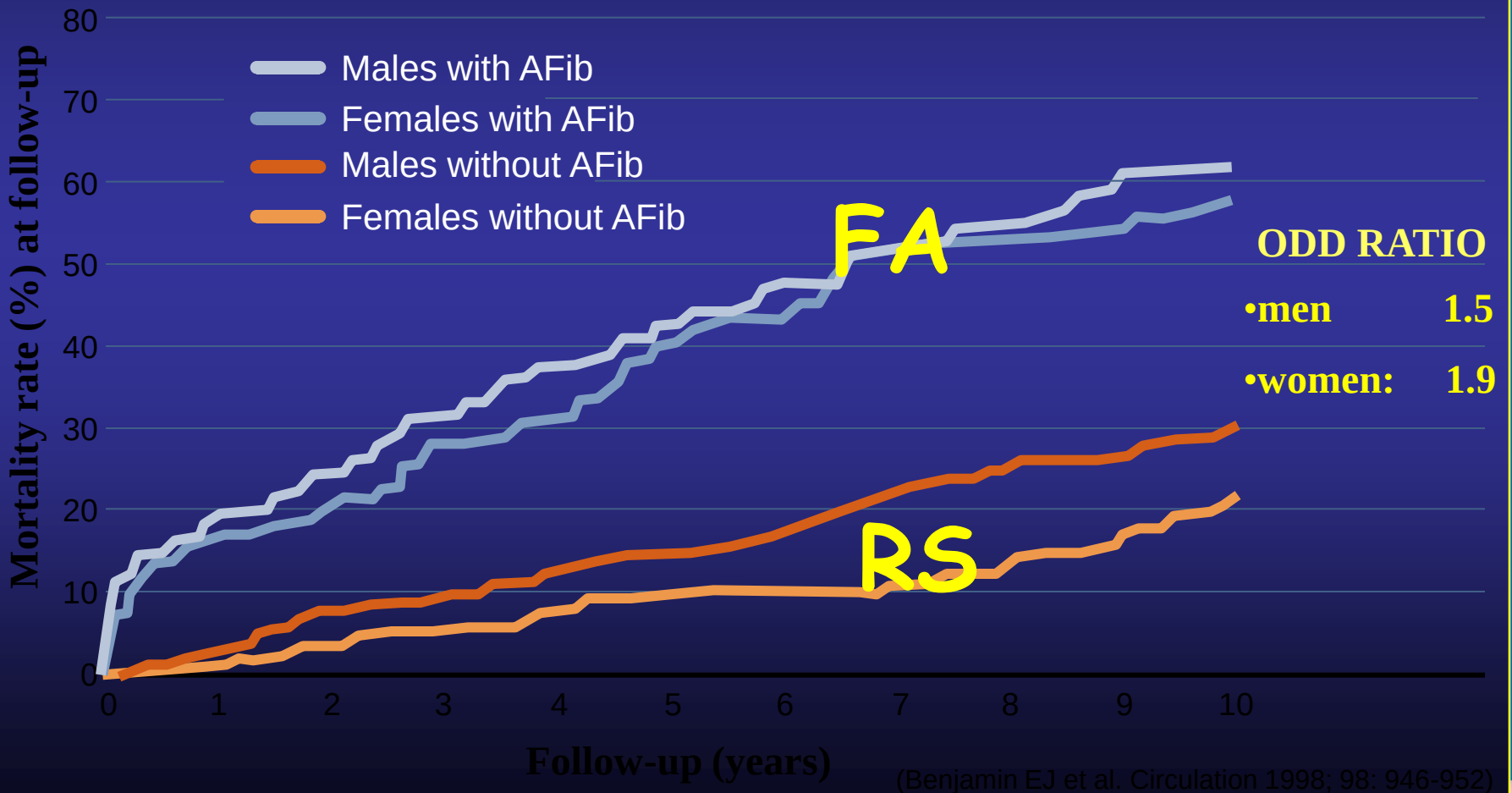
Si vive meglio

Ci ammaliamo di meno

Ritmo sinusale è meglio della Fibrillazione Atriale?

