



## Fibrilación auricular manejo actual (AF CARE), manejo de la anticoagulación en el paciente frágil, FA+IC con FE reducida: cuándo priorizar ritmo.

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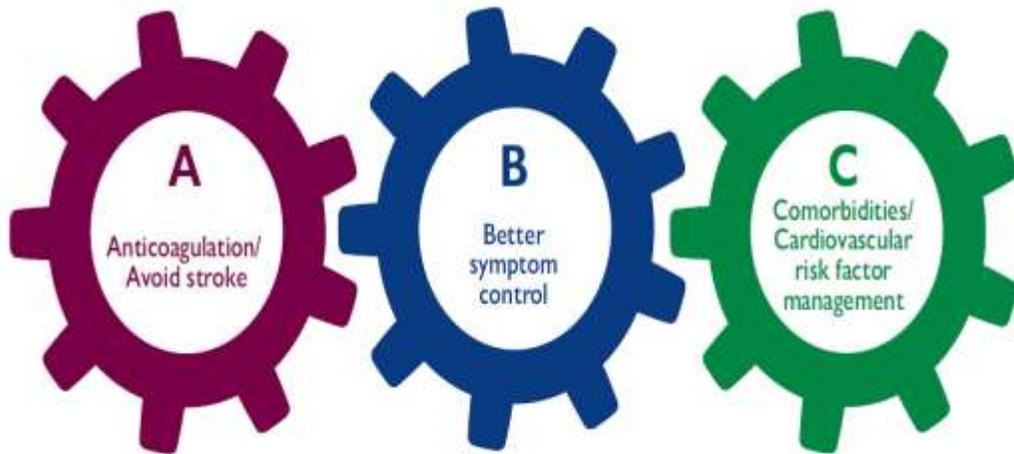
## CONFLICTOS DE INTERES

No tengo conflictos de interés



# Fibrilación auricular manejo actual (AF CARE)

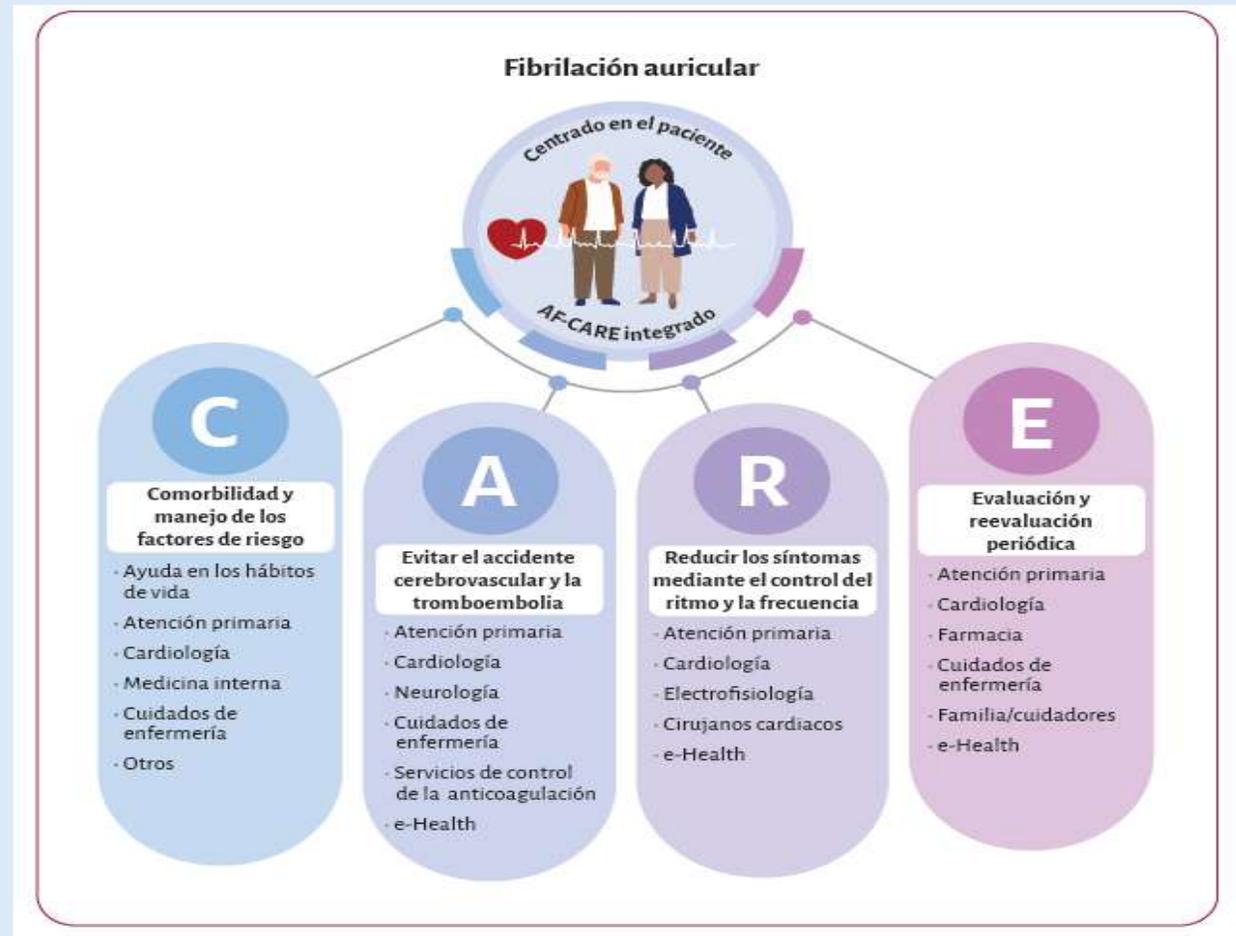
## Treat AF: The ABC pathway



1. Identify low-risk patients  
CHA<sub>2</sub>DS<sub>2</sub>-VASc 0(m), 1(f)
2. Offer stroke prevention if  
CHA<sub>2</sub>DS<sub>2</sub>-VASc ≥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.)





- Equidad en la prestación de los servicios sanitarios (género, etnia, nivel socioeconómico) (Clase I)
- Educación dirigida a pacientes, familiares y profesionales sanitarios (Clase I)
- Manejo de la FA centrado en el paciente con un enfoque de equipo multidisciplinario (Clase IIa)

# C

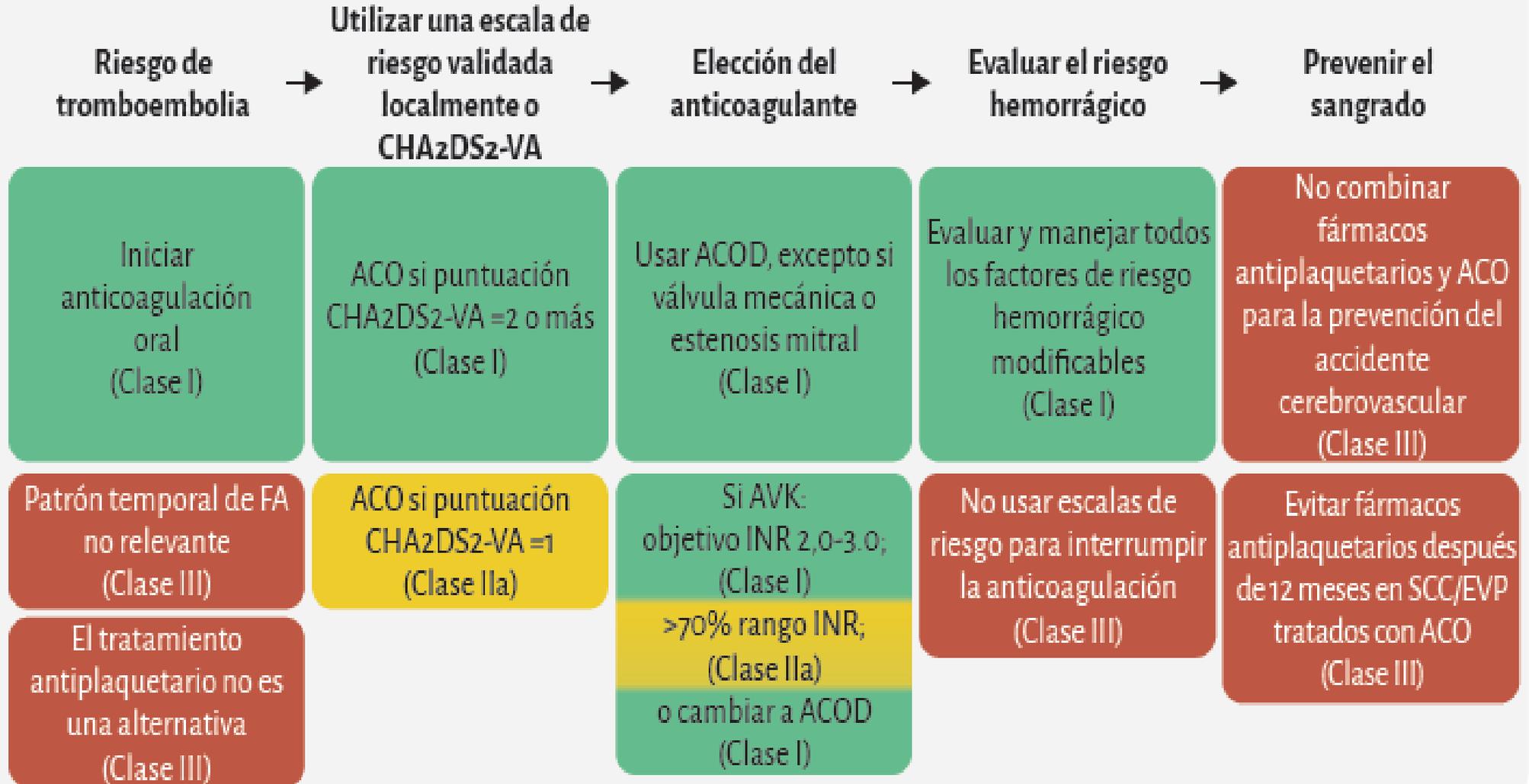
## Comorbilidad y manejo de los factores de riesgo

