



# HighLights

## Arritmias y dispositivos

American Heart Association   
*Learn and Live*

SCIENTIFIC **2012**  
**SESSIONS**

EXHIBITS: NOVEMBER 4-6

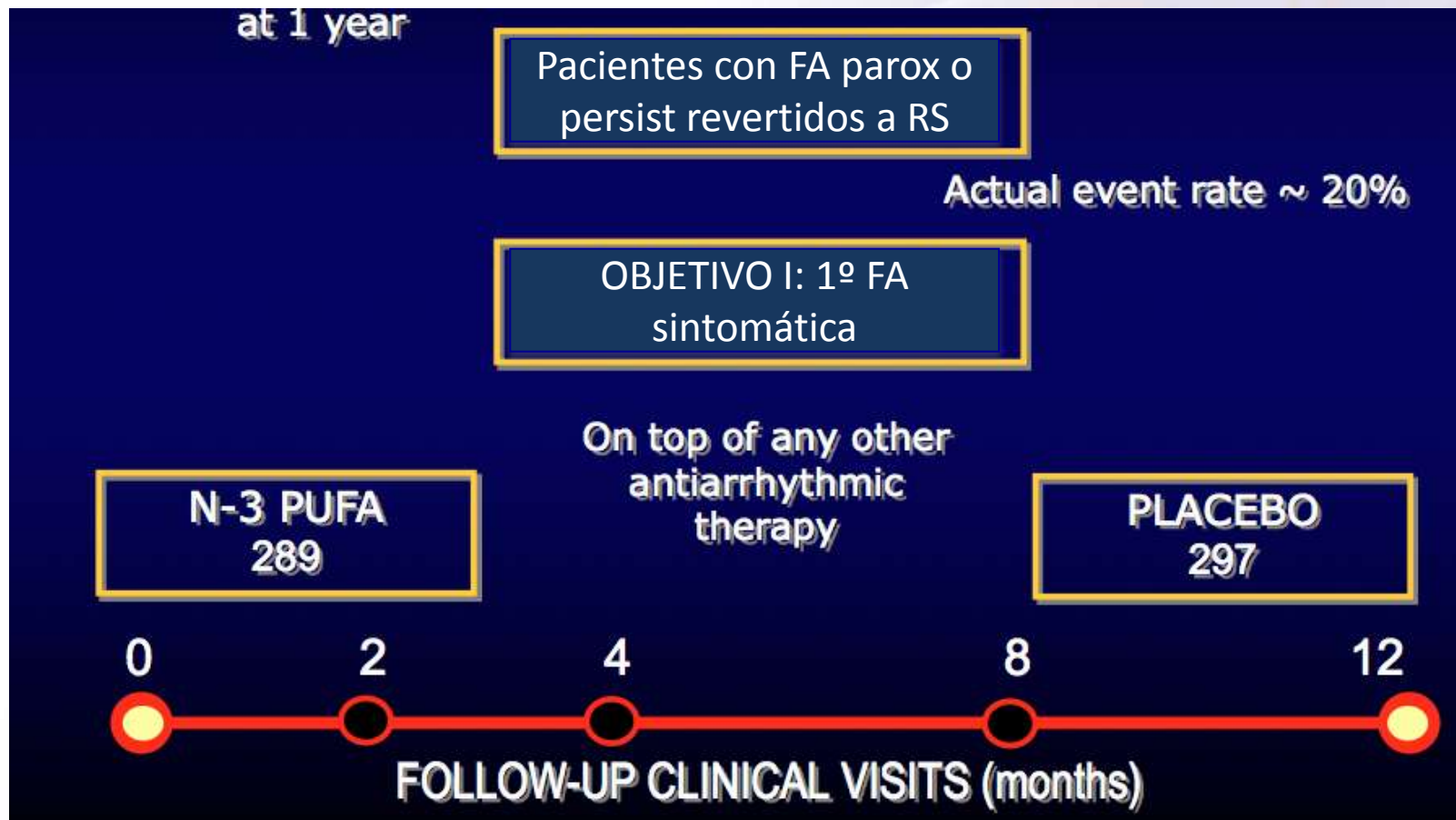
SESSIONS: NOVEMBER 3-7

RESUSCITATION SCIENCE SYMPOSIUM: NOVEMBER 3-4



# Ω-3 PUFA Y FA: FORWARD

Omega-3 Fatty Acids for the Prevention of Recurrent Symptomatic Atrial Fibrillation: Results of a double-blind randomized clinical trial

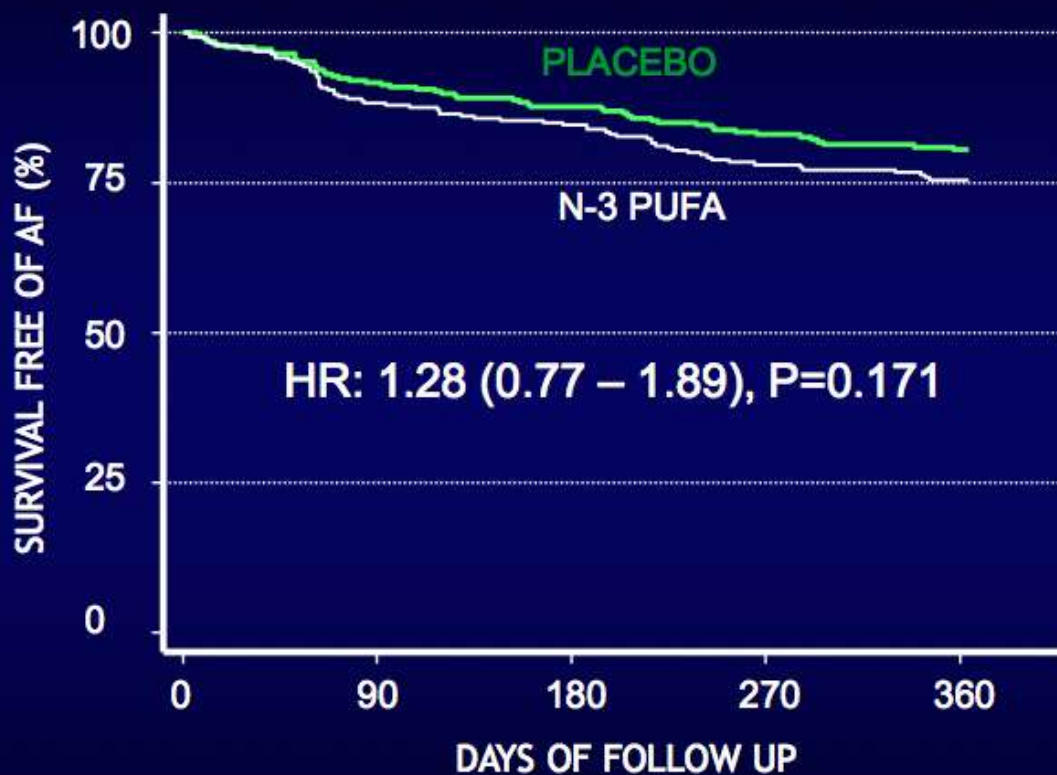




# Ω-3 PUFA Y FA: FORWARD

Omega-3 Fatty Acids for the Prevention of Recurrent Symptomatic Atrial Fibrillation: Results of a double-blind randomized clinical trial