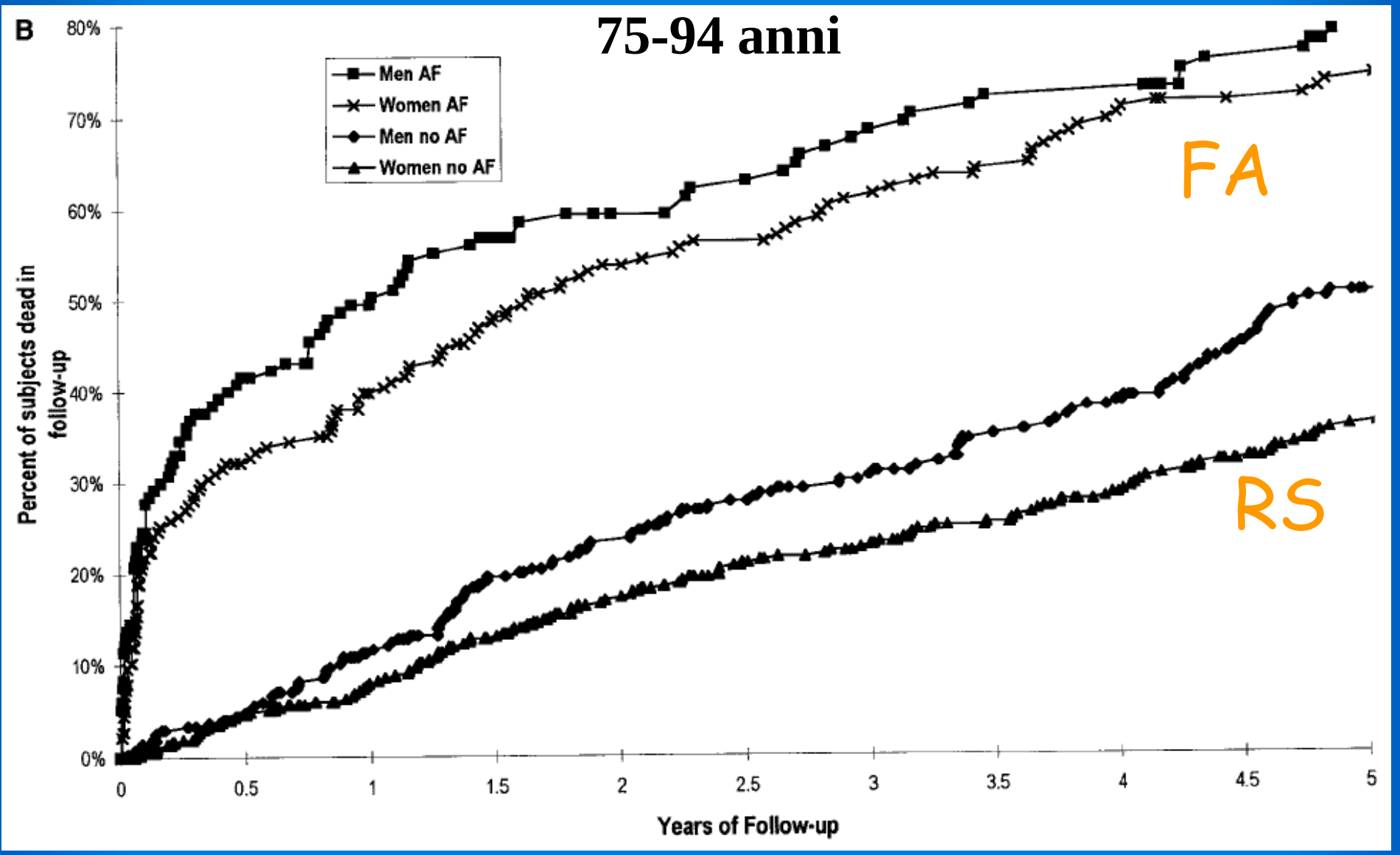
Si vive più a lungo

AF and Risk of Death:
Framingham
N = 5209

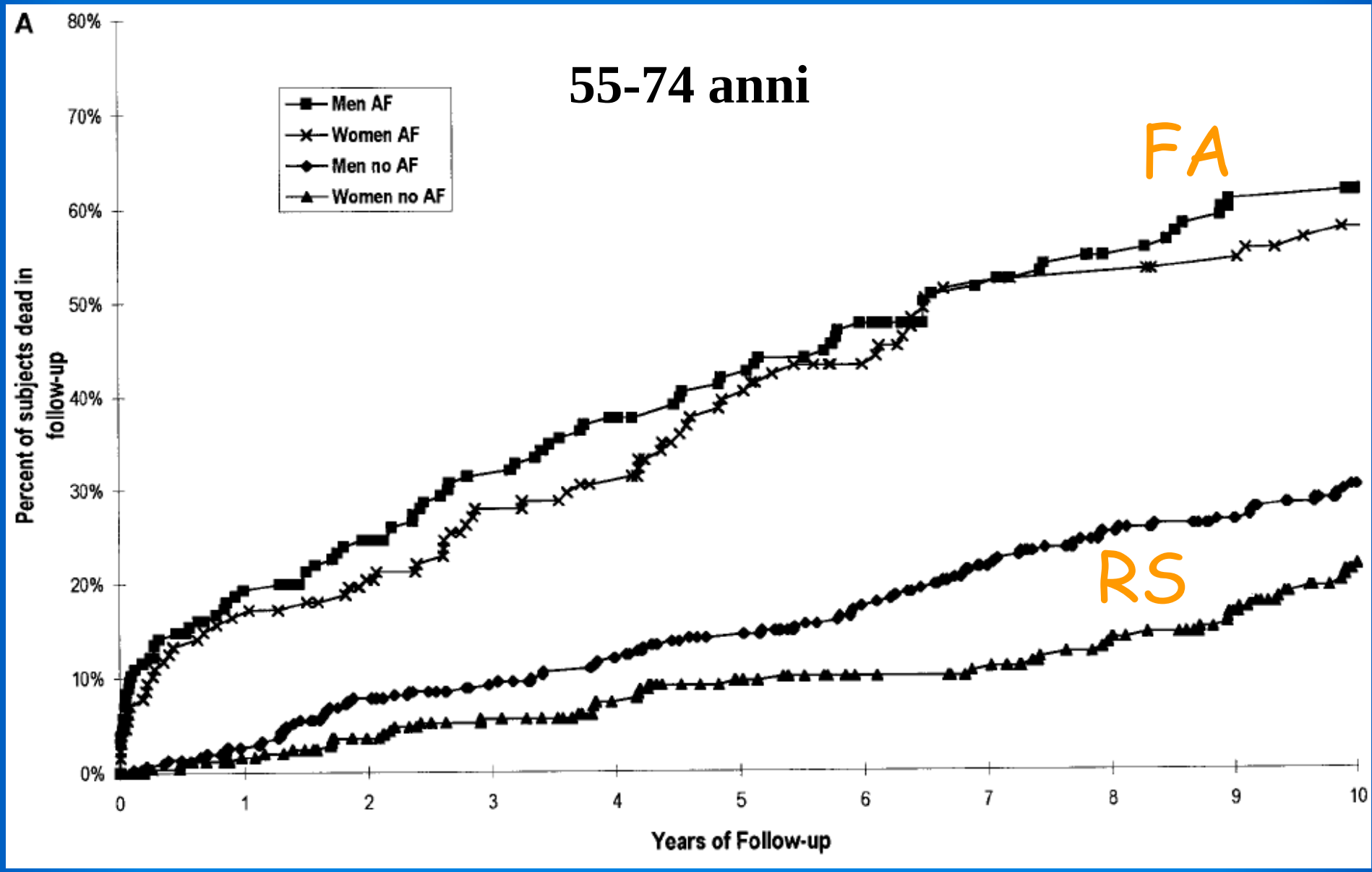


(Benjamin EJ et al. Circulation 1998; 98: 946-952)

75-94 anni



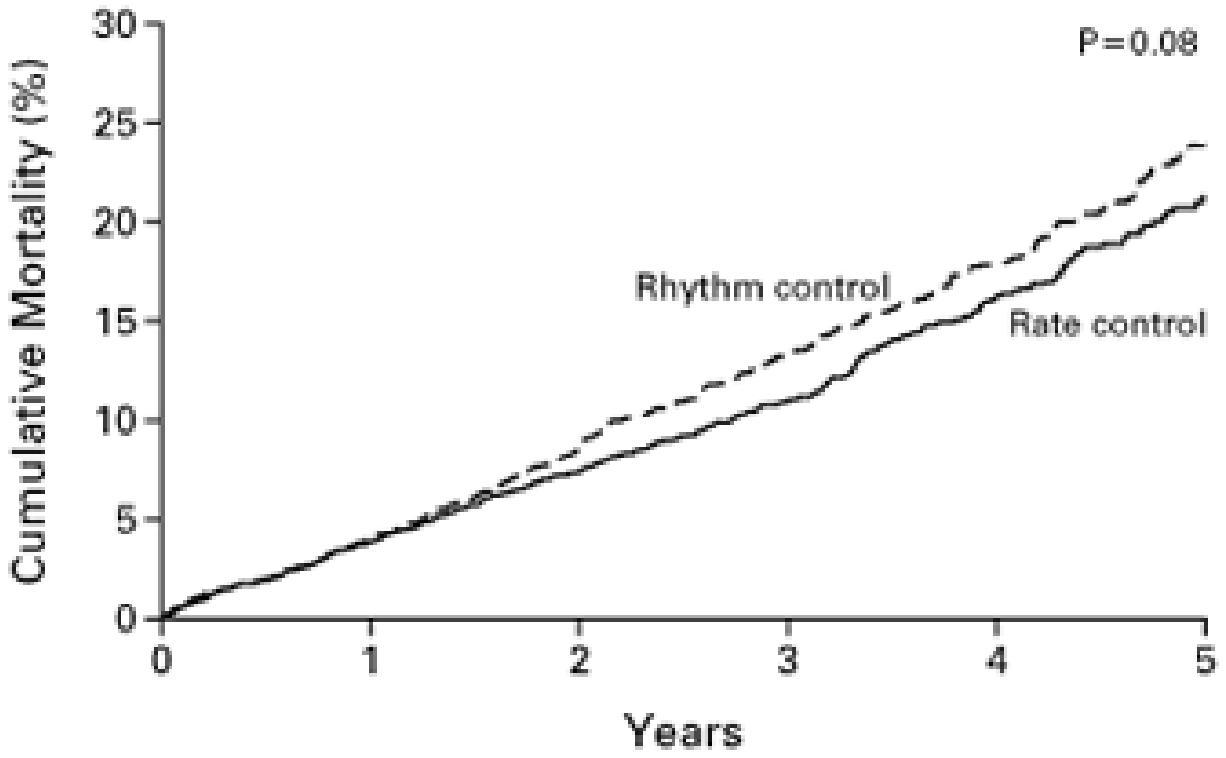
Framingham Study Circulation **1998;98;946-952**



Framingham Study Circulation **1998;98;946-952**

AFFIRM: DRUG TREATMENT

NEJM 2002, 347:23



No. of Deaths		number (percent)				
Rhythm control	0	80 (4)	175 (9)	257 (13)	314 (18)	352 (24)
Rate control	0	78 (4)	148 (7)	210 (11)	275 (16)	306 (21)

AFFIRM: DRUG TREATMENT

NEJM 2002, 347:23

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)		

12.8 **21.9**

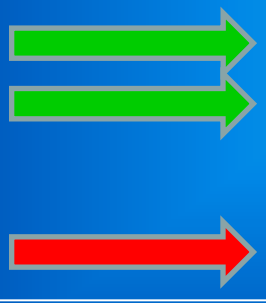
Effects of Rhythm and Drugs in AFFIRM

Circulation March 30, 2004

TABLE 3. Covariates Significantly Associated With Survival Results With Echocardiographic Data Excluded

Covariate	*P*	HR	HR: 99% Confidence Limits Lower	Upper
Age at enrollment*	<0.0001	1.06	1.04	1.08
Coronary artery disease	<0.0001	1.65	1.31	2.07
Congestive heart failure	<0.0001	1.83	1.45	2.32
Diabetes	<0.0001	1.56	1.22	2.00
Stroke or transient ischemic attack	<0.0001	1.54	1.17	2.05
Smoking	<0.0001	1.75	1.29	2.39
First episode of atrial fibrillation	0.0067	1.27	1.01	1.58
Sinus rhythm	<0.0001	0.54	0.42	0.70
Warfarin use	<0.0001	0.47	0.36	0.61
Digoxin use	<0.0001	1.50	1.18	1.89
Rhythm-control drug use	0.0005	1.41	1.10	1.83

*Per year of age.



Ritmo sinusale è meglio della Fibrillazione Atriale?