	Hipertensión	Insuficiencia cardiaca	Sobrepeso u obesidad	Síndrome de apnea obstructiva del sueño	Alcohol
	Tratamiento antihipertensivo (Clase I)	Diuréticos para la congestión (Clase I)	Pérdida de peso (objetivo de 10%) <sup>a</sup> (Clase I)	Manejo de la apnea obstructiva del sueño <sup>a</sup> (Clase IIb)	Reducir a ≤3 unidades de bebida estándar semanales (Clase I)
		Tratamiento médico adecuado para la IC/FEr (Clase I)	Cirugía bariátrica si hay control del ritmo <sup>a</sup> (Clase IIb)	Capacidad de esfuerzo/ejercicio	Otros factores de riesgo /comorbilidades
	Diabetes mellitus			Programa de ejercicios personalizado (Clase I)	Identificar y manejar intensivamente <sup>a</sup> (Clase I)
	Control glucémico eficaz <sup>a</sup> (Clase I)	Inhibidores SGLT2 (Clase I)			



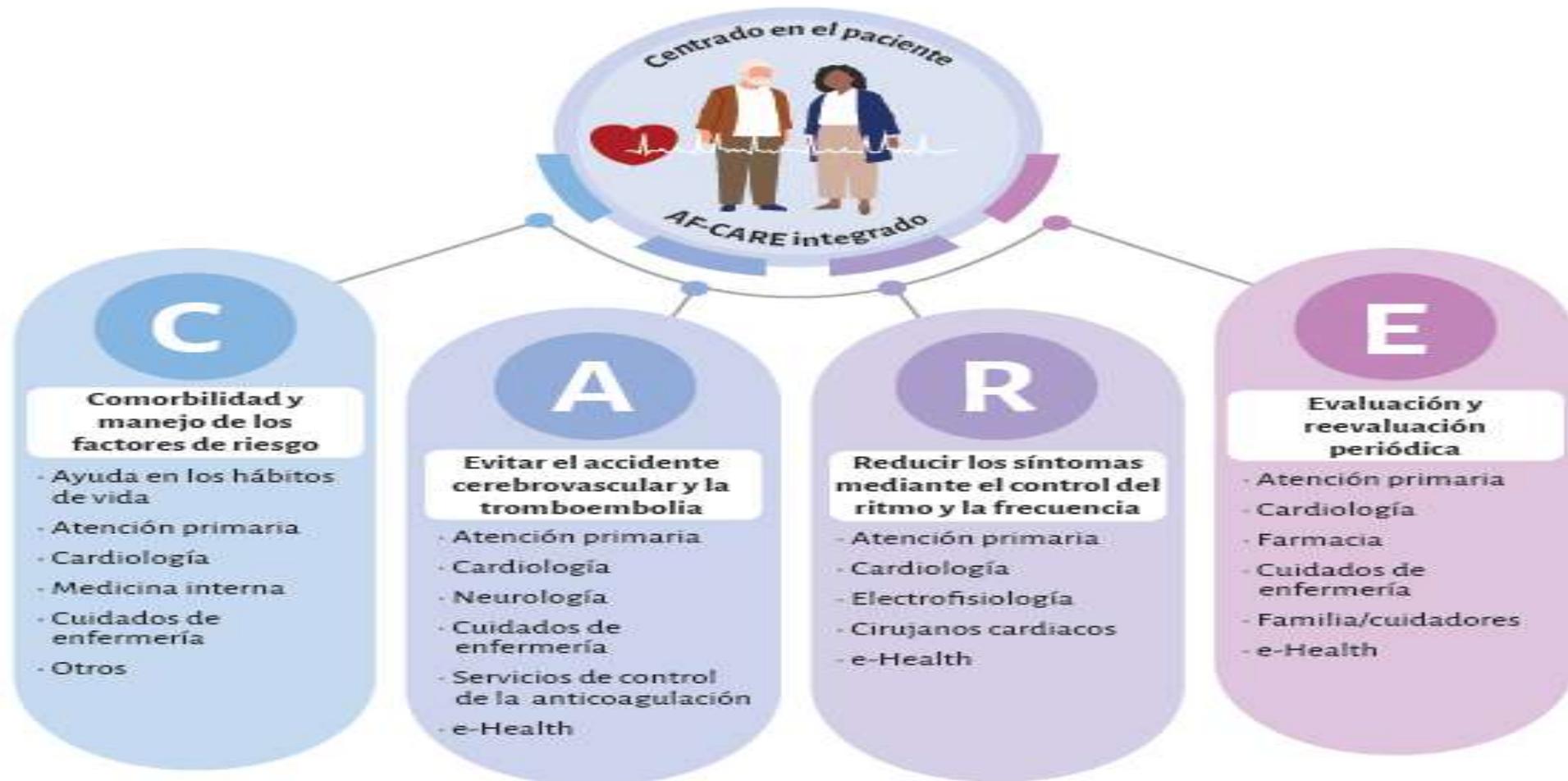
# A

## A Evitar el accidente cerebrovascular y la tromboembolia



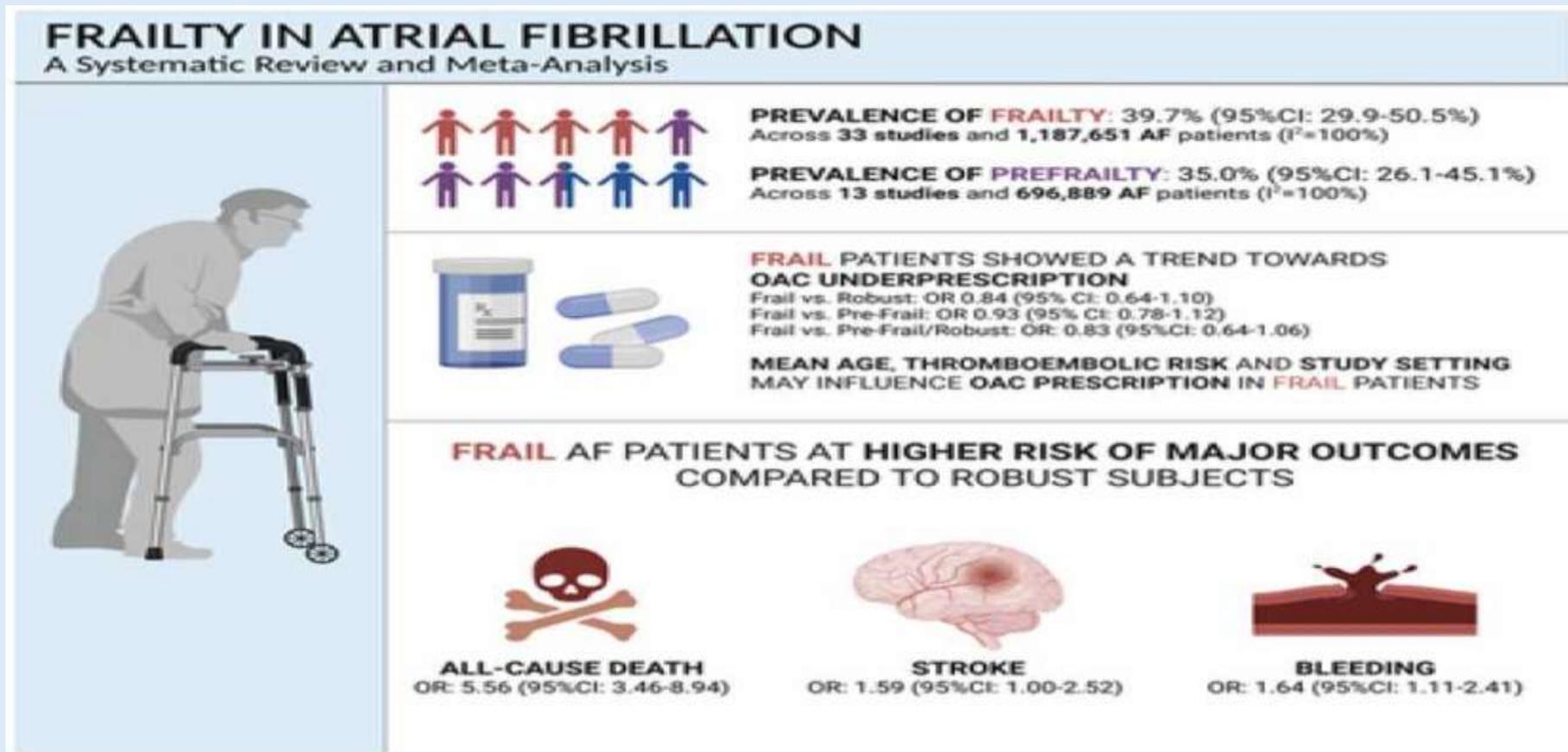


## Fibrilación auricular

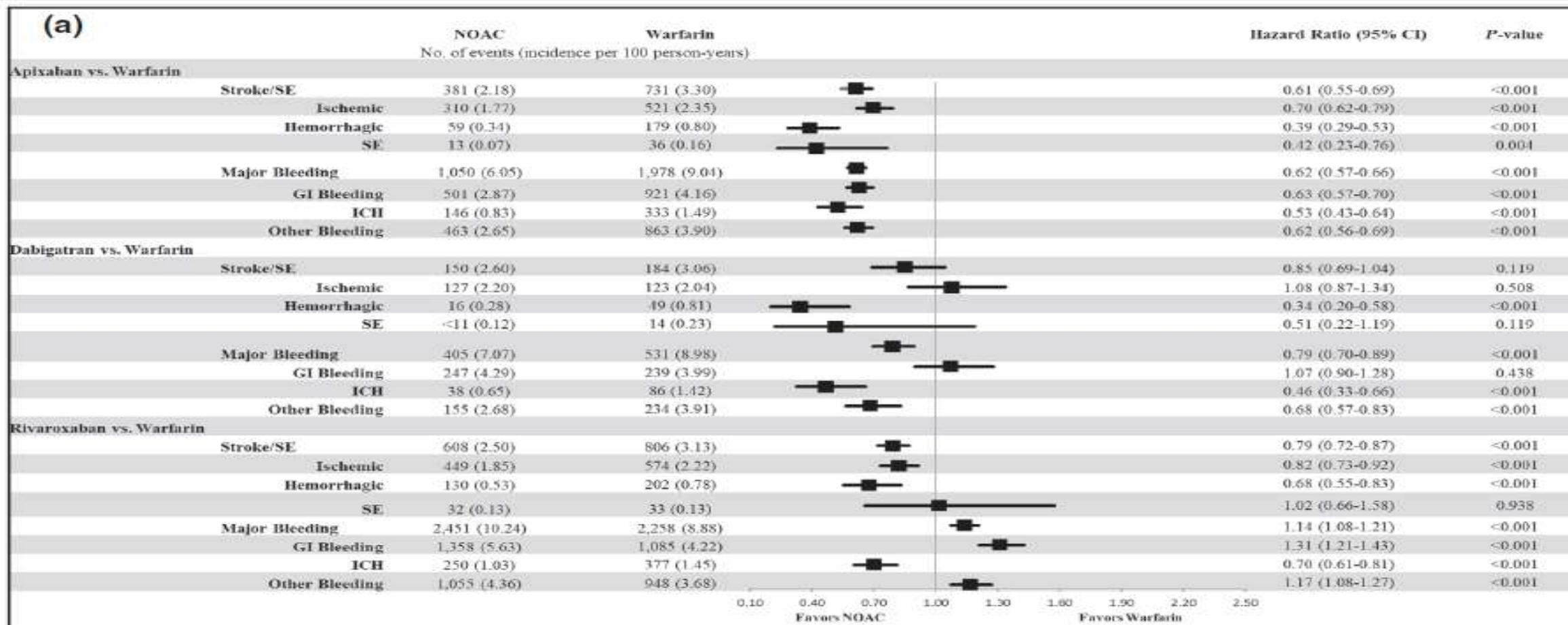




# Manejo de la anticoagulación en el paciente frágil.



# Oral anticoagulants for nonvalvular atrial fibrillation in frail elderly patients: insights from the ARISTOPHANES study





# Impact of frailty on the effectiveness and safety of non-vitamin K antagonist oral anticoagulants (NOACs) in patients with atrial fibrillation: a nationwide cohort study

(A)

Outcome	Comparison	NOAC n	Events (/100PY)	VKA n	Events (/100PY)	aHR (95%CI)	p-value
Stroke/SE	Dabigatran vs.VKA	6009	335 (3.74)	12686	502 (4.67)	0.84 (0.73-0.98)	0.025
	Rivaroxaban vs.VKA	19604	905 (3.45)	12438	475 (4.46)	0.83 (0.74-0.93)	<0.001
	Apixaban vs.VKA	22685	837 (3.38)	9683	368 (4.62)	0.75 (0.66-0.86)	<0.001
	Edoxaban vs.VKA	6294	156 (3.82)	2015	45 (4.62)	0.84 (0.60-1.19)	0.324
Ischemic stroke	Dabigatran vs.VKA	6009	227 (2.52)	12686	308 (2.84)	0.95 (0.79-1.13)	0.550