## FORWARD – Survival free of AF



Number at risk

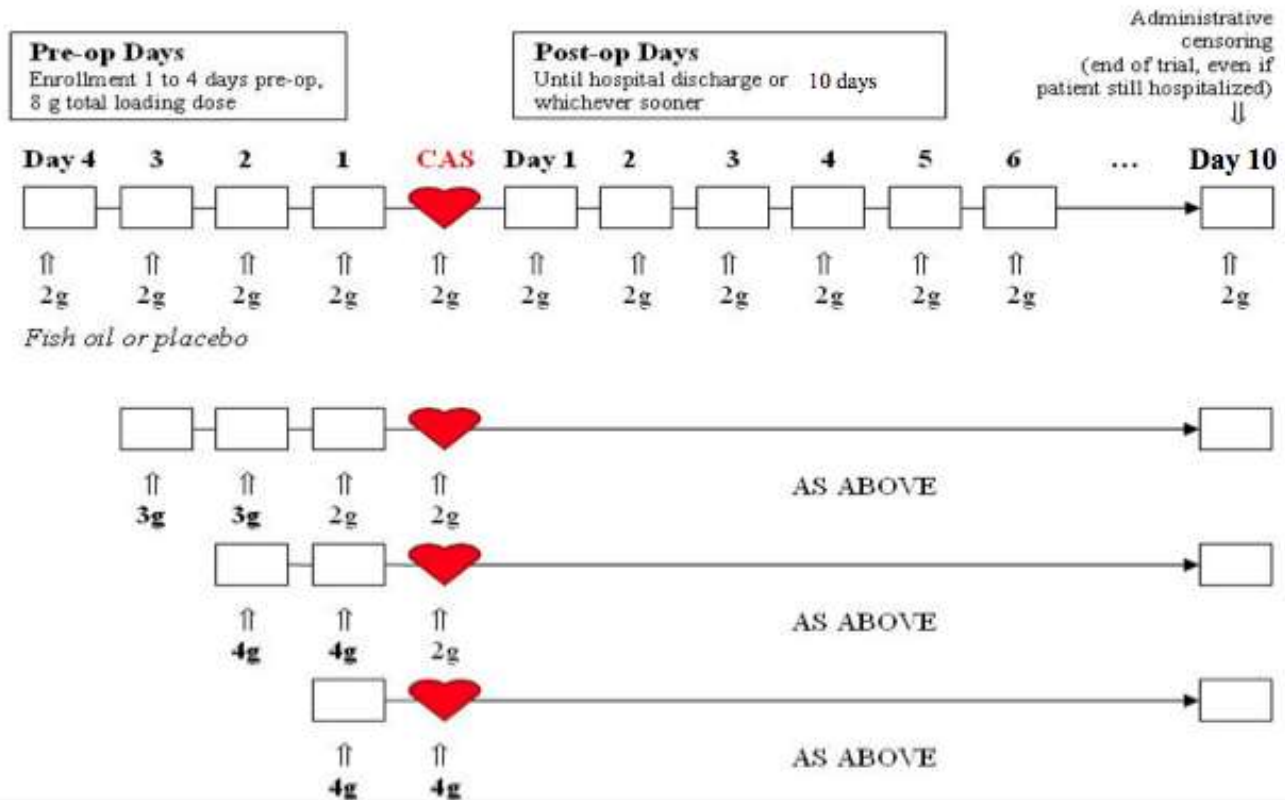
	0	90	180	270	360
Placebo	297	257	232	205	174
N-3 PUFA	289	242	222	185	161



# Ω-3 PUFA Y FA: OPERA TRIAL

## Fish Oil and Postoperative Atrial Fibrillation

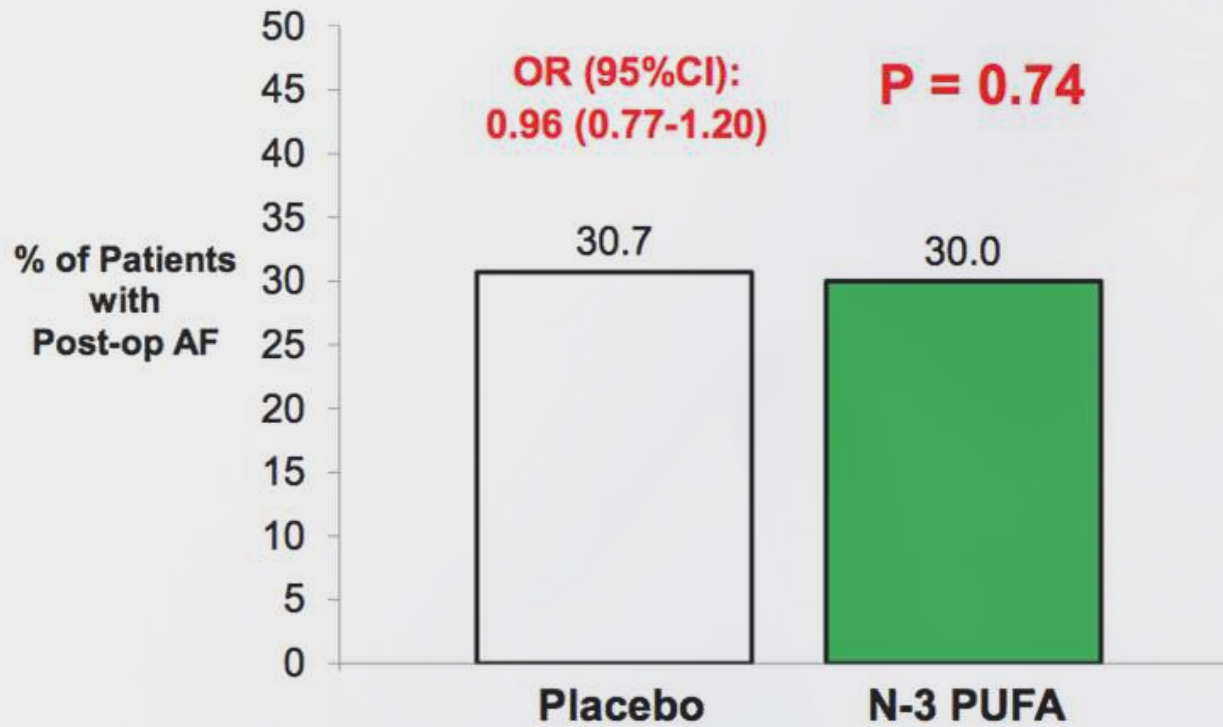
N=1516



EP: telemetría  
FA > 30 s.