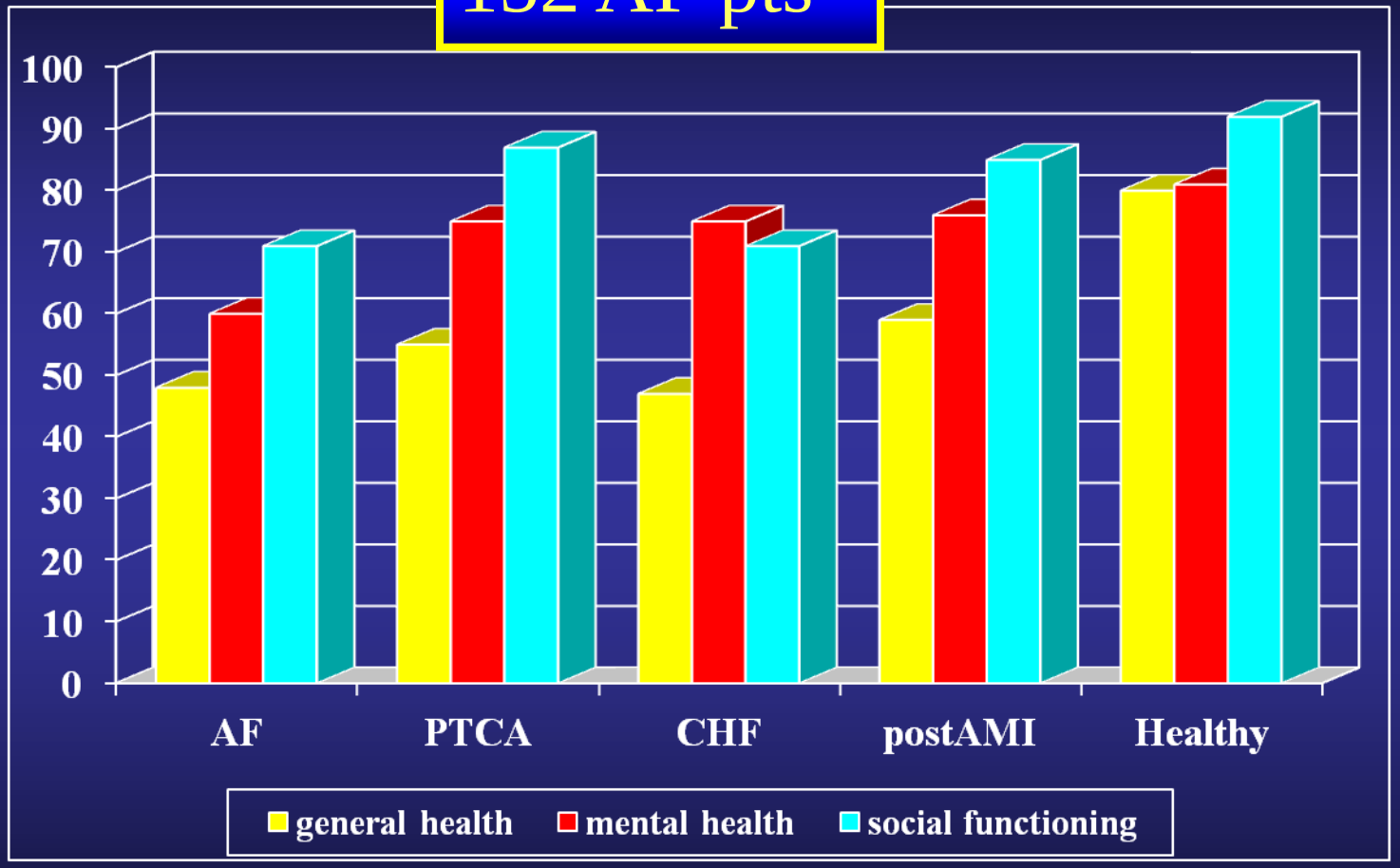
Si vive meglio

QUALITY OF LIFE SCORES

152 AF pts

SF-36

score

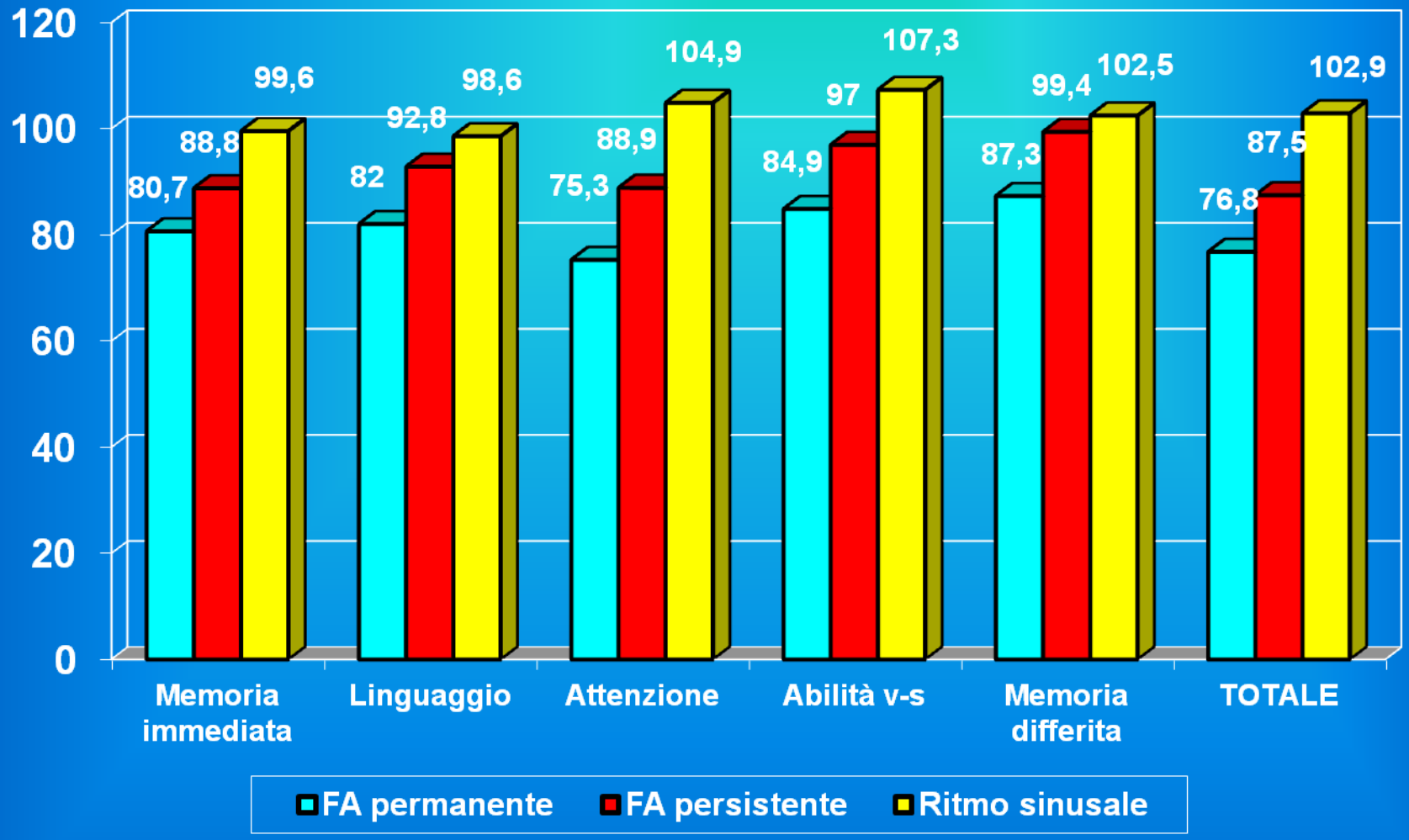


Modified from: Dorian JACC 2000

Ritmo sinusale è meglio della Fibrillazione Atriale?

Ci ammaliamo di meno

Risultati Test cognitivi

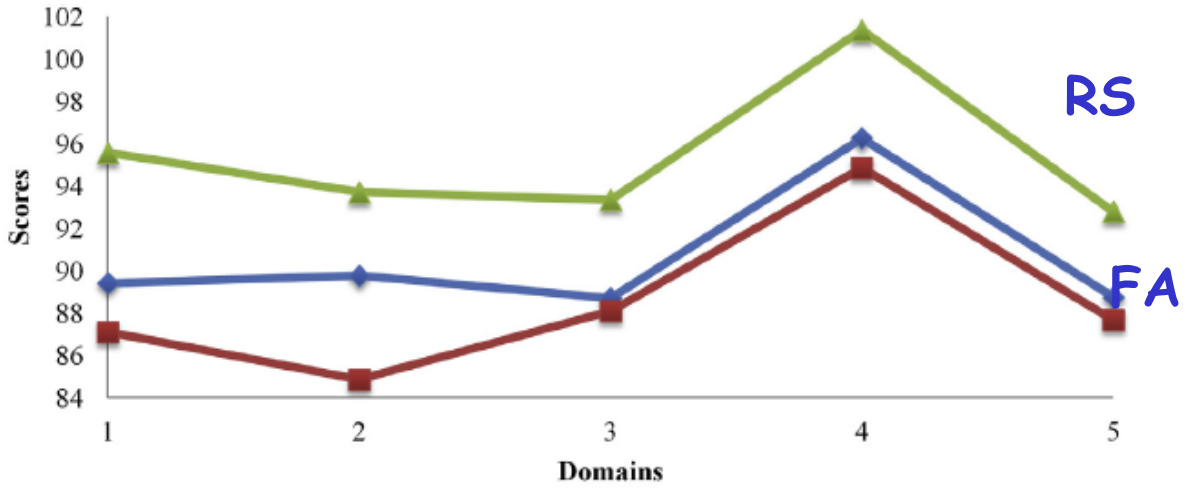


• La performance cognitiva dei pazienti con FA è peggiore rispetto a quella dei pazienti in Ritmo sinusale (P<0,01).