	Rivaroxaban vs.VKA	19604	521 (1.97)	12438	291 (2.71)	0.79 (0.68-0.91)	0.002
	Apixaban vs.VKA	22685	470 (1.88)	9683	224 (2.78)	0.71 (0.60-0.85)	<0.001
	Edoxaban vs.VKA	6294	85 (2.07)	2015	27 (2.74)	0.79 (0.50-1.25)	0.308
All-cause mortality	Dabigatran vs.VKA	6009	1583 (17.17)	12686	2435 (22.10)	0.81 (0.75-0.86)	<0.001
	Rivaroxaban vs.VKA	19604	5068 (18.91)	12438	2447 (22.42)	0.88 (0.84-0.93)	<0.001
	Apixaban vs.VKA	22685	5386 (21.20)	9683	1951 (23.89)	0.90 (0.85-0.95)	<0.001
	Edoxaban vs.VKA	6294	901 (21.72)	2015	334 (33.94)	0.65 (0.57-0.74)	<0.001



# Impact of frailty on the effectiveness and safety of non-vitamin K antagonist oral anticoagulants (NOACs) in patients with atrial fibrillation: a nationwide cohort study

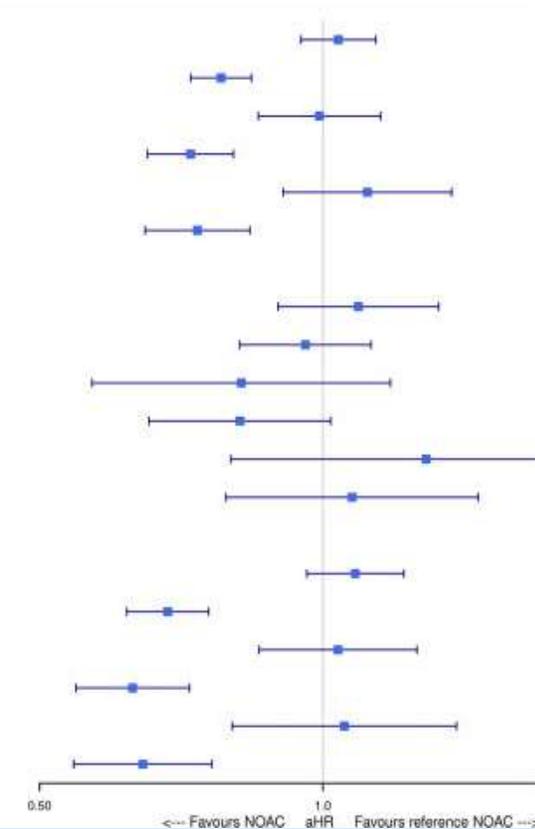
(B)

Outcome	Comparison	NOAC		VKA		aHR (95%CI)	p-value
		n	Events (/100PY)	n	Events (/100PY)		
<b>Major bleeding</b>							
	Dabigatran vs. VKA	6009	698 (7.93)	12686	763 (7.24)	1.16 (1.03-1.30)	0.012
	Rivaroxaban vs. VKA	19604	1916 (7.51)	12438	751 (7.19)	1.11 (1.02-1.21)	0.020
	Apixaban vs. VKA	22685	1491 (6.09)	9683	582 (7.43)	0.84 (0.76-0.93)	<0.001
	Edoxaban vs. VKA	6294	414 (10.36)	2015	114 (11.95)	0.91 (0.73-1.14)	0.412
<b>Intracranial bleeding</b>							
	Dabigatran vs. VKA	6009	156 (1.72)	12686	212 (1.96)	0.93 (0.74-1.17)	0.517
	Rivaroxaban vs. VKA	19604	399 (1.51)	12438	205 (1.91)	0.85 (0.71-1.01)	0.068
	Apixaban vs. VKA	22685	351 (1.40)	9683	151 (1.88)	0.76 (0.62-0.93)	0.007
	Edoxaban vs. VKA	6294	60 (1.45)	2015	19 (1.97)	0.78 (0.45-1.36)	0.385
<b>Gastrointestinal bleeding</b>							
	Dabigatran vs. VKA	6009	420 (4.66)	12686	365 (3.37)	1.46 (1.25-1.71)	<0.001
	Rivaroxaban vs. VKA	19604	1107 (4.24)	12438	362 (3.38)	1.33 (1.18-1.50)	<0.001
	Apixaban vs. VKA	22685	769 (3.09)	9683	281 (3.50)	0.91 (0.79-1.04)	0.174
	Edoxaban vs. VKA	6294	252 (6.21)	2015	57 (5.86)	1.11 (0.82-1.51)	0.500