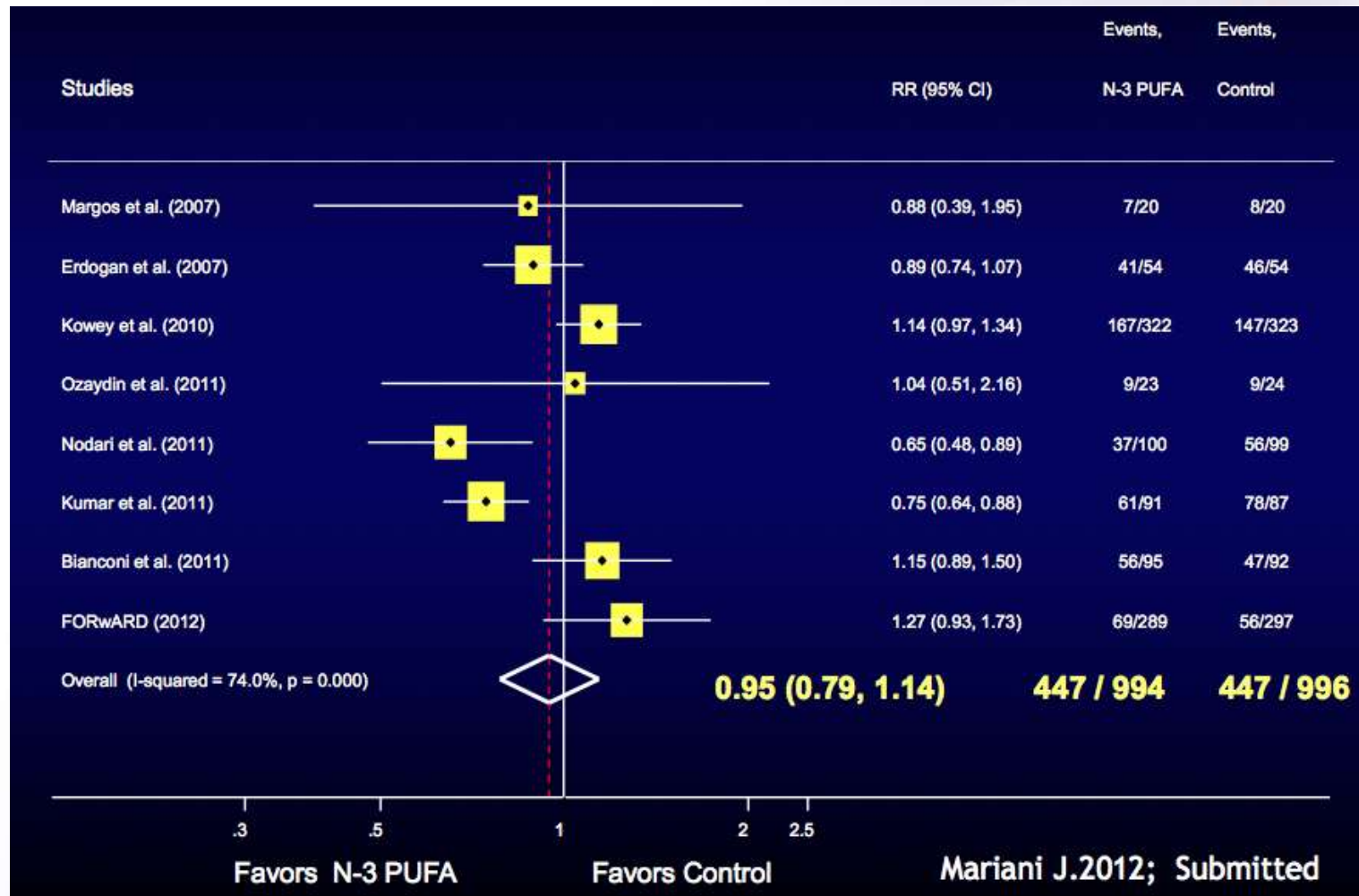
### Results: Primary Endpoint



661 Post-op AF episodes documented in 460 patients



# Ω-3 PUFA Y FA: FORWARD y OPERA





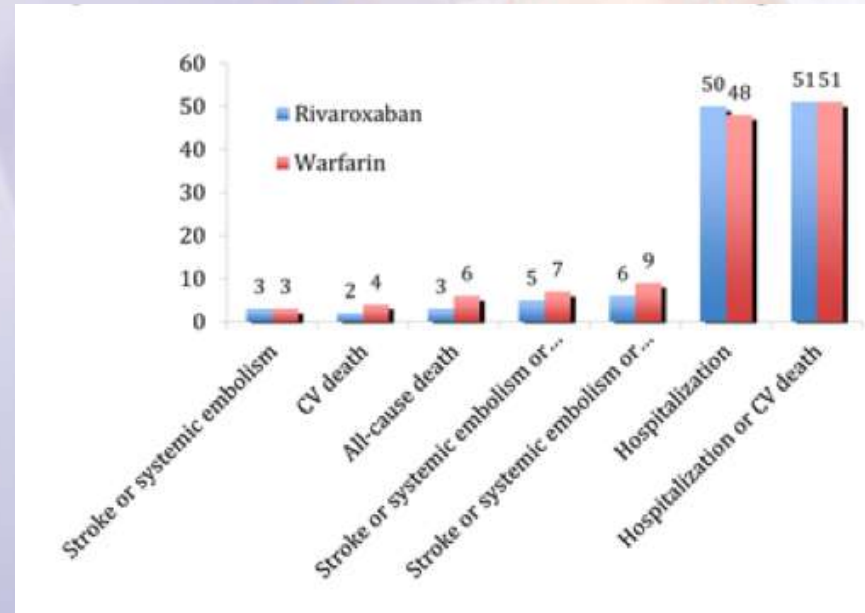
# Subestudios ARISTOTLE

- 1. Reduction in Bleeding with Apixaban versus Warfarin is Consistent Across Subgroups and Locations: Insights from the ARISTOTLE Trial**
  - APIXABAN reduce el riesgo de sangrado en 31%
  - Para ambos tratamientos, el sangrado gastrointestinal es el más frecuente (HDA)
- 2. Apixaban in Patients with Atrial Fibrillation and Prior Coronary Artery Disease: Insights from the ARISTOTLE Trial**
- 3. Apixaban versus warfarin in Patients with Atrial Fibrillation in relation to Prior Warfarin Use: Insights from the ARISTOTLE trial**
  - Los pacientes sin uso de warfarina previa mostraban una tendencia a mayor riesgo de embolismo y sangrado, independientemente del grupo de tratamiento



# Substudios ROCKET-AF

1. Rivaroxaban is Associated with a Reduced Risk of Thromboembolic events and Hemorrhagic Stroke in Patient with Heart Failure: Insights from ROCKET AF
2. Rivaroxaban Compared with Warfarin in Patients with Atrial Fibrillation and Diabetes: A Subgroup Analysis of the ROCKET AF Trial
3. Outcomes Following Cardioversion and Atrial Fibrillation Ablation in Patients Treated with Rivaroxaban and Warfarin in the ROCKET AF Trial







# SUBESTUDIOS DE RELY

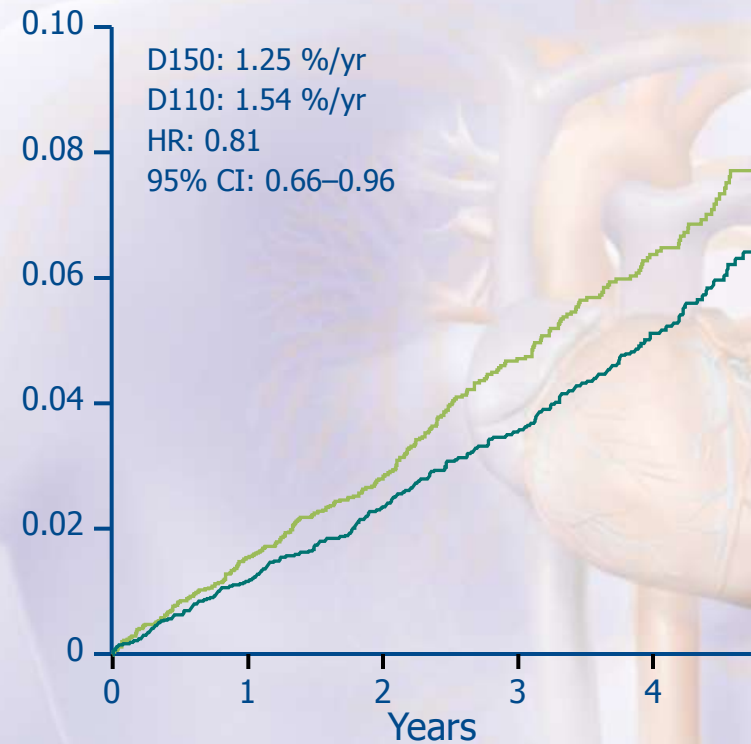
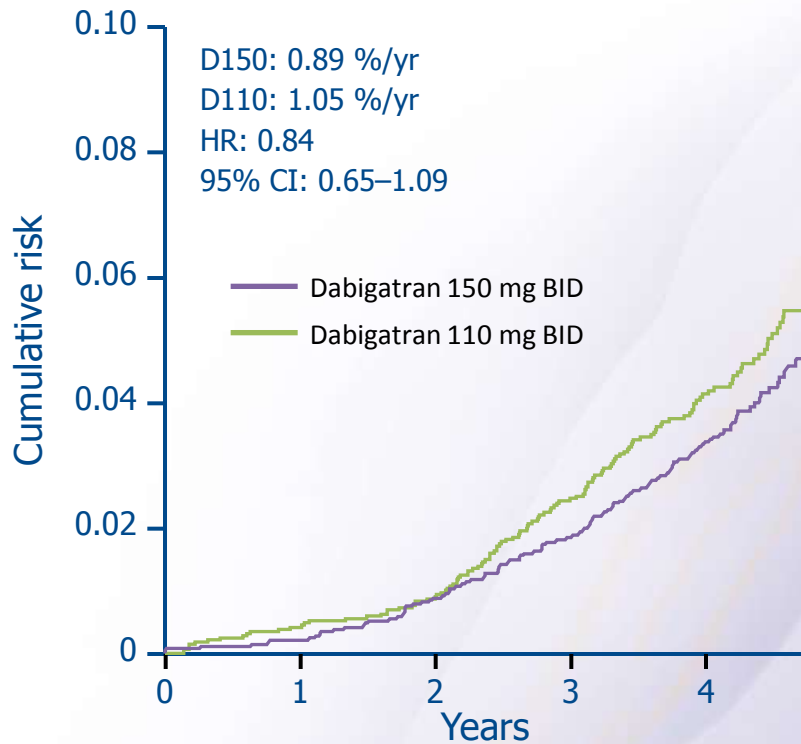
- 1. Importance of Persistent Elevation of Cardiac Biomarkers in Atrial Fibrillation - A RELY Substudy**  
→ Peor pronóstico en pacientes con FA y elevación permanente de troponina y NT-proBNP
- 2. Comparison of Dabigatran versus Warfarin in Diabetic Patients with Atrial Fibrillation: Results from the RE-LY Trial**  
→ Pacientes con FA y DM: > nº de eventos, peor control de INR.
- 3. Dabigatran Versus Warfarin in Very Elderly Patients with Atrial Fibrillation: Results from the RE-LY Trial**  
→ En ptes > 80 años, DE conserva los beneficios pero la dosis de 150 aumenta el riesgo de hemorragia vs warfarina, recomendando la dosis de 110.
- 4. Anemia is Associated with an Adverse Outcome in Patients with Atrial Fibrillation: Insights Form the Re-ly Trial**  
→ En pacientes con FA la presencia de anemia se asocia con peor pronóstico.