Nangeroni , Riccardi GIC 2012

Prevalence of Silent Cerebral Ischemia in Paroxysmal and Persistent Atrial Fibrillation and Correlation With Cognitive Function

JACC Vol. 62, No. 21, 2013
November 19/26, 2013:1990–7



	Controls (N = 90)	PRX AF (N = 90)	PER AF (N = 90)	p PRX / controls	p PER / controls	p PRX/ PER
Domains	92.4 ± 15.4	86.2 ± 13.8	82.9 ± 11.5	< 0.01	< 0.01	0.08
1-Immediate Memory	95.6 ± 17.5	89.9 ± 14.7	87.1 ± 16.9	0.02	< 0.01	0.24
2-Visuo-spatial abilities	93.8 ± 16.7	89.9 ± 18.2	84.8 ± 14.8	0.14	< 0.01	0.04
3-Language	92.9 ± 11.4	88.8 ± 9.1	88.1 ± 8.7	< 0.01	< 0.01	0.59
4-Attention	101.4 ± 21.2	96.6 ± 16.6	94.9 ± 15.6	0.09	0.02	0.47
5-Delayed memory	93.5 ± 11.7	88.7 ± 14.7	87.7 ± 14	0.02	< 0.01	0.64

Figure 2 Results of Cognitive Function Evaluation

Prevalence of Silent Cerebral Ischemia in Paroxysmal and Persistent Atrial Fibrillation and Correlation With Cognitive Function

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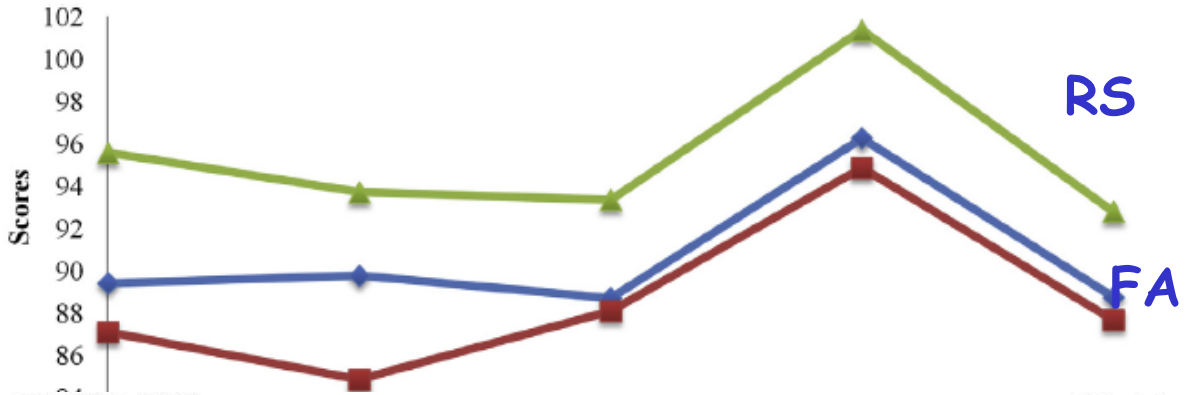

JACC Vol. 62, No. 21, 2013
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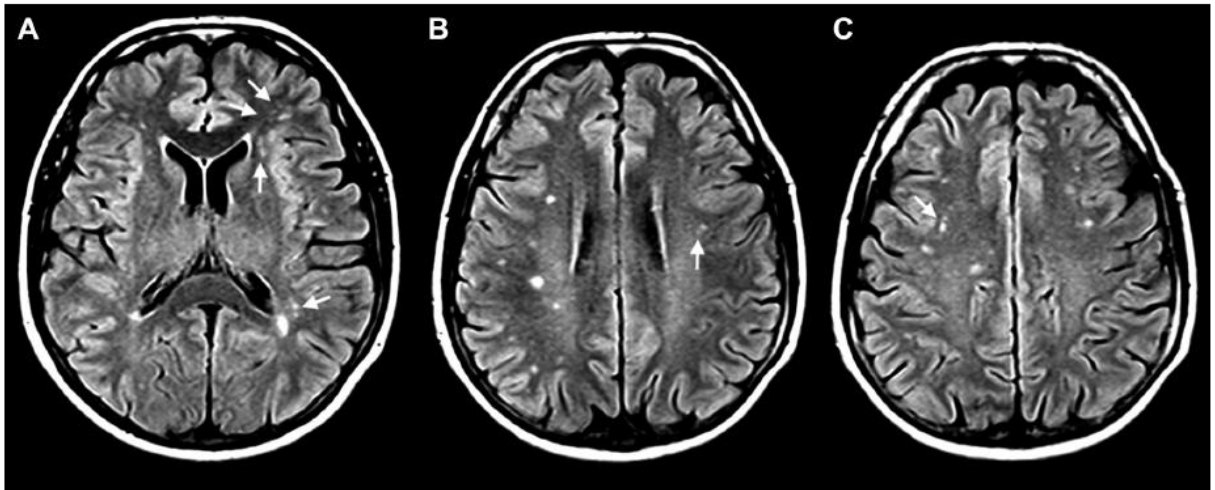
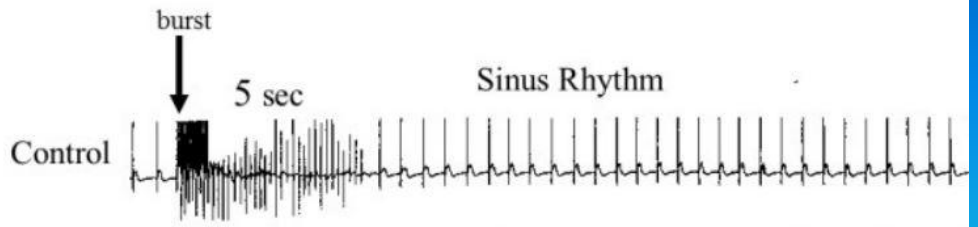


Figure 2 Results of

Atrial Fibrillation begets Atrial Fibrillation

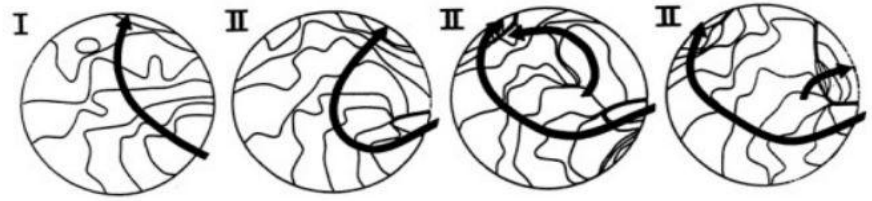
Paroxysmal → Persistent AF



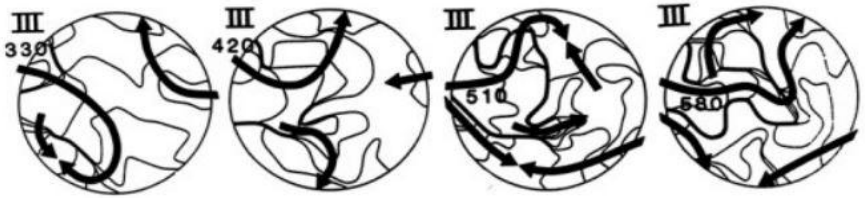
Wiffels et al. Circulation 1995

Increased Number of Wavelets

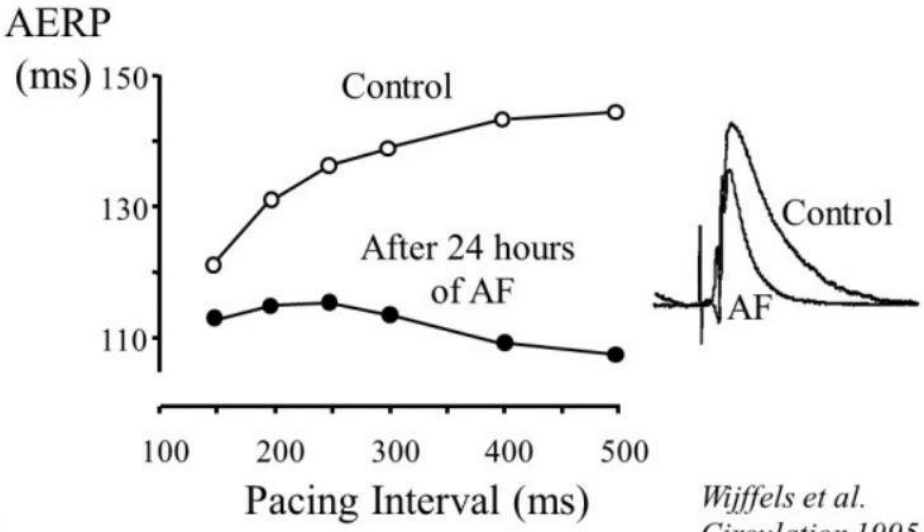
Acute AF



Persistent AF



The First Days….