# Impact of frailty on the effectiveness and safety of non-vitamin K antagonist oral anticoagulants (NOACs) in patients with atrial fibrillation: a nationwide cohort study

(B)

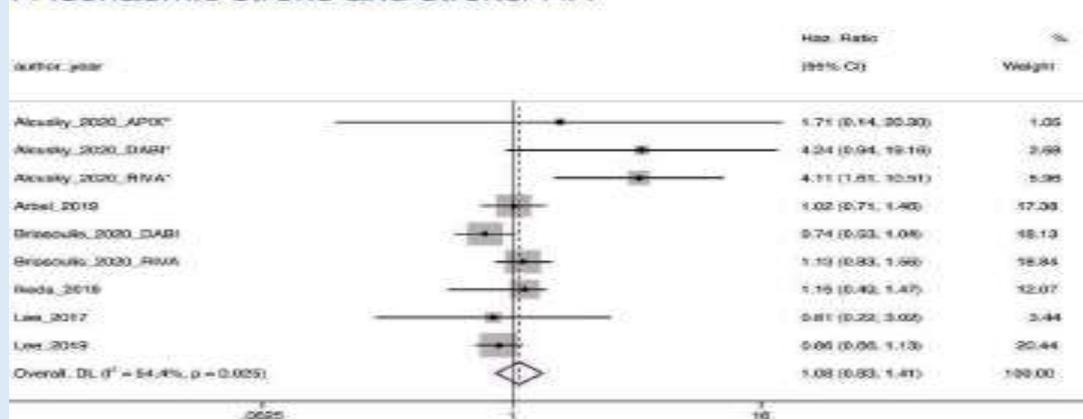
Outcome	Comparison	NOAC n	Events (/100PY)	Reference NOAC n	Events (/100PY)	aHR (95%CI)	p-value
<b>Major bleeding</b>	Dabigatran vs. Rivaroxaban (ref)	7022	671 (7.37)	20285	1850 (7.02)	1.04 (0.95-1.14)	0.417
	Apixaban vs. Rivaroxaban (ref)	22903	1466 (5.89)	16211	1457 (7.36)	0.78 (0.72-0.84)	<0.001
	Edoxaban vs. Rivaroxaban (ref)	6404	401 (9.89)	4864	326 (9.46)	0.99 (0.85-1.15)	0.914
	Apixaban vs. Dabigatran (ref)	23152	1456 (5.79)	5411	524 (7.90)	0.72 (0.65-0.80)	<0.001
	Dabigatran vs. Edoxaban (ref)	1803	150 (10.83)	6404	410 (10.06)	1.12 (0.91-1.37)	0.299
	Apixaban vs. Edoxaban (ref)	11583	587 (7.44)	6289	416 (10.44)	0.74 (0.65-0.84)	<0.001
<b>Intracranial bleeding</b>	Dabigatran vs. Rivaroxaban (ref)	7022	148 (1.58)	20285	389 (1.43)	1.09 (0.90-1.33)	0.385
	Apixaban vs. Rivaroxaban (ref)	22903	346 (1.35)	16211	282 (1.37)	0.96 (0.82-1.13)	0.604
	Edoxaban vs. Rivaroxaban (ref)	6404	62 (1.49)	4864	60 (1.68)	0.82 (0.57-1.18)	0.284
	Apixaban vs. Dabigatran (ref)	23152	349 (1.35)	5411	112 (1.64)	0.82 (0.65-1.02)	0.074
	Dabigatran vs. Edoxaban (ref)	1803	26 (1.82)	6404	63 (1.50)	1.29 (0.80-2.08)	0.300
	Apixaban vs. Edoxaban (ref)	11583	130 (1.61)	6289	64 (1.56)	1.07 (0.79-1.46)	0.649
<b>Gastrointestinal bleeding</b>	Dabigatran vs. Rivaroxaban (ref)	7022	403 (4.33)	20285	1066 (3.95)	1.08 (0.96-1.22)	0.189
	Apixaban vs. Rivaroxaban (ref)	22903	758 (2.99)	16211	860 (4.25)	0.68 (0.62-0.76)	<0.001
	Edoxaban vs. Rivaroxaban (ref)	6404	244 (5.92)	4864	191 (5.46)	1.04 (0.86-1.26)	0.706
	Apixaban vs. Dabigatran (ref)	23152	748 (2.93)	5411	311 (4.60)	0.63 (0.55-0.72)	<0.001
	Dabigatran vs. Edoxaban (ref)	1803	87 (6.18)	6404	250 (6.03)	1.05 (0.80-1.39)	0.706
	Apixaban vs. Edoxaban (ref)	11583	309 (3.85)	6289	249 (6.17)	0.64 (0.54-0.76)	<0.001



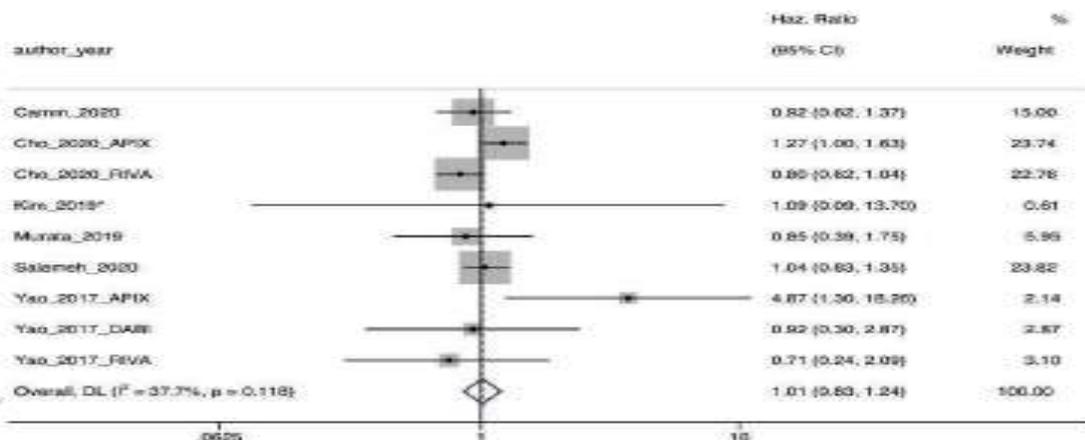
0.50 1.0 aHR Favours NOAC Favours reference NOAC

# Outcomes and drivers of inappropriate dosing of non-vitamin K antagonist oral anticoagulants (NOACs) in patients with atrial fibrillation: a systematic review and meta-analysis