# RELY-ABLE: ICTUS / ES

RELY-ABLE® patients only  
5851 patients, mean FU 4.25 yr

All dabigatran patients  
12 091 patients, mean FU 3 yr



No. at risk

D110	2914	2902	2860	2711	1905
D150	2937	2931	2882	2729	1929

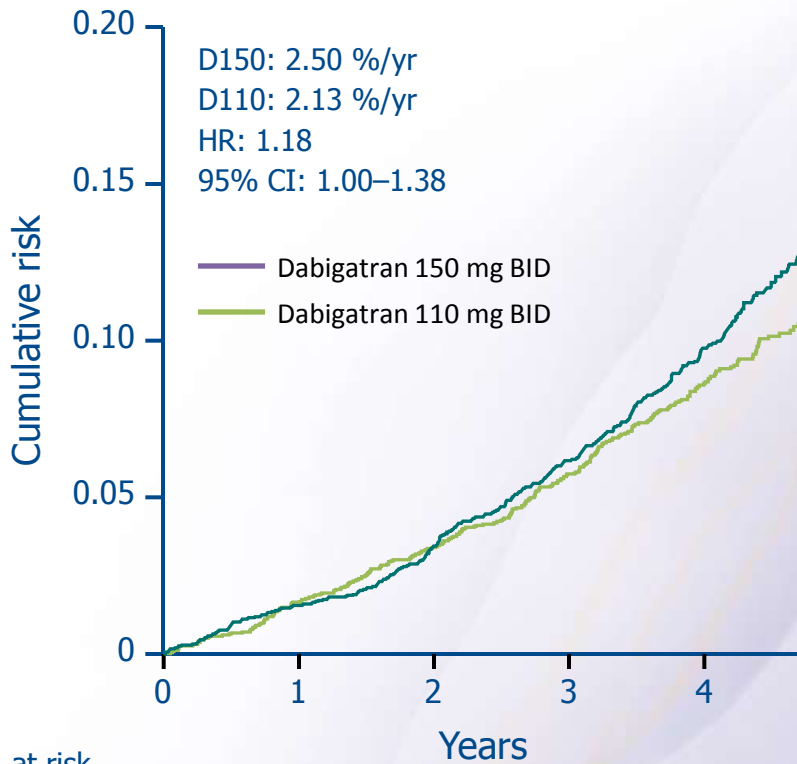
6015	5709	4208	2740	1921
6076	5777	4298	2757	1943

BID = twice daily; D150 and D110 = dabigatran 150 and 110 mg BID, respectively; FU= follow -up; HR = hazard ratio



# RELY-ABLE: Major bleeding

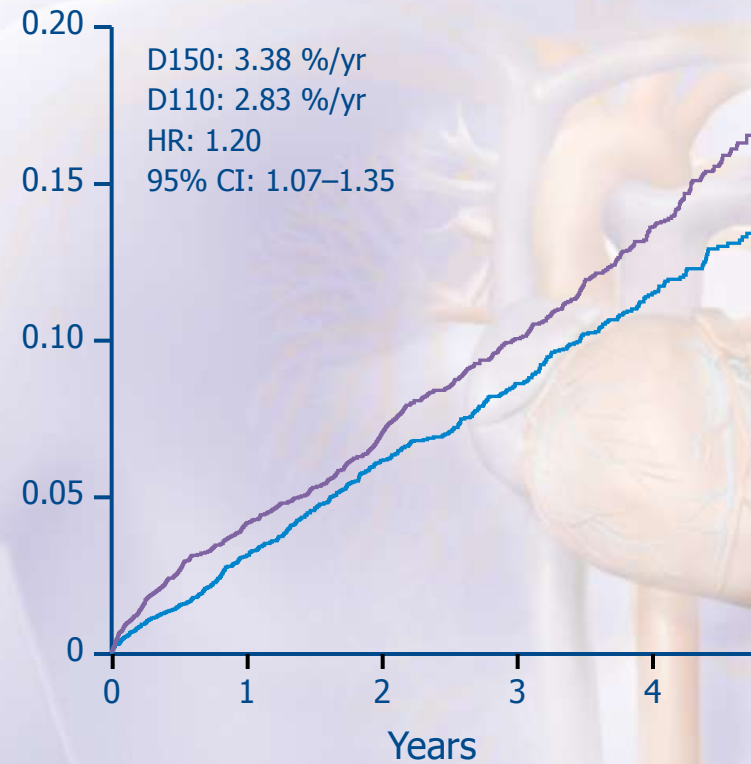
RELY-ABLE® patients only  
5851 patients, mean FU 4.25 yr



No. at risk

	0	1	2	3	4
D110	2914	2867	2796	2634	1852
D150	2937	2892	2815	2617	1831

All dabigatran patients  
12 091 patients, mean FU 3 yr



	0	1	2	3	4
D150	6015	5622	4092	2661	1868
D110	6076	5627	4152	2644	1846



# MADIT Randomized Trial to Reduce Inappropriate Therapy (MADIT-RIT)

## MADIT-IV: MADIT-RIT

(Started Sept. 15, 2009)

Three-arm Randomized Trial

ICD patients (Primary prevention only)

**MADIT-RIT A  
(Standard)**

Zone 1: 170 bpm; ATP + shock; 2.5s delay  
Zone 2: 200bpm; 1s shock only

**MADIT-RIT B  
(High-rate Cutoff)**

Zone 1: 170 bpm monitor only  
Zone 2: 200 bpm 2.5 Delay; ATPx2 + shock

**MADIT-RIT C  
(Long Delay)**

Zone 1: 170 bpm, 60s delay; ATP + shock  
Zone 2: 200 bpm; 12s delay; ATP + shock  
Zone 3: 250 bpm; shock

(500 patients per group)

Minimum Follow-Up: 12 months

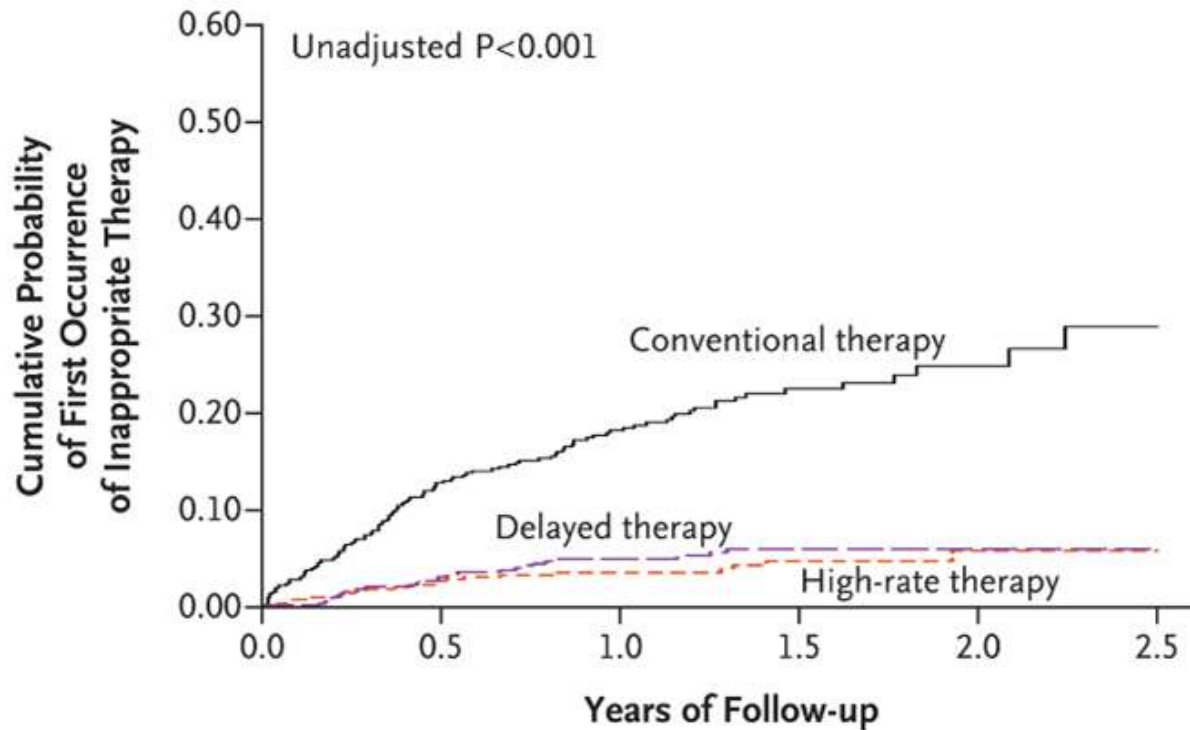
1<sup>o</sup> End Point: 1st inappropriate ATP or shock therapy

Randomized trial to Reduce Inappropriate Therapy (RIT) in pts Rx with ICD for primary prevention indication.

85% power to detect a 50% RIT at  $p < 0.05$ .