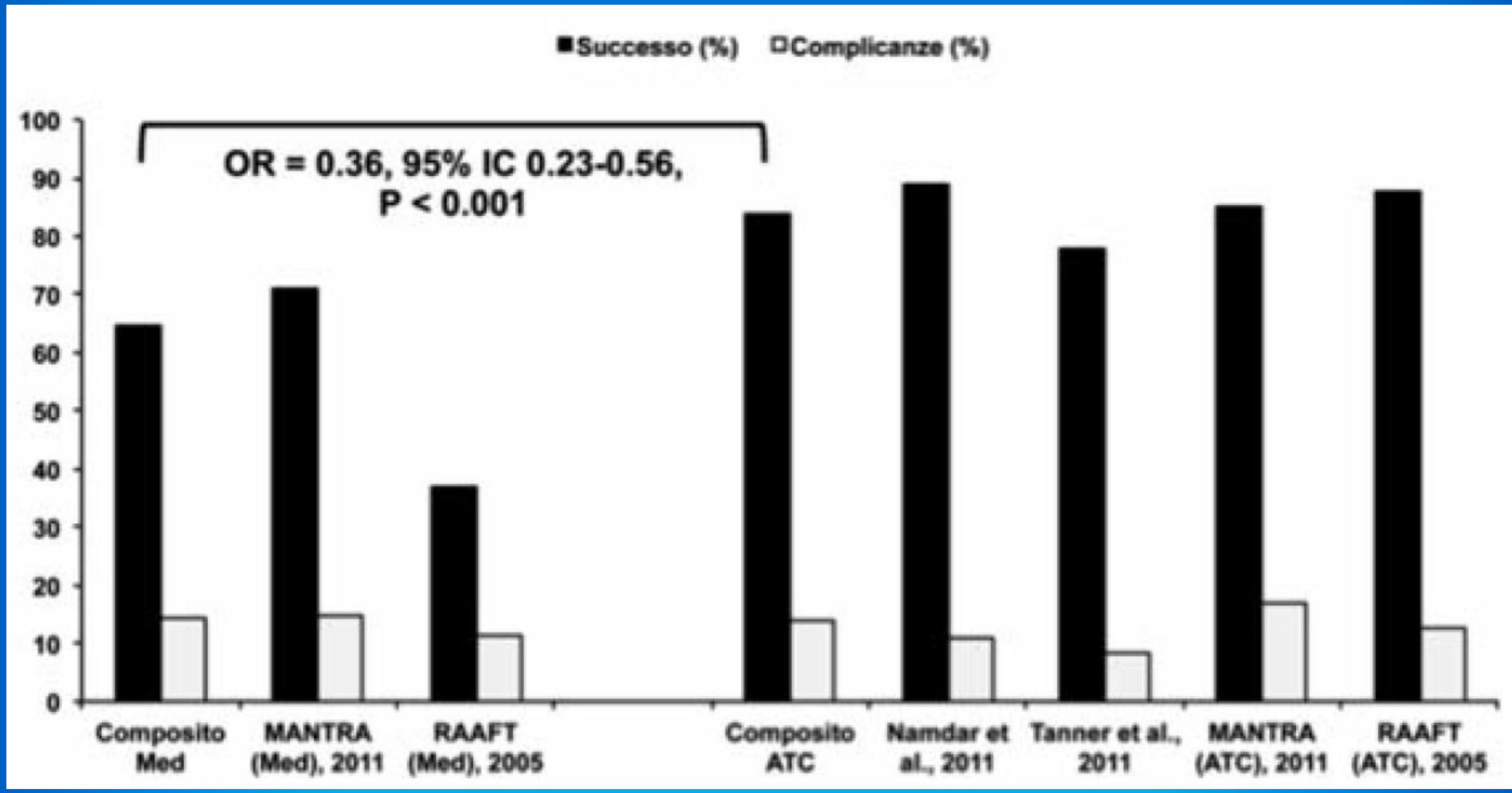


Wijffels et al. Circulation 1995

Come mantenere il Ritmo Sinusale

palliativa

radicale

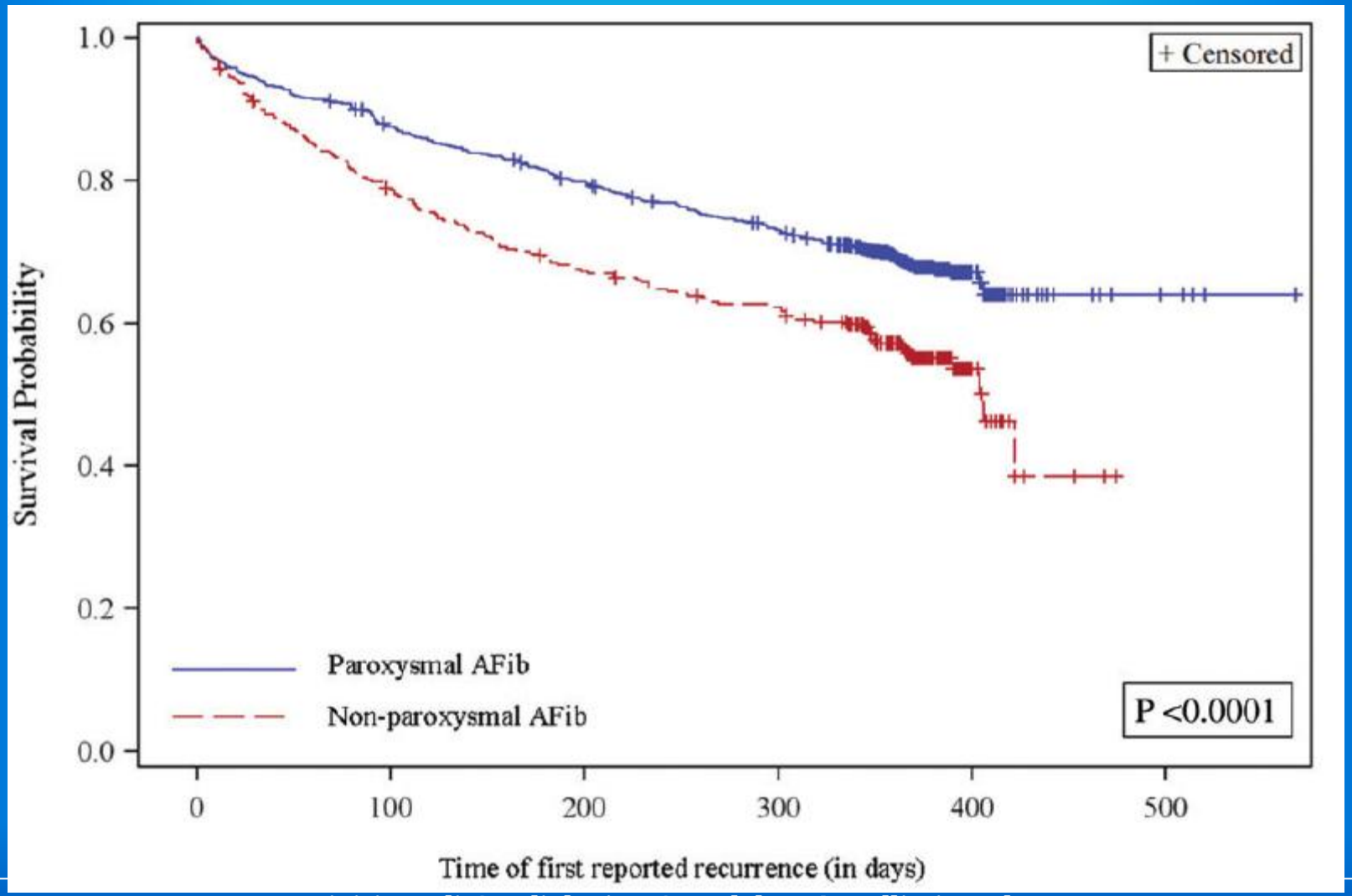


Farmaci

Ablazione

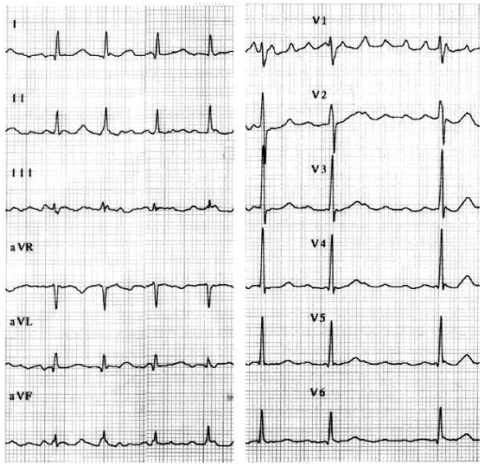
The Atrial Fibrillation Ablation Pilot Study: a European Survey on Methodology and results of catheter ablation for atrial fibrillation conducted by the European Heart Rhythm Association