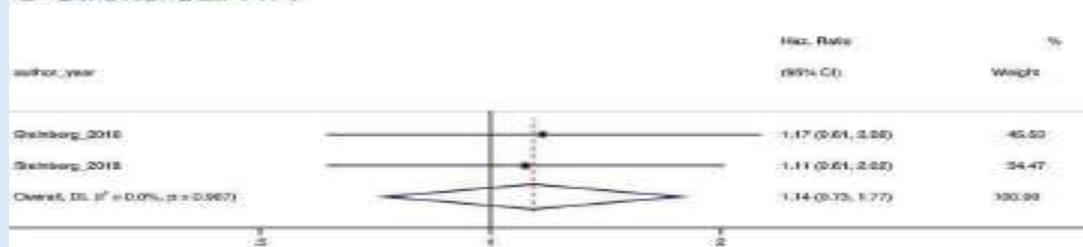
## A Ischaemic stroke and stroke/TIA



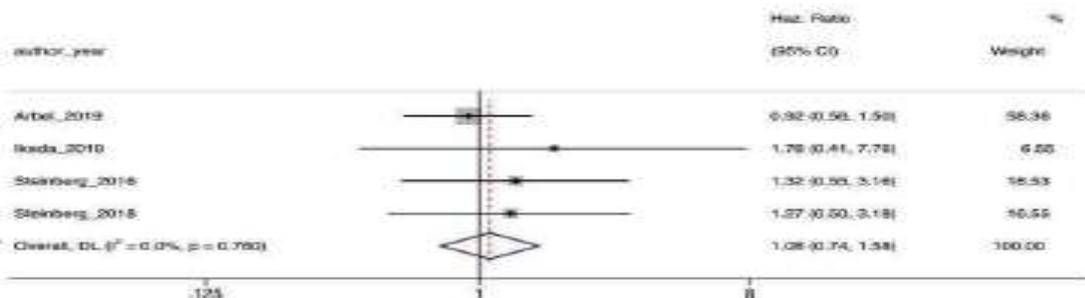
## B Stroke/SE



## C Stroke/SE/TIA

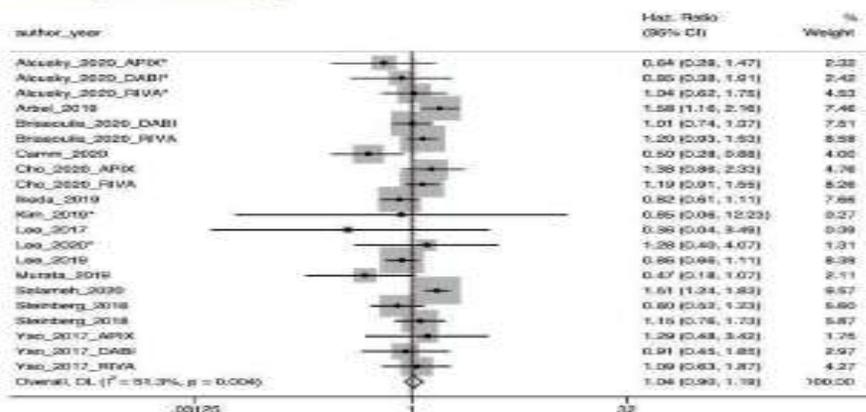


## D Myocardial infarction

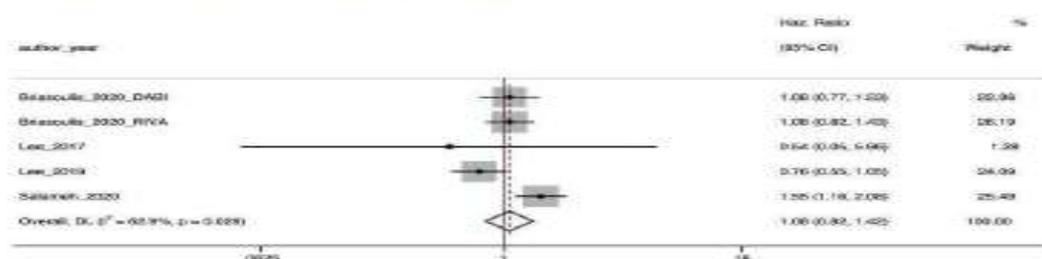


# Outcomes and drivers of inappropriate dosing of non-vitamin K antagonist oral anticoagulants (NOACs) in patients with atrial fibrillation: a systematic review and meta-analysis

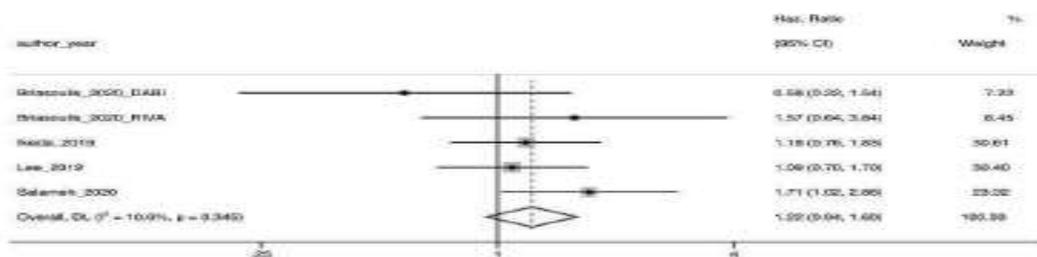
## A Major bleeding



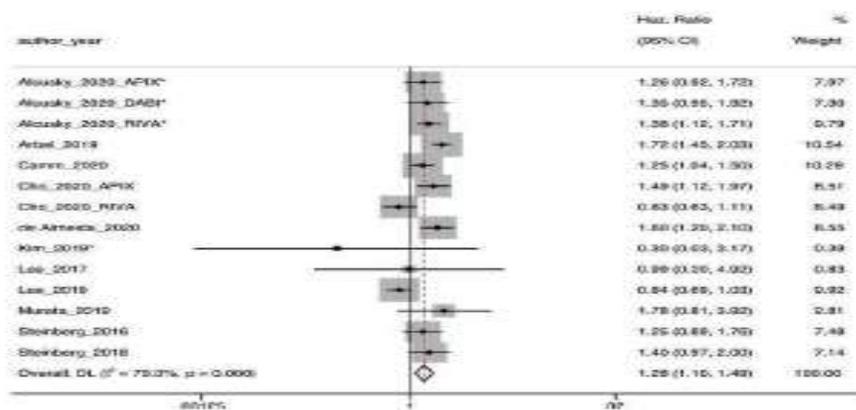
## B Gastrointestinal haemorrhage



## C Intracranial haemorrhage



## D Mortality





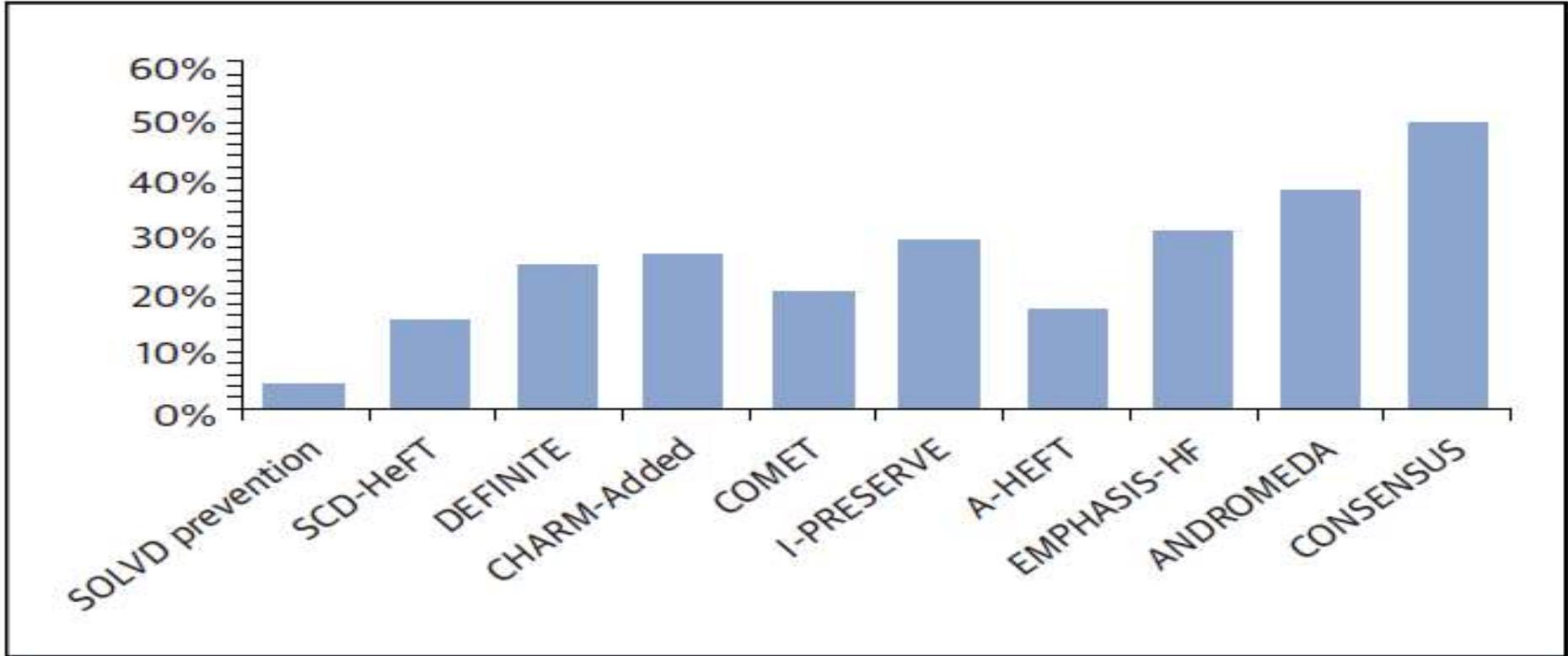
**Table 1** Dose reduction criteria of NOACs<sup>18</sup>

NOAC	Dose reduction criteria	Reduced dose
Dabigatran	Creatinine clearance: 50 mL/min	Variable doses below full 110 mg dose recommended in ESC guidelines
Rivaroxaban	Creatinine clearance: 50 mL/min	15 mg once a day
Apixaban	2 of 3 criteria: age $\geq$ 80 years, weight $\leq$ 60 kg, creatinine $\geq$ 1.5 mg/ dL	2.5 mg two times a day
Edoxaban	Creatinine clearance: $\leq$ 50 mL/min	30 mg once a day

NOAC, non-vitamin K antagonist oral anticoagulant.