# MADIT-RIT: Disminución de terapias inapropiadas

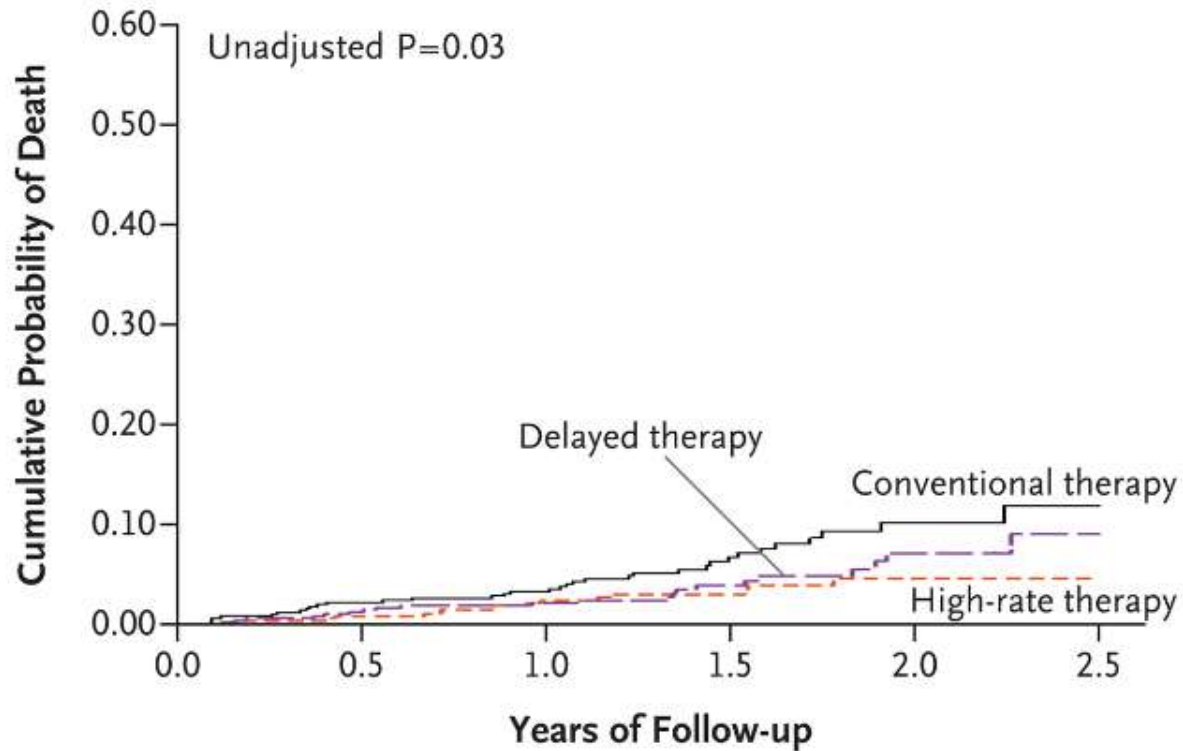


## No. at Risk

Conventional therapy	514	420 (0.13)	305 (0.18)	149 (0.22)	56 (0.25)	8 (0.29)
High-rate therapy	500	454 (0.03)	339 (0.04)	191 (0.05)	70 (0.06)	17 (0.06)
Delayed therapy	486	445 (0.03)	342 (0.05)	177 (0.06)	82 (0.06)	13 (0.06)



# MADIT-RIT: Mejoría de la supervivencia



## No. at Risk

Conventional therapy	514	490 (0.02)	392 (0.03)	219 (0.07)	89 (0.10)	14 (0.12)
High-rate therapy	500	478 (0.01)	372 (0.02)	221 (0.03)	90 (0.05)	21 (0.05)
Delayed therapy	486	471 (0.01)	375 (0.02)	205 (0.04)	99 (0.07)	14 (0.09)



# MADIT-RIT: Hazard ratios

**Table 3.** Hazard Ratios for a First Occurrence of Inappropriate Therapy, Death, and a First Episode of Syncope According to Treatment Group.

Variable	Conventional Therapy (N = 514)	High-Rate Therapy (N = 500)	Delayed Therapy (N = 486)	High-Rate Therapy vs. Conventional Therapy		Delayed Therapy vs. Conventional Therapy	
				Hazard Ratio (95% CI)	P Value	Hazard Ratio (95% CI)	P Value
	<i>no. of patients</i>						
First occurrence of inappropriate therapy	105	21	26	0.21 (0.13–0.34)	<0.001	0.24 (0.15–0.40)	<0.001
Death	34	16	21	0.45 (0.24–0.85)	0.01	0.56 (0.30–1.02)	0.06
First episode of syncope	23	22	22	1.32 (0.71–2.47)	0.39	1.09 (0.58–2.05)	0.80



# MADIT-RIT: CONCLUSIONES

Una optimización de la programación del DAI a alta frecuencia ( $> 200$  lpm) o retraso en la terapia (60 s @  $> 170$  lpm) se asocia:

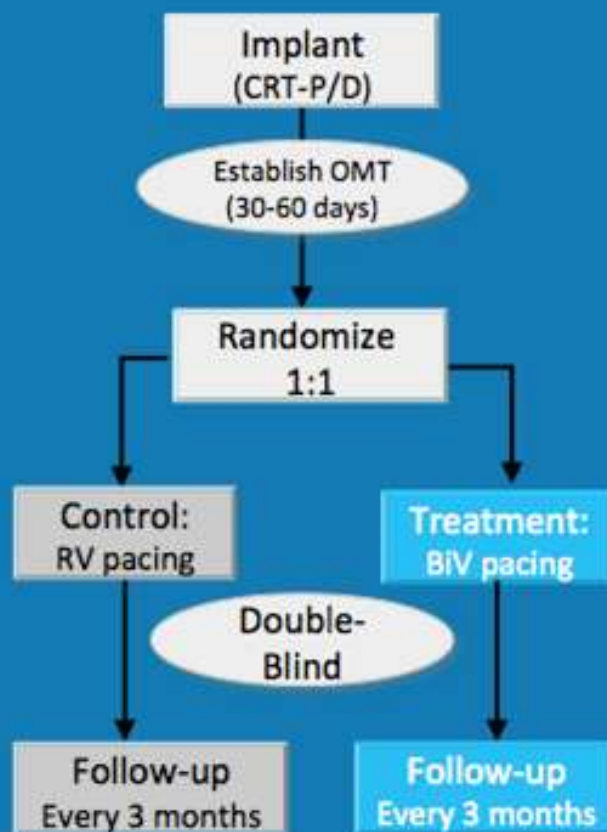
- Reducción del 75% en terapias inapropiadas
- Reducción del 50% de mortalidad total





# Biventricular versus Right Ventricular Pacing in Patients with Left Ventricular Dysfunction and Atrioventricular Block (BLOCK HF Study)

## Study Design



### ELIGIBILITY CRITERIA

- AV block necessitating pacing
  - Left ventricular ejection fraction (LVEF)  $\leq 50\%$
  - NYHA functional class I, II or III
  - Absence of a Class I indication for resynchronization therapy
  - No previous pacemaker or implantable cardioverter defibrillator (ICD)
- 
- Echocardiography performed at Randomization, 6, 12, 18 and 24 months

OMT=optimal medical therapy

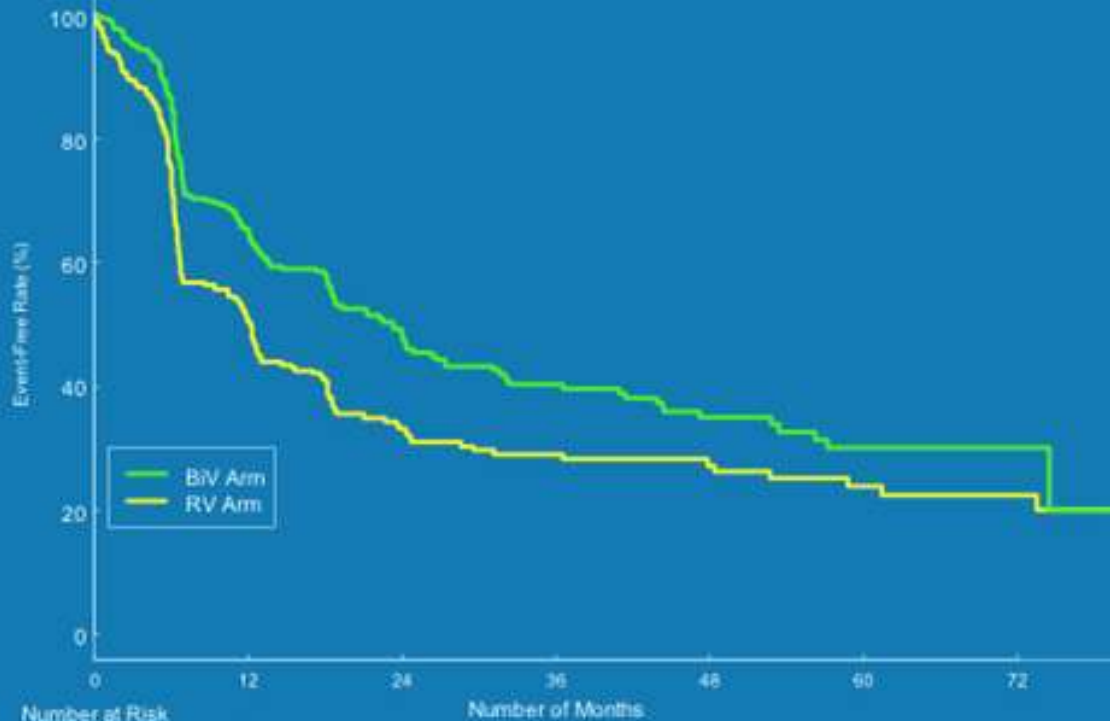
CRT-P=cardiac resynchronization therapy pacemaker