European Heart Journal (2014)

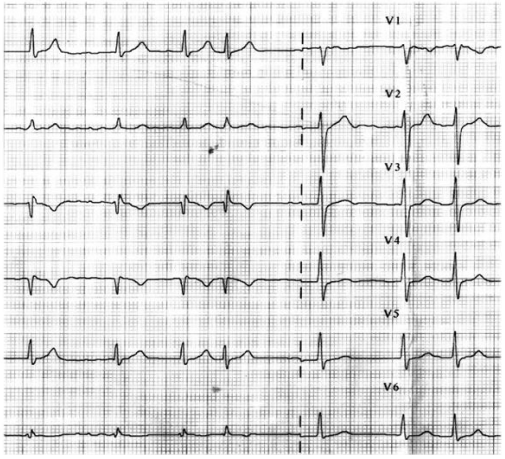


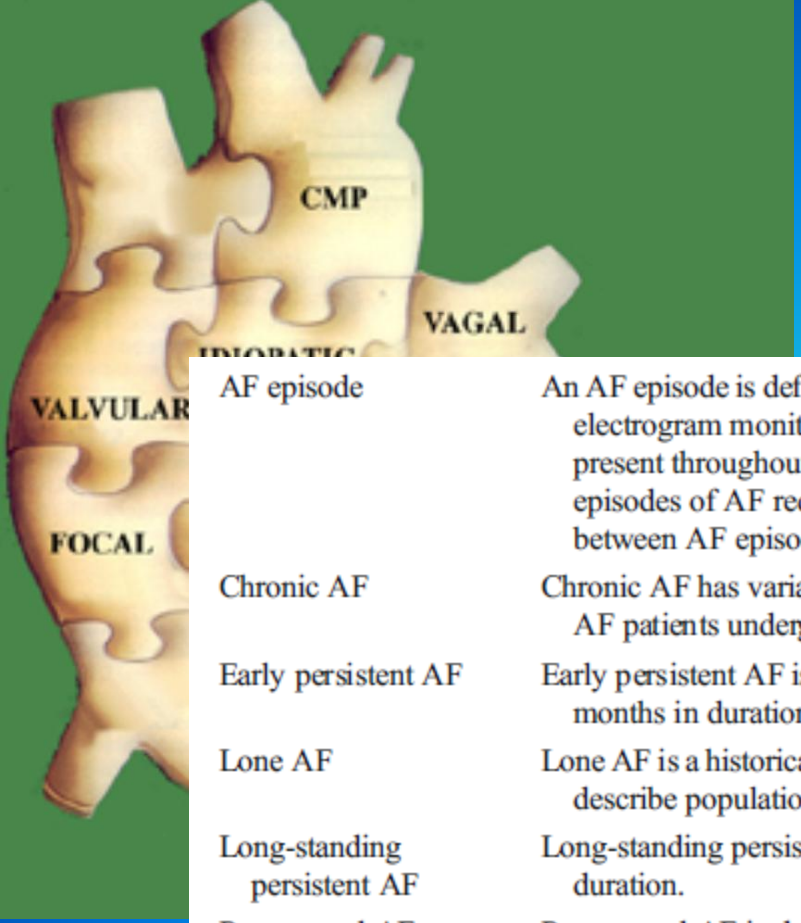

CMP
VAGAL
IDIOPATIC
VALVULAR
FOCAL
SSS
ADRENERGIC
CONDUCTION
DELAY

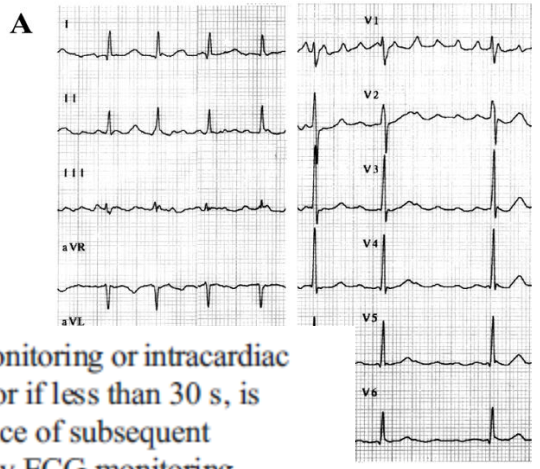
A


I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6

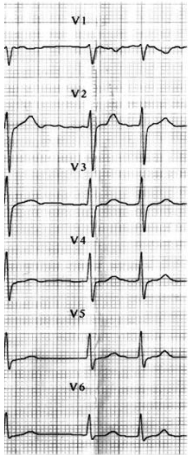
B

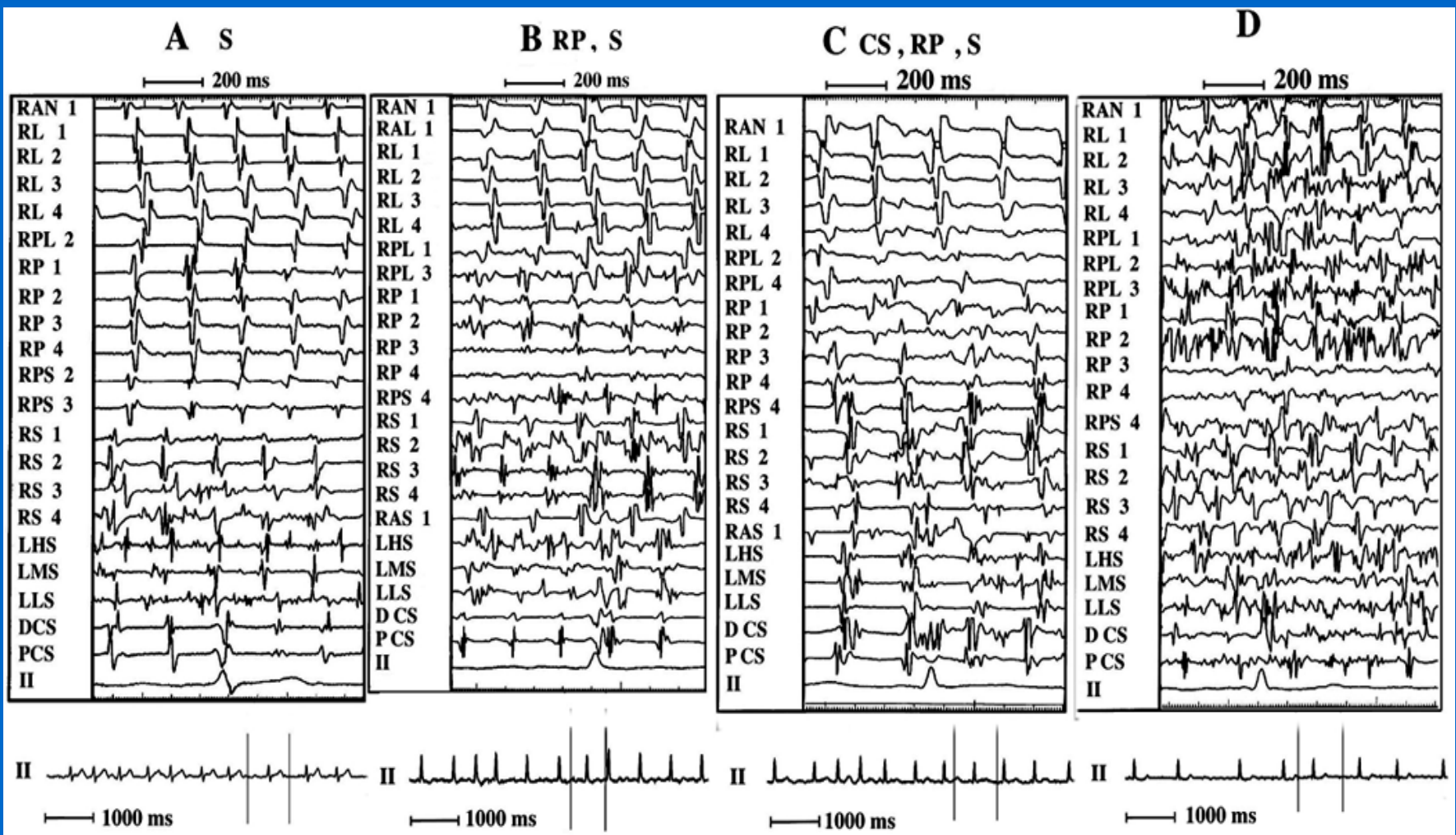

V1
V2
V3
V4
V5
V6





AF episode	An AF episode is defined as AF that is documented by ECG monitoring or intracardiac electrogram monitoring and has a duration of at least 30 s, or if less than 30 s, is present throughout the ECG monitoring tracing. The presence of subsequent episodes of AF requires that sinus rhythm be documented by ECG monitoring between AF episodes.
Chronic AF	Chronic AF has variable definitions and should not be used to describe populations of AF patients undergoing AF ablation.
Early persistent AF	Early persistent AF is defined as AF that is sustained beyond 7 days but is less than 3 months in duration.
Lone AF	Lone AF is a historical descriptor that is potentially confusing and should not be used to describe populations of patients with AF undergoing AF ablation.
Long-standing persistent AF	Long-standing persistent AF is defined as continuous AF of greater than 12 months' duration.
Paroxysmal AF	Paroxysmal AF is defined as AF that terminates spontaneously or with intervention within 7 days of onset.
Permanent AF	Permanent AF is defined as the presence of AF that is accepted by the patient and physician, and for which no further attempts to restore or maintain sinus rhythm will be undertaken. The term *permanent AF* represents a therapeutic attitude on the part of the patient and physician rather than an inherent pathophysiological attribute of AF. The term *permanent AF* should not be used within the context of a rhythm control strategy with antiarrhythmic drug therapy or AF ablation.
Persistent AF	Persistent AF is defined as continuous AF that is sustained beyond 7 days.
Silent AF	Silent AF is defined as asymptomatic AF diagnosed with an opportune ECG or rhythm strip.

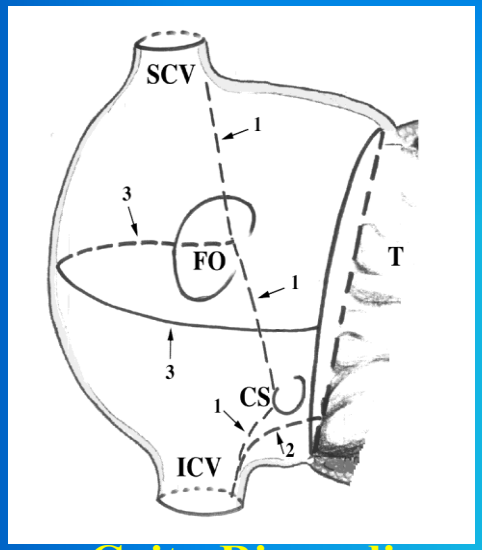




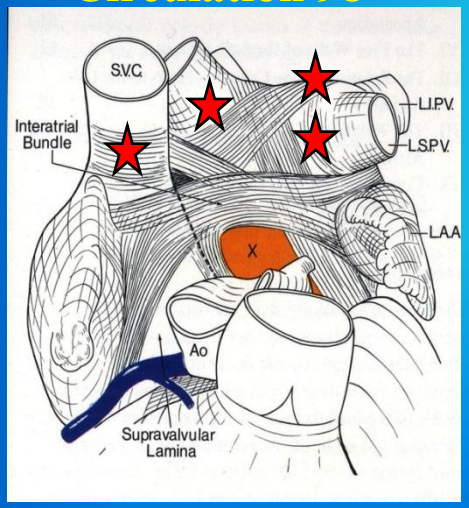
Parox	**22%**	**39%**	**39%**	**0%**
Perm	**0%**	**8%**	**33%**	**59%**