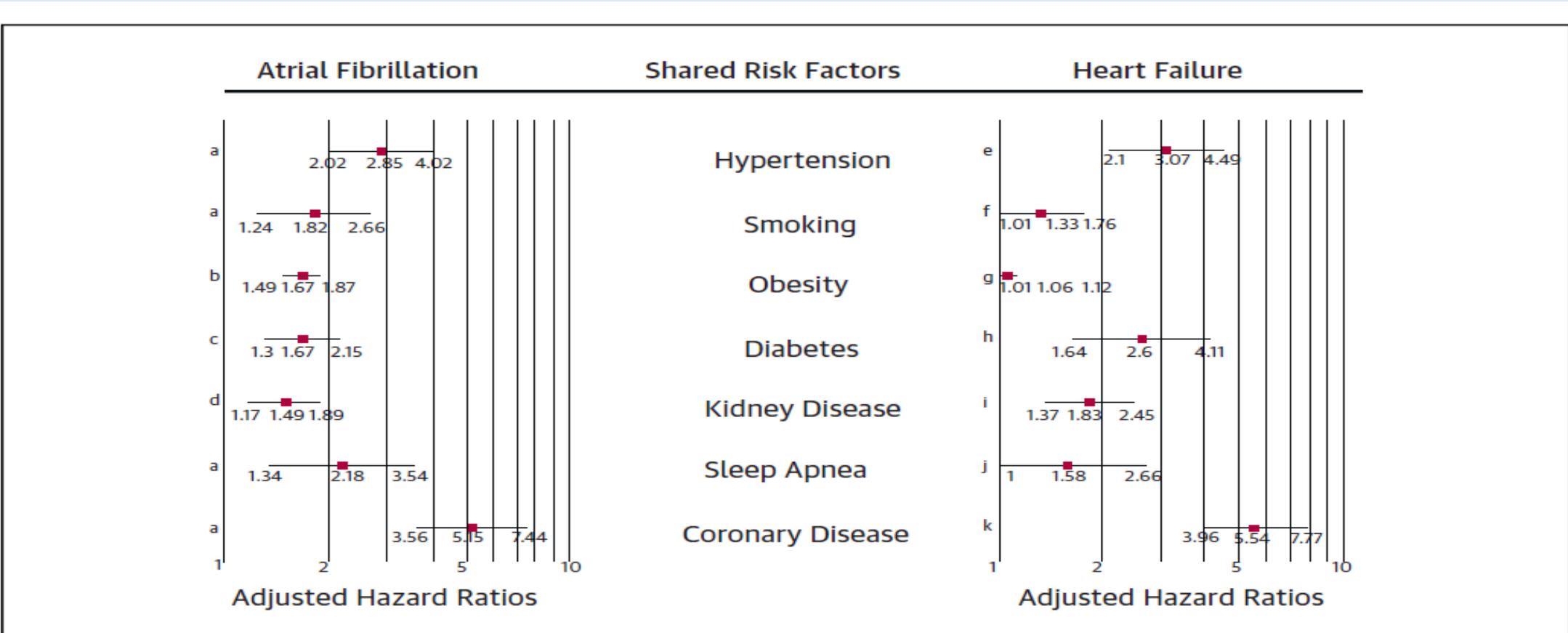
# FA+IC con FE reducida: cuándo priorizar ritmo.

# RELACION ICC Y FA

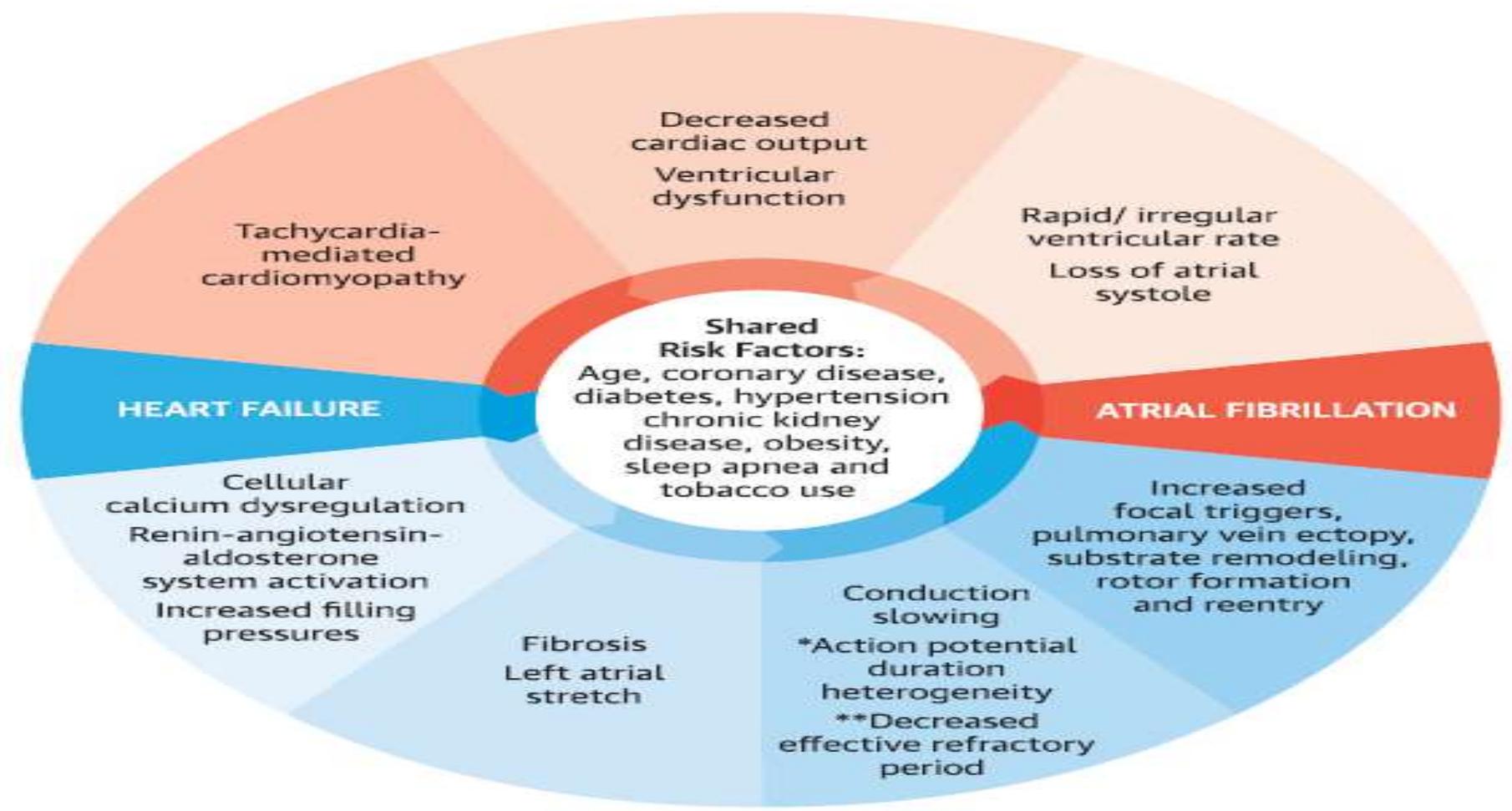


**FIGURE 2** Prevalence of AF in Patients Enrolled in HF Studies

# RELACION ICC Y FA



**FIGURE 1** Hazard Ratio of Incident AF and HF According to Shared Risk Factors



**CENTRAL ILLUSTRATION** The Physiological Relationship Between Atrial Fibrillation and Heart Failure



# Efficacy of $\beta$ blockers in patients with heart failure plus atrial fibrillation: an individual-patient data meta-analysis