CRT-D=CRT defibrillator



# Biventricular versus Right Ventricular Pacing in Patients with Left Ventricular Dysfunction and Atrioventricular Block (BLOCK HF Study)

## Primary Endpoint Results: Mortality/HF Urgent Care/LVESVI

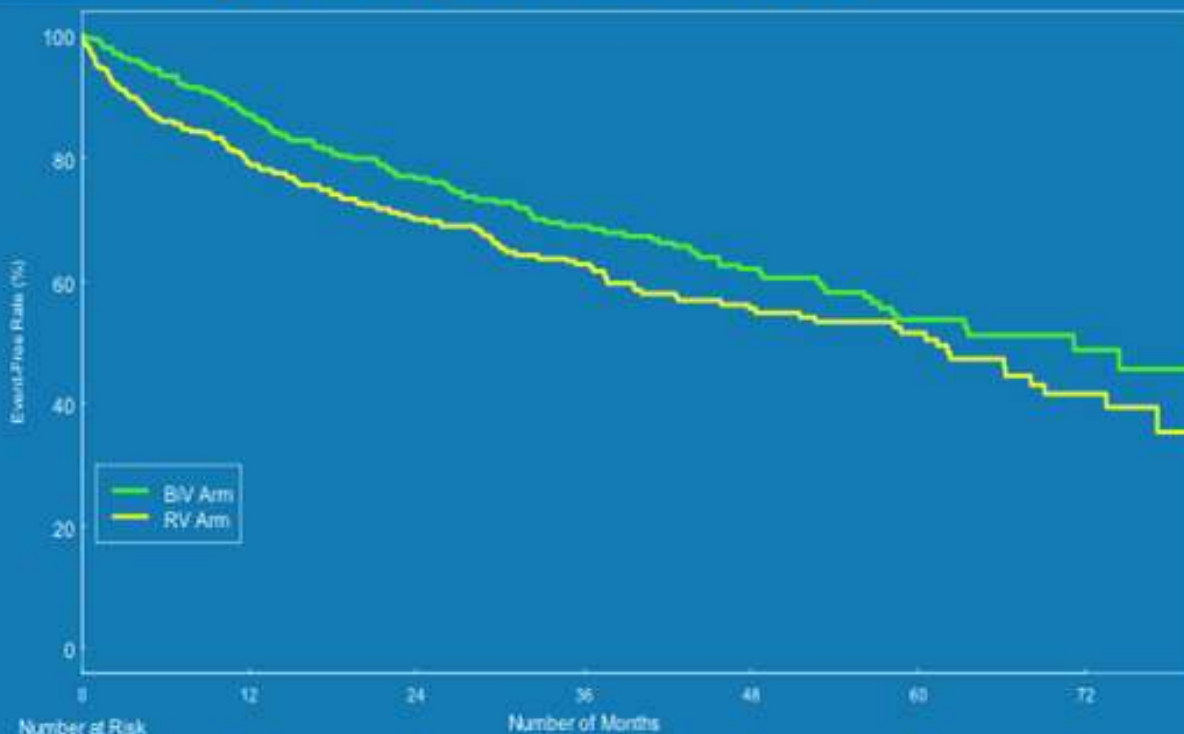


Cohort	Estimated HR (95% CI)	Probability HR < 1	Threshold
All Randomized Subjects	0.74 (0.60, 0.90)	0.9978	0.9775
CRT-P Only	0.73 (0.58, 0.91)		
CRT-D Only	0.75 (0.57, 1.02)		



# Biventricular versus Right Ventricular Pacing in Patients with Left Ventricular Dysfunction and Atrioventricular Block (BLOCK HF Study)

## Clinical Components of Primary Endpoint: Mortality/HF Urgent Care Visits



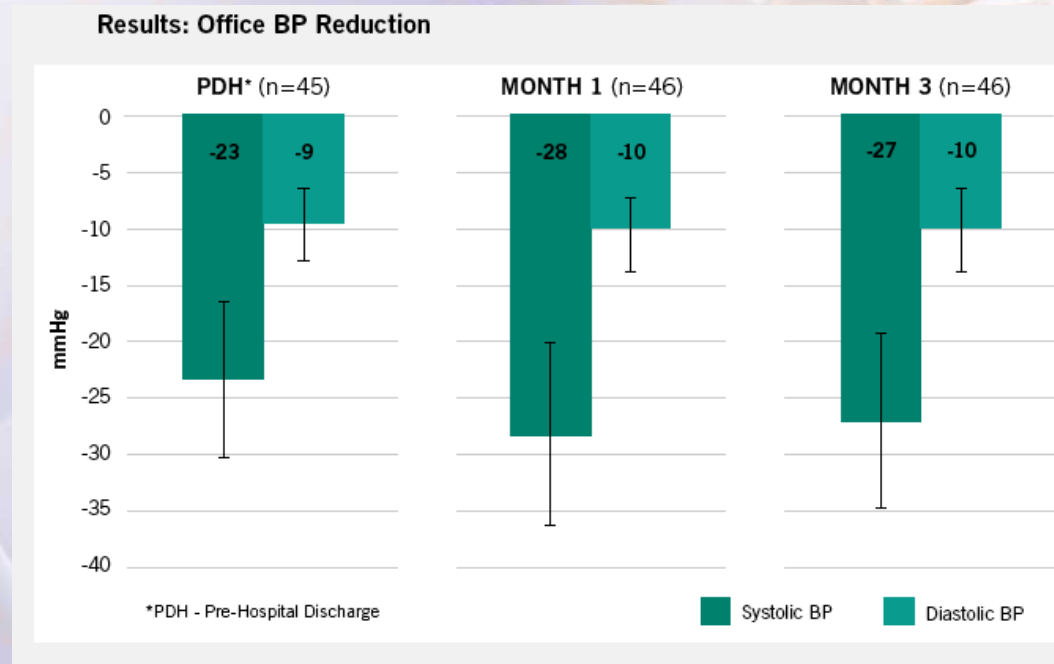
Cohort	Estimated HR (95% CI)	Probability HR < 1	Threshold
All Randomized Subjects	0.73 (0.57, 0.92)	0.997	N/A
CRT-P Only	0.73 (0.56, 0.94)		
CRT-D Only	0.73 (0.53, 1.02)		



## Biventricular versus Right Ventricular Pacing in Patients with Left Ventricular Dysfunction and Atrioventricular Block (BLOCK HF Study)

- En pacientes con BAV y  $FE < 50\%$ , comparado con la estimulación de VD, la estimulación BiV reduce en un 26% el objetivo combinado de mortalidad, IC y aumento del VT/SVI
- Además hay una reducción del 27% en el objetivo clínico de IC y mortalidad total

- 46 Pacientes con HTA resistente (6 m) con dispositivo multielectrodo para ablación art renal
- No SAE. No empeoramiento de la función renal
- 76% de respondedores