Gaita Riccardi et al JACC 2001

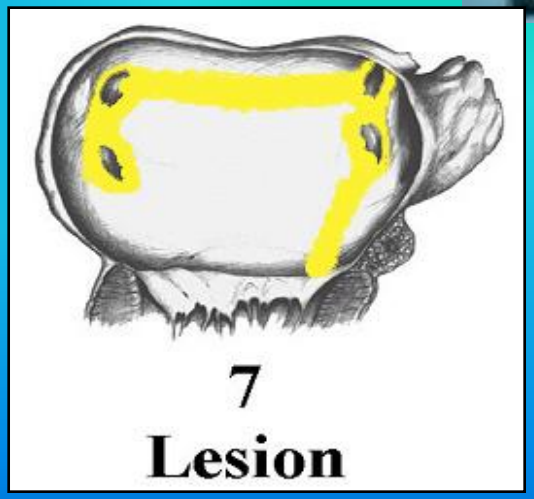
Come mantenere il Ritmo Sinusale



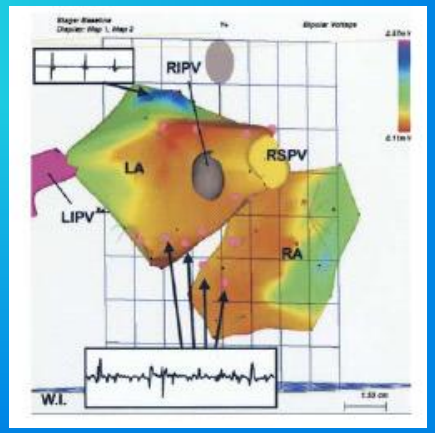
Gaita-Riccardi
Circulation 98



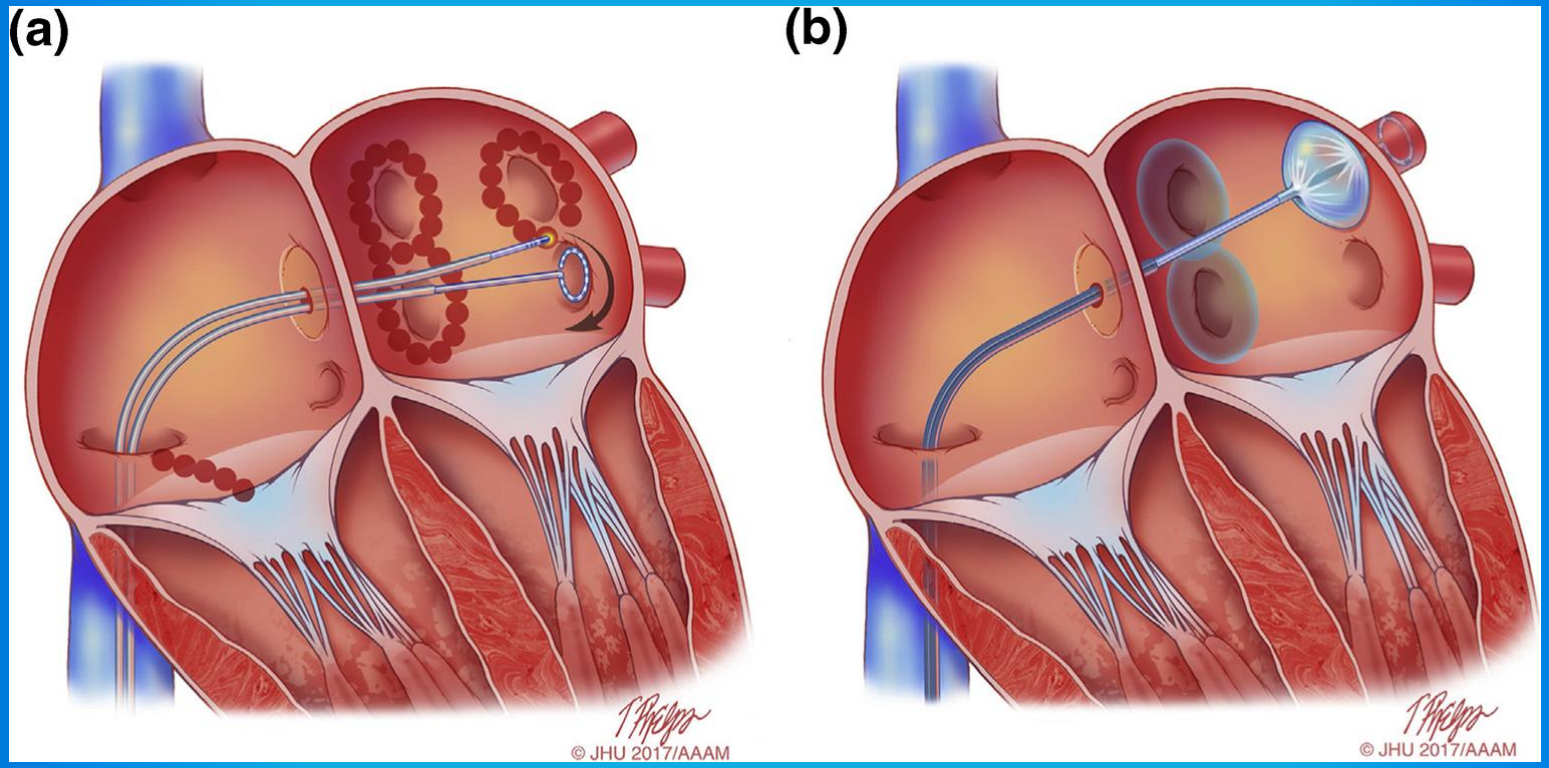
Haissaguerre-Jais
NEJM 1998



Gaita-Riccardi
Circulation 2005



Nademanee
Circulation 2005


(a)
(b)
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Complication	Incidence	Cause	Clinical Presentation	Diagnostic Tools
Cardiac tamponade	0.0–2.9%	TSP Linear lesions High RF power	Chest pain Tachycardia Dyspnea Abrupt hypotension/shock	TTE
TEs	0.0–1.1%	Use of number of sheaths/catheters in the arterial system Wide disruption of LA endocardial surface	Neurological deficits Acute ischemia of different organs depending on the site of TEs	Head CT/MR imaging Different tools
PV stenosis	0.0–0.5%	RF delivery inside PVs	Cough Dyspnea Hemoptysis Recurrent/drug-resistant pneumonia	TEE V/Q lung scan CT/MR imaging
PN injury	0.1–0.5%	RF delivery at sites in close proximity to right/left PN (RSPV, SVC, etc.)	Dyspnea Cough Weakness Unilateral diaphragmatic paralysis	Fluoroscopy
Atrioesophageal fistula	0.03–0.25%	RF delivery at posterior wall of LA	Fever Malaise Dysphagia Hematemesis/melena Neurological deficits Intermittent cardiac ischemia Septic shock	CT/MR imaging
Periesophageal vagal injury	1.0%	Injury of periesophageal vagal plexus	Abdominal bloating Discomfort Pain	Gastroscopy andupper gastrointestinal investigation

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Indicazioni all'ablazione della FA

	Recommendation	Class	LOE
Indications for catheter ablation of atrial fibrillation			
A. Indications for catheter ablation of atrial fibrillation			
Symptomatic AF refractory or intolerant to at least one Class I or III antiarrhythmic medication	Paroxysmal: Catheter ablation is recommended.	I	A
	Persistent: Catheter ablation is reasonable.	IIa	B-NR
	Long-standing persistent: Catheter ablation may be considered.	IIb	C-LD
Symptomatic AF prior to initiation of antiarrhythmic therapy with a Class I or III antiarrhythmic medication	Paroxysmal: Catheter ablation is reasonable.	IIa	B-R
	Persistent: Catheter ablation is reasonable.	IIa	C-EO
	Long-standing persistent: Catheter ablation may be considered.	IIb	C-EO

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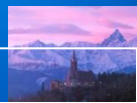

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Indicazioni all'ablazione della FA