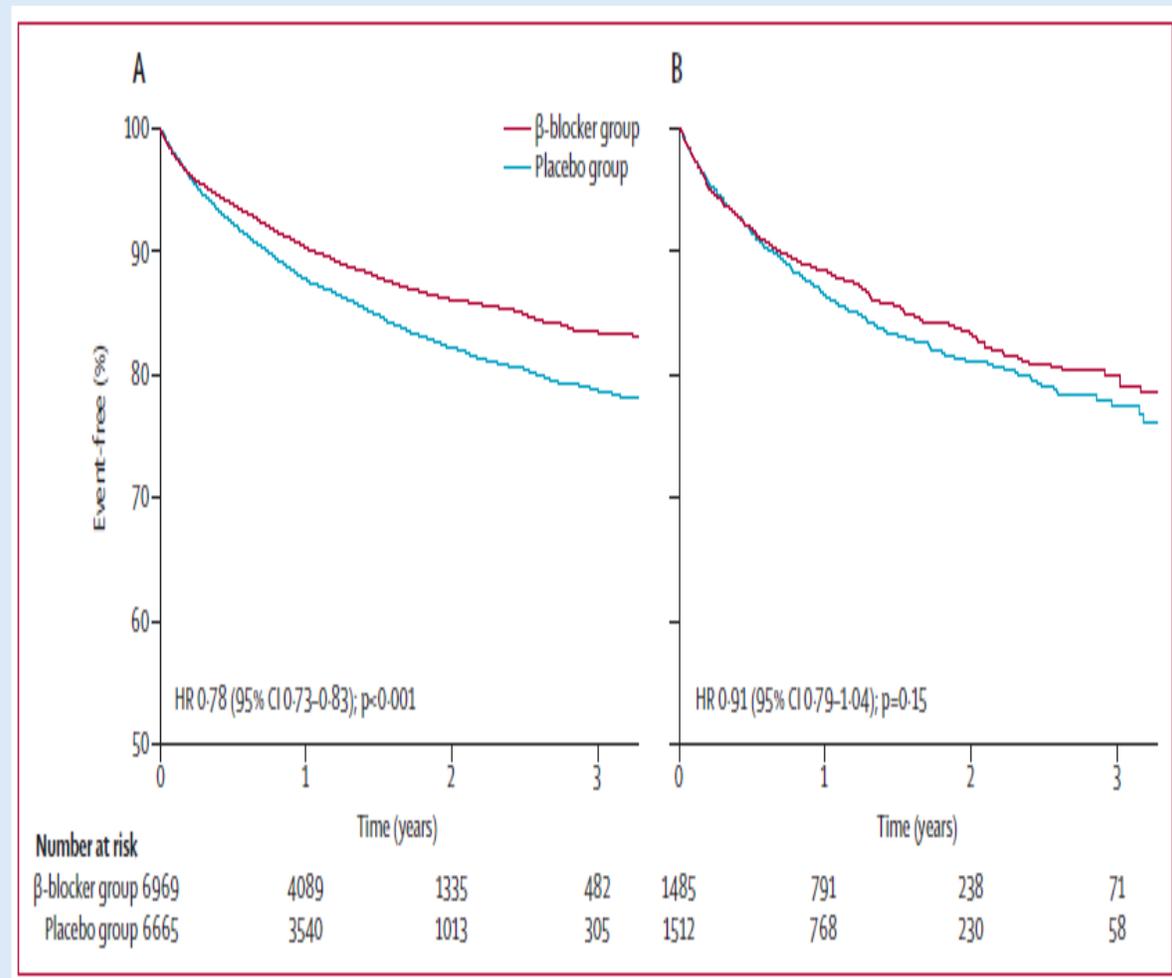
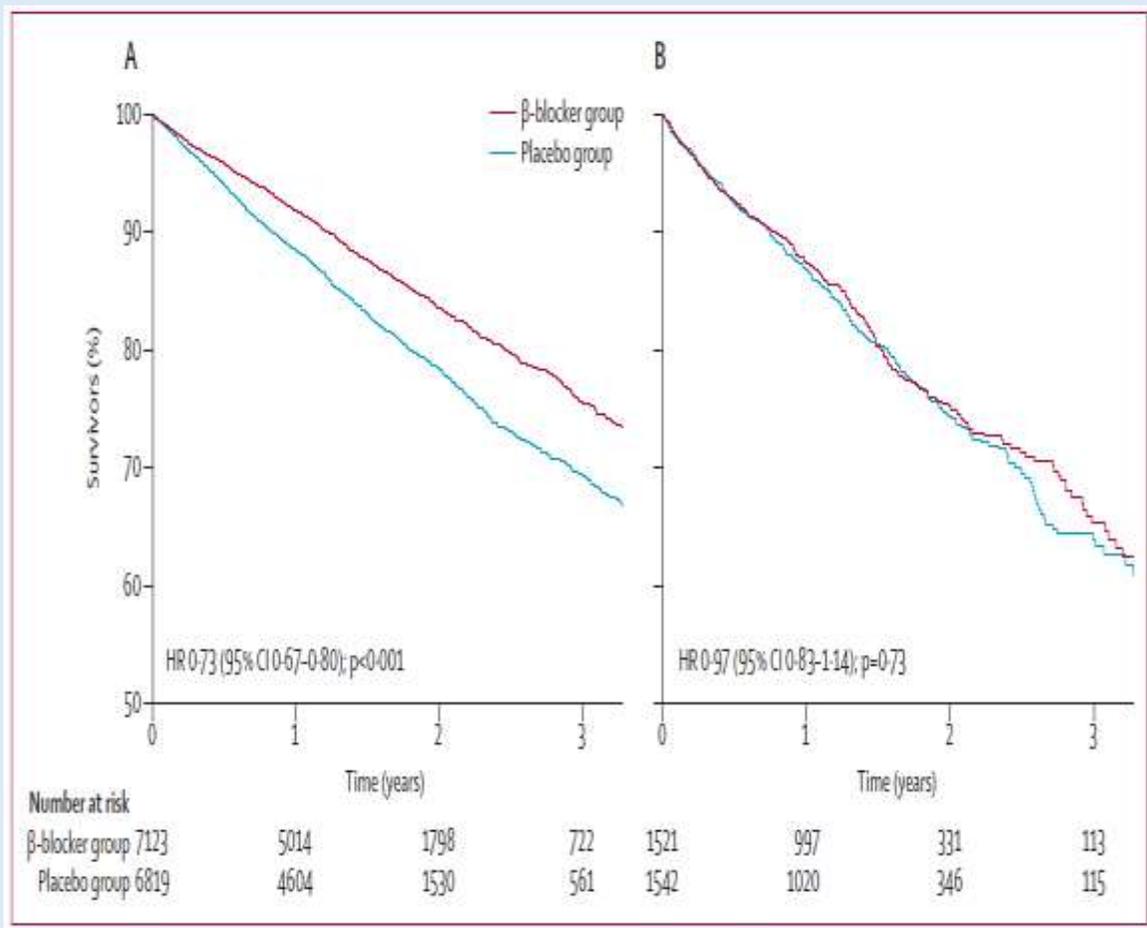


Figure 1: Kaplan-Meier survival curve for patients with sinus rhythm (A) and atrial fibrillation (B) in the  $\beta$ -blocker and placebo groups  
 Data are unadjusted survival curves for all reported deaths. HRs are derived from the adjusted one-stage Cox regression model and stratified by study. HR=hazard ratio.



XIII CONGRESO INTERNACIONAL DE CARDIOLOGIA  
CARDIOLOGIA INTERVENCIONISTA - LII JORNADA ACCI-SOLACI  
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# EVIDENCIA EN IC

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### Catheter Ablation for Atrial Fibrillation with Heart Failure

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Prashanthan Sanders, M.D., Jochen Proff, B.S., Heribert Schunkert, M.D., Hildegard Christ, M.D.,  
Jürgen Vogt, M.D., and Dietmar Bänsch, M.D., for the CASTLE-AF Investigators\*

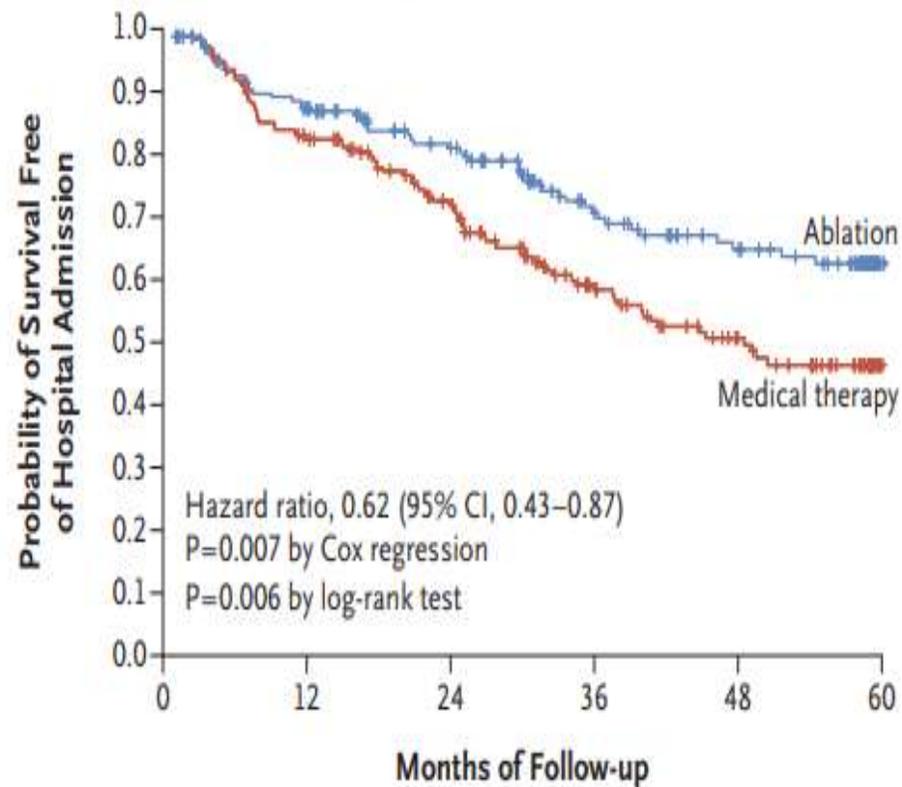
# Catheter Ablation for Atrial Fibrillation with Heart Failure