# '12 Pilot Trial of Two Levels of Hypothermia in Comatose Survivors from Out-of-Hospital Cardiac Arrest

73 pacientes  
con PCR  
presenciada

37 excluidos

18 no firaron consentimiento  
14 Ritmo no CV o DEM

18 P a 32°C / 24 h

13 con FV o TV

5 asistolia

18 P a 34°C / 24 h

13 con FV o TV

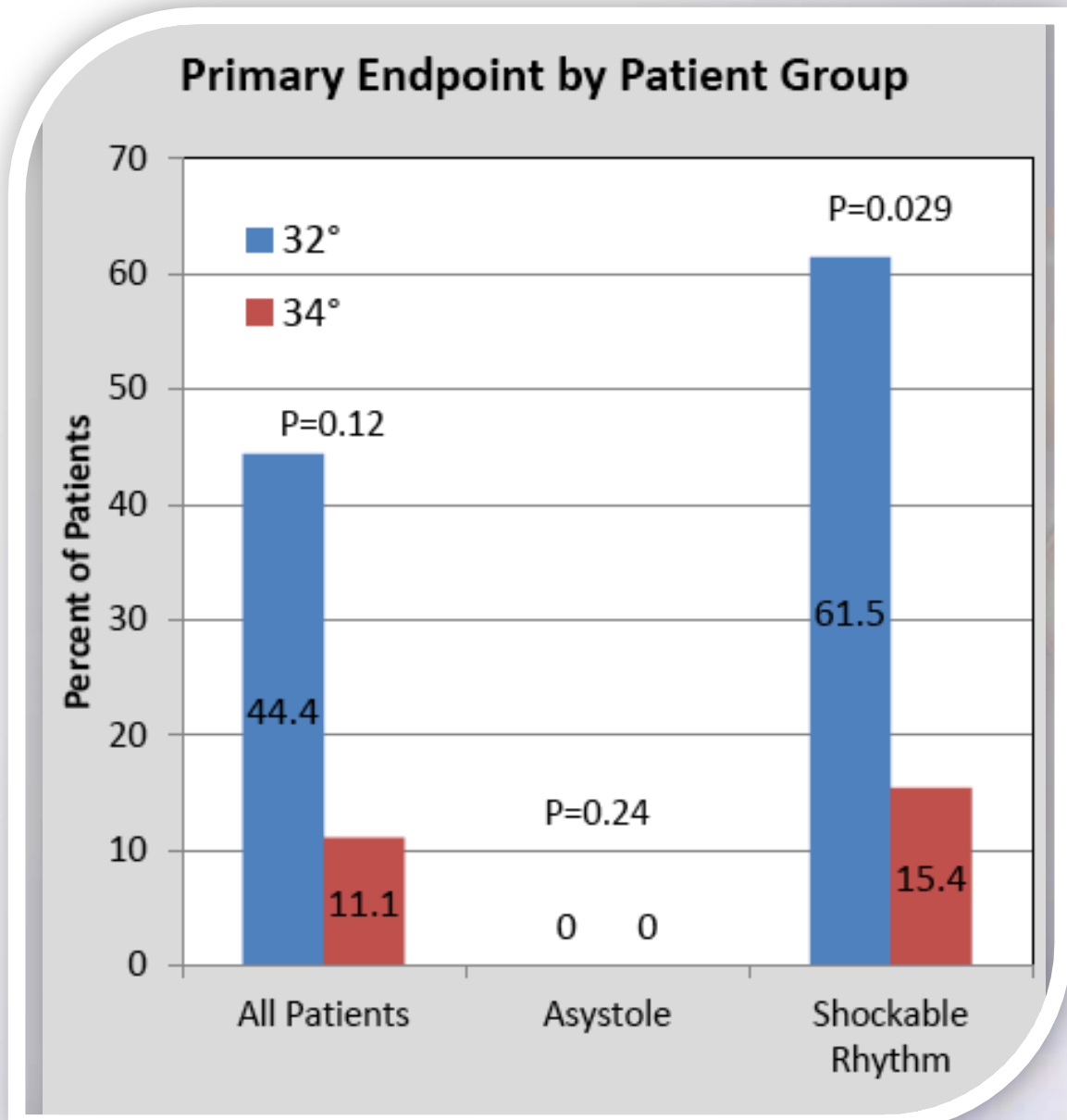
5 asistolia

OBJETIVO 1: SUPERVIVENCIA A 6 M LIBRE DE DEPENDENCIA SEVERA  
(BARTHEL > 60)





# Pilot Trial of Two Levels of Hypothermia in Comatose Survivors from Out-of-Hospital Cardiac Arrest





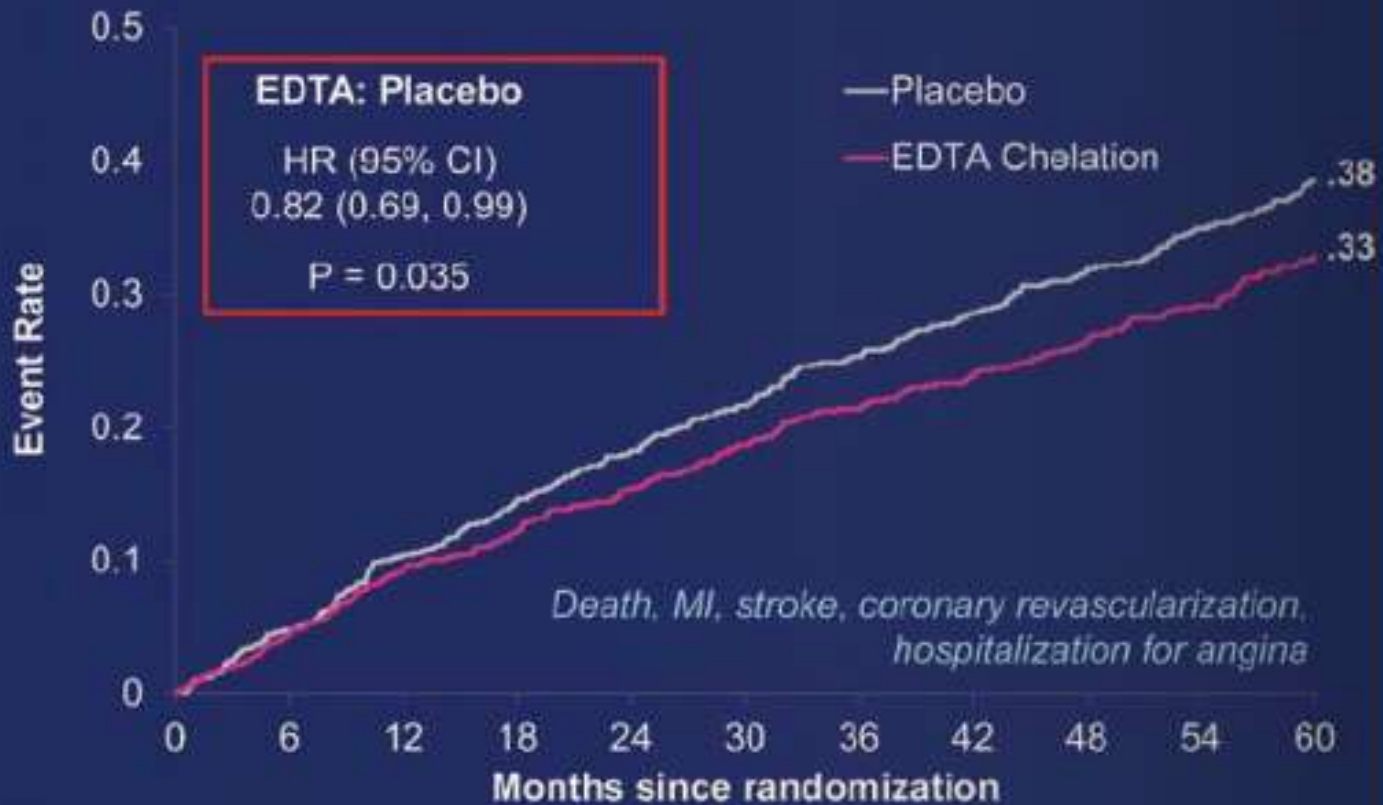
# Trial to Assess Chelation Therapy (TACT)

- **Quelación** → infusión de EDTA / 3 horas
  - 30 sesiones/semanales + 10 de mantenimiento cada 2-8 s
  - Consigue la eliminación de metales divalentes (calcio, plomo...)
- 1708 pacientes post IAM (>6m)
- Seguimiento: 55 semana
- NO aumento de efectos adversos

Additive
Up to 3 grams of disodium EDTA
2 grams of magnesium chloride
100 mg of procaine HCL
2500 units of heparin
7 grams of ascorbate
2 mEq KCl
840 mg sodium bicarbonate
250mg pantothenic acid
100mg of thiamine
100mg of pyridoxine
QS with sterile water to 500ml