Congestive heart failure	It is reasonable to use similar indications for AF ablation in selected patients with heart failure as in patients without heart failure.	IIa	B-R	[36–52]
Older patients (>75 years of age)	It is reasonable to use similar indications for AF ablation in selected older patients with AF as in younger patients.	IIa	B-NR	[53–59]
Hypertrophic cardiomyopathy	It is reasonable to use similar indications for AF ablation in selected patients with HCM as in patients without HCM.	IIa	B-NR	[60–62]
Young patients (<45 years of age)	It is reasonable to use similar indications for AF ablation in young patients with AF (<45 years of age) as in older patients.	IIa	B-NR	[63, 64]
Tachy-brady syndrome	It is reasonable to offer AF ablation as an alternative to pacemaker implantation in patients with tachy-brady syndrome.	IIa	B-NR	[33–35]
Athletes with AF	It is reasonable to offer high-level athletes AF as first-line therapy due to the negative effects of medications on athletic performance.	IIa	C-LD	[27, 28, 65]
Asymptomatic AF**	Paroxysmal: Catheter ablation may be considered in select patients.**	IIb	C-EO	[66, 67]
	Persistent: Catheter ablation may be considered in select patients.	IIb	C-EO	[68]

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Young patients (<45 years of age)	It is reasonable to use similar indications for AF ablation in young patients with AF (<45 years of age) as in older patients.	IIa	B-NR	[63, 64]
Tachy-brady syndrome	It is reasonable to offer AF ablation as an alternative to pacemaker implantation in patients with tachy-brady syndrome.	IIa	B-NR	[33–35]
Athletes with AF	It is reasonable to offer high-level athletes AF as first-line therapy due to the negative effects of medications on athletic performance.	IIa	C-LD	[27, 28, 65]
Asymptomatic AF**	Paroxysmal: Catheter ablation may be considered in select patients.**	IIb	C-EO	[66, 67]
	Persistent: Catheter ablation may be considered in select patients.	IIb	C-EO	[68]

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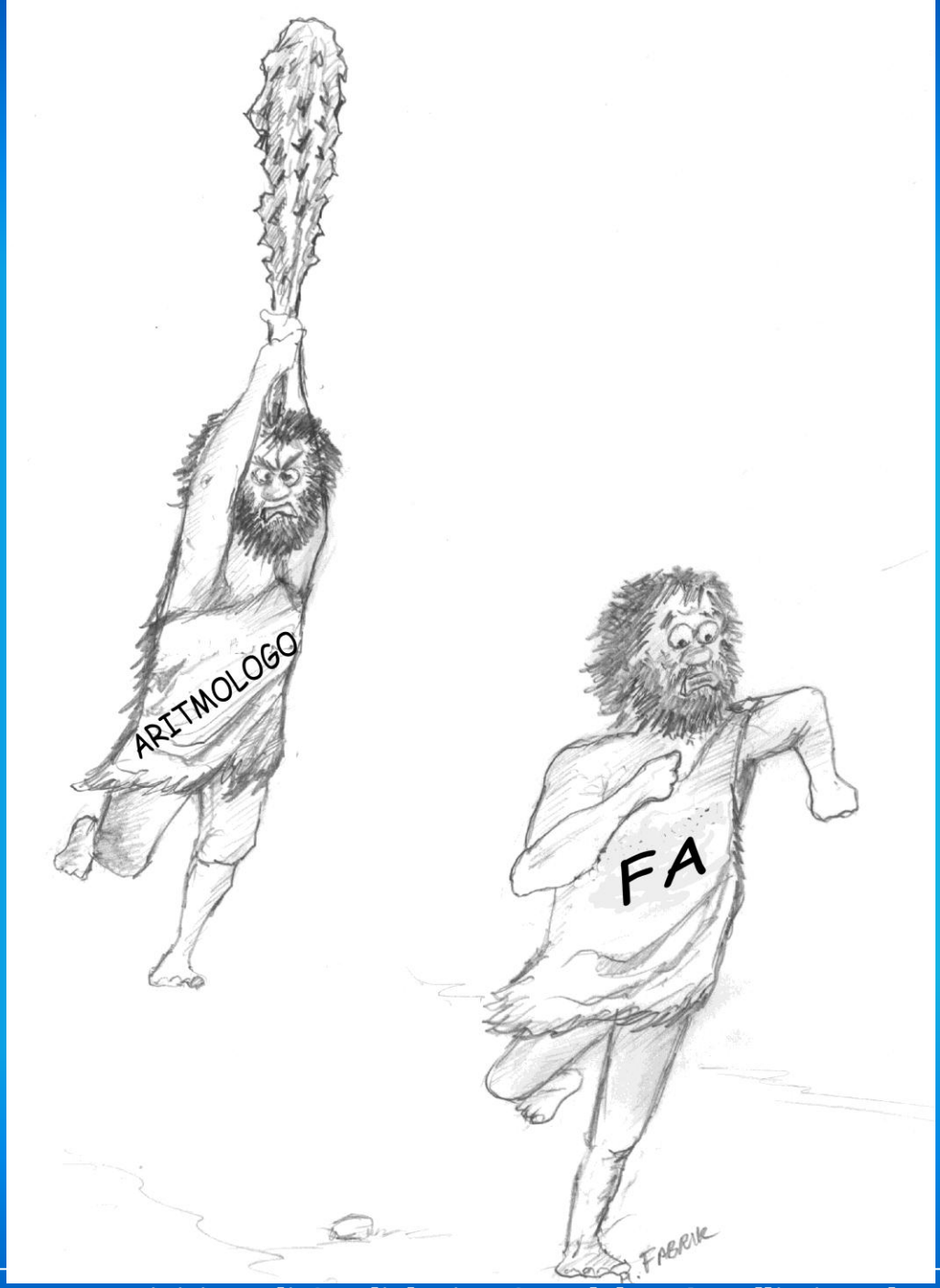
Fibrillazione Atriale: L'ablazione quando e perchè

Ritmo sinusale meglio della FA

Intervenire nelle fasi iniziali e soprattutto nelle parossistiche

L'ablazione è una metodica efficace e sicura almeno quanto la terapia farmacologica

Accurata selezione dei pazienti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