## TACT Primary Endpoint Results



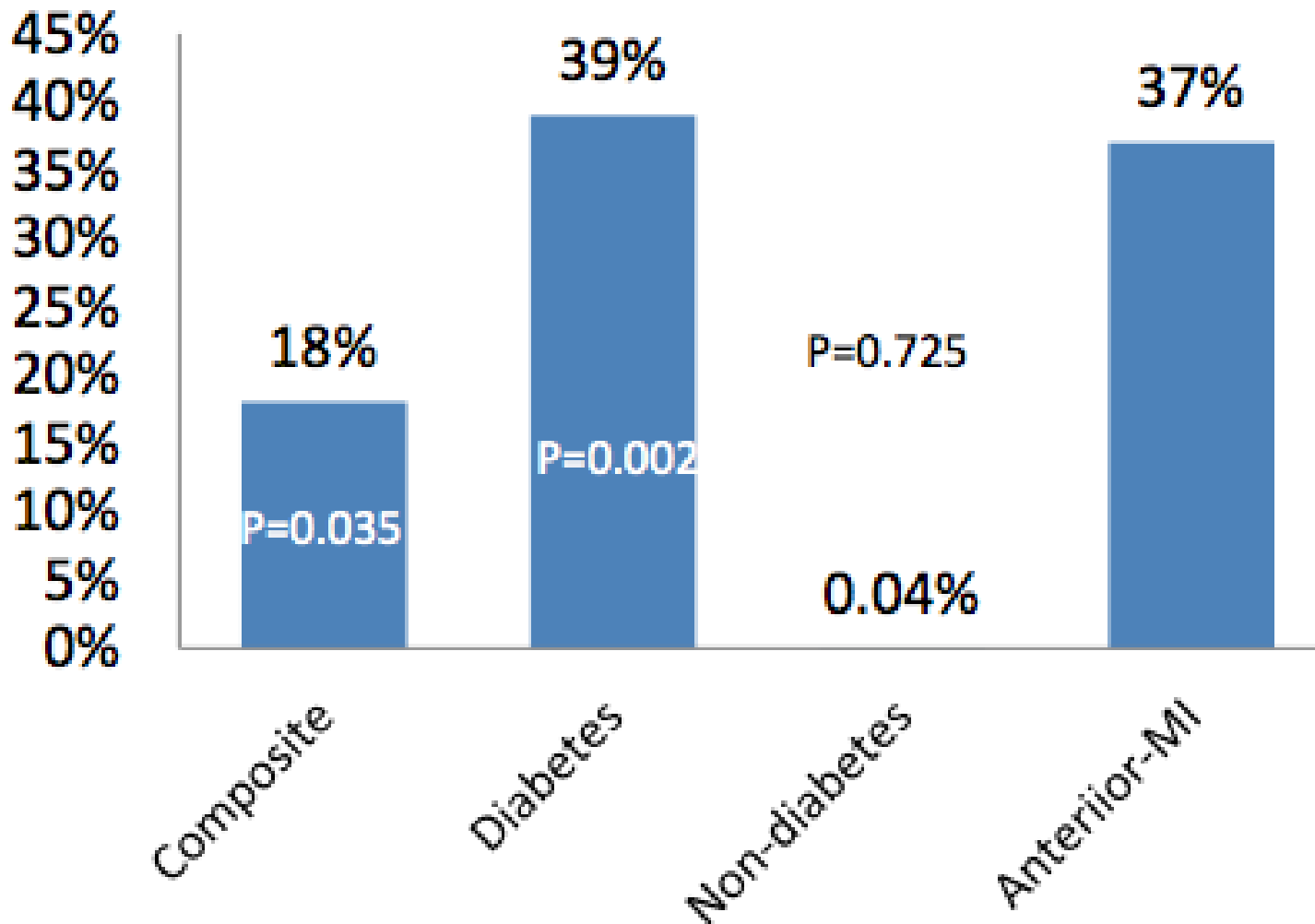
Number at risk:

Placebo	860	776	701	638	566	515	475	429	384	322	205
EDTA chelation	839	760	703	650	588	537	511	476	427	358	229

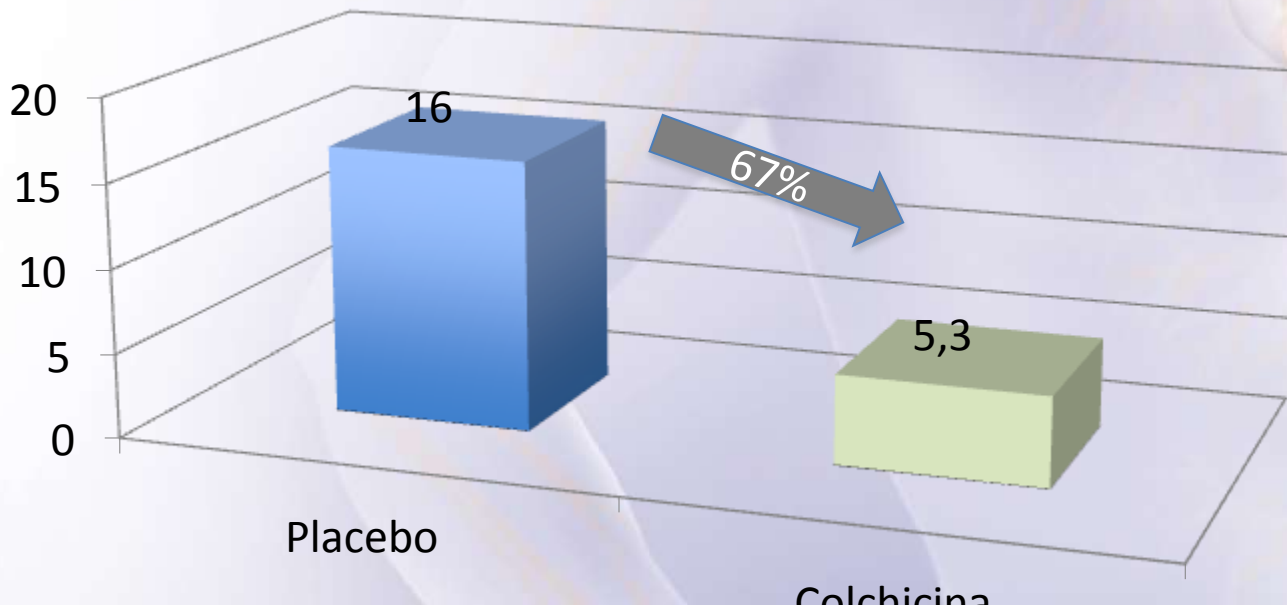
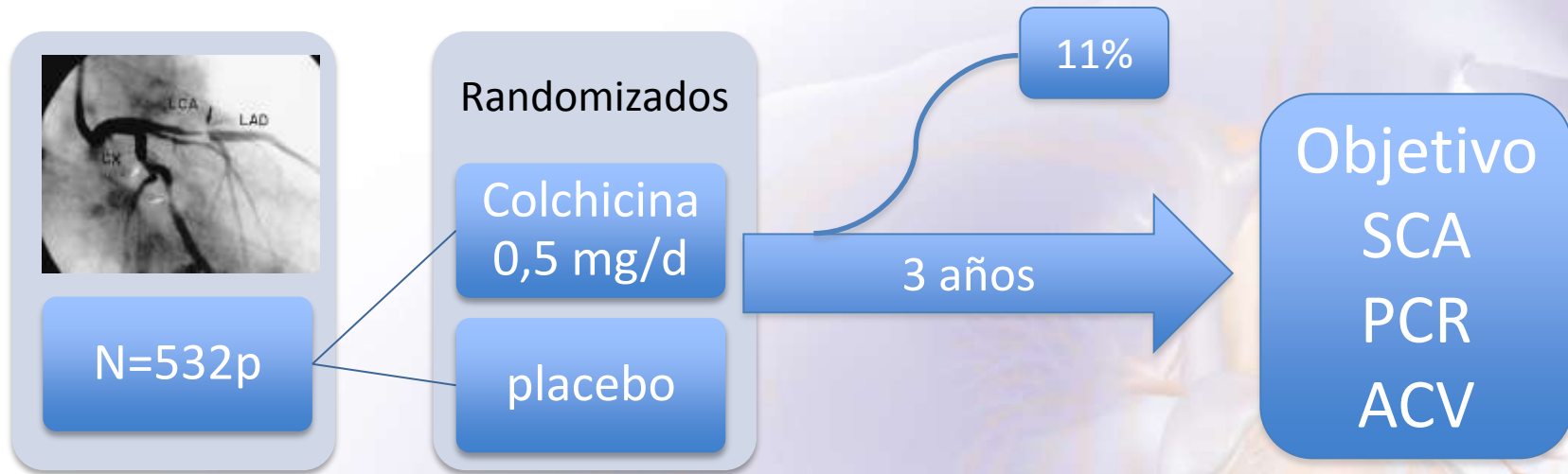


# TACT: Resultados según subgrupos

## ■ % Reduction in Clinical Events with Chelation



# LoDoCo Study



- FORWARD y OPERA → n-3 PUFA no tienen utilidad en FA
- MADIT-RIT → Optimizar la programación del DAI (> 200 lpm) disminuye terapias inapropiadas y la mortalidad
- BLOCK-HF → Pacientes con BAV y disfunción sistólica valorar TRC
- LoDoCo → Beneficios de la Colchicina en prevención
- En PCR → Beneficios de una hipotermia a 32°C