- Ablación vs terapia médica (control del ritmo o de frecuencia) en paciente con FA e insuficiencia cardiaca
- Aleatorizaron en total 363 pacientes, 174 en ablación y 184 en terapia médica
- Seguimiento promedio 37 meses (3 años)
- ICC, FE  $\leq$  35%, NYHA 2 -3-4, FA paroxística o persistente
- Resultado primario: compuesto de muerte por cualquier causa y hospitalizaciones por ICC
- Resultados secundarios: muerte cardiovascular, hospitalizaciones y ECV
- Edad promedio 64 años

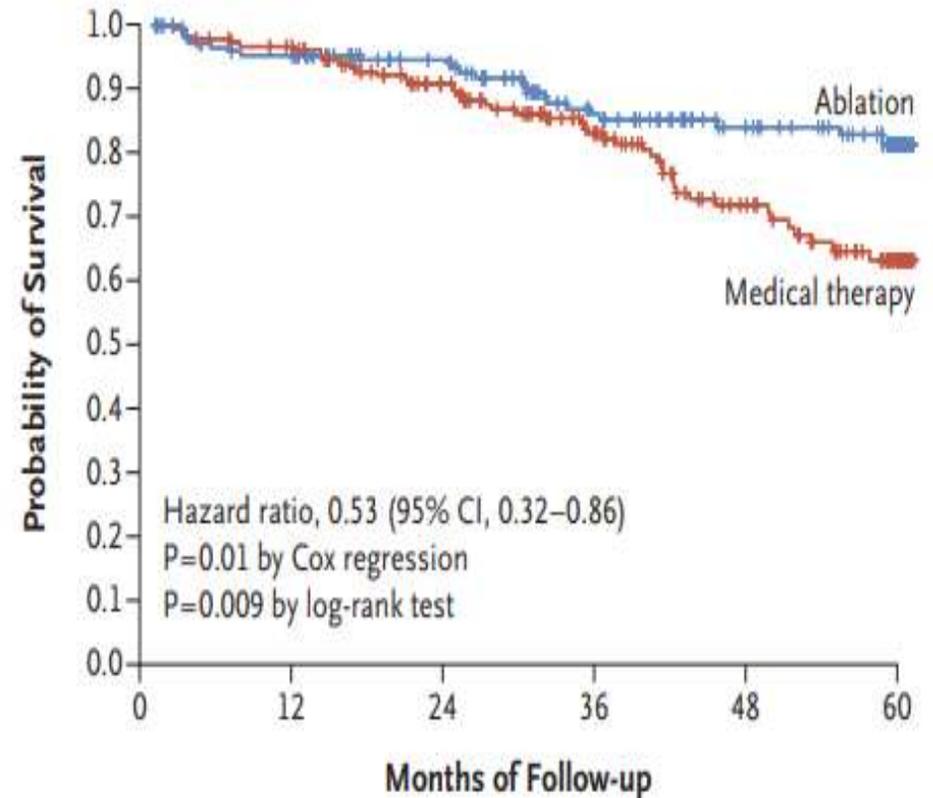


# Catheter Ablation for Atrial Fibrillation with Heart Failure

**A** Death or Hospitalization for Worsening Heart Failure



**B** Death from Any Cause





# Rhythm control for patients with atrial fibrillation complicated with heart failure in the contemporary era of catheter ablation: a stratified pooled analysis of randomized data

Shaojie Chen<sup>1\*</sup>, Helmut Pürerfellner<sup>2</sup>, Christian Meyer<sup>3,4</sup>, Willem-Jan Acou<sup>5</sup>, Alexandra Schratter<sup>6</sup>, Zhiyu Ling<sup>7</sup>, Shaowen Liu<sup>8</sup>, Yuehui Yin<sup>7</sup>, Martin Martinek<sup>2</sup>, Marcio G. Kiuchi<sup>9</sup>, Boris Schmidt<sup>1\*</sup>, and K.R. Julian Chun<sup>1\*</sup>



### A catheter ablation rhythm control vs. medical therapy for all-cause mortality

Study or Subgroup	ablation rhythm control		medical therapy		Weight	Odds Ratio M-H, Random, 95% CI
	Events	Total	Events	Total		
2. ARC-HF 2013	1	26	0	26	1.3%	3.12 [0.12, 80.12]
3. CAMTAF 2014	0	26	1	24	1.3%	0.30 [0.01, 7.61]
4. AATAC 2016	8	102	18	101	17.0%	0.39 [0.16, 0.95]
6. CASTLE-AF 2018	24	179	46	184	44.7%	0.46 [0.27, 0.80]
7. CABANA HF-subgroup 2019	21	174	29	163	35.9%	0.63 [0.35, 1.16]
<b>Total (95% CI)</b>		<b>507</b>		<b>498</b>	<b>100.0%</b>	<b>0.51 [0.36, 0.74]</b>

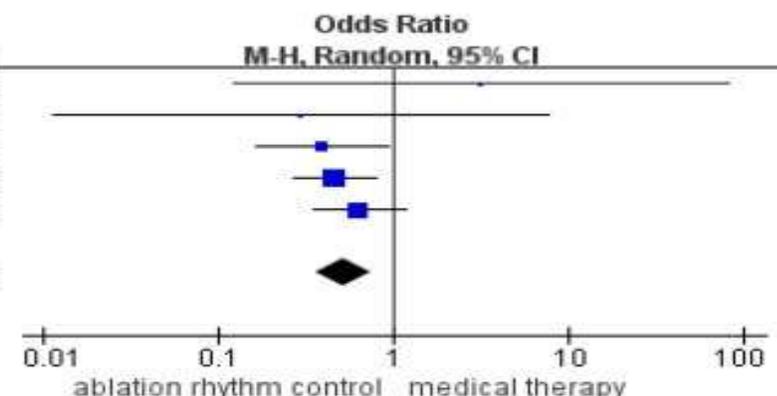
Total events

54

94

Heterogeneity:  $\tau^2 = 0.00$ ;  $\text{Chi}^2 = 2.25$ ,  $\text{df} = 4$  ( $P = 0.69$ );  $I^2 = 0\%$

Test for overall effect:  $Z = 3.59$  ( $P = 0.0003$ )



### B catheter ablation rhythm control vs. medical therapy for re-hospitalization

Study or Subgroup	ablation rhythm control		medical therapy		Weight	Odds Ratio M-H, Random, 95% CI
	Events	Total	Events	Total		
4. AATAC 2016	32	102	58	101	42.4%	0.34 [0.19, 0.60]
5. CAMERA-MRI 2017	0	33	4	33	3.2%	0.10 [0.01, 1.89]
6. CASTLE-AF 2018	64	179	89	184	54.4%	0.59 [0.39, 0.90]
<b>Total (95% CI)</b>		<b>314</b>		<b>318</b>	<b>100.0%</b>	<b>0.44 [0.26, 0.76]</b>

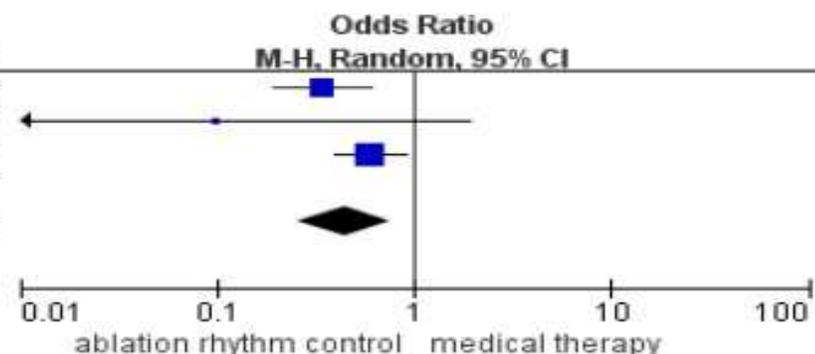
Total events

96

151

Heterogeneity:  $\tau^2 = 0.10$ ;  $\text{Chi}^2 = 3.51$ ,  $\text{df} = 2$  ( $P = 0.17$ );  $I^2 = 43\%$

Test for overall effect:  $Z = 2.95$  ( $P = 0.003$ )



### C catheter ablation rhythm control vs. medical therapy for stroke

Study or Subgroup	ablation rhythm control		medical therapy		Weight	Odds Ratio M-H, Random, 95% CI
	Events	Total	Events	Total		
1. MacDonald 2011	1	22	0	19	8.2%	2.72 [0.10, 70.79]
2. ARC-HF 2013	0	26	1	26	8.3%	0.32 [0.01, 8.24]
3. CAMTAF 2014	1	26	0	24	8.3%	2.88 [0.11, 74.21]
6. CASTLE-AF 2018	5	179	11	184	75.2%	0.45 [0.15, 1.33]
<b>Total (95% CI)</b>		<b>253</b>		<b>253</b>	<b>100.0%</b>	<b>0.59 [0.23, 1.51]</b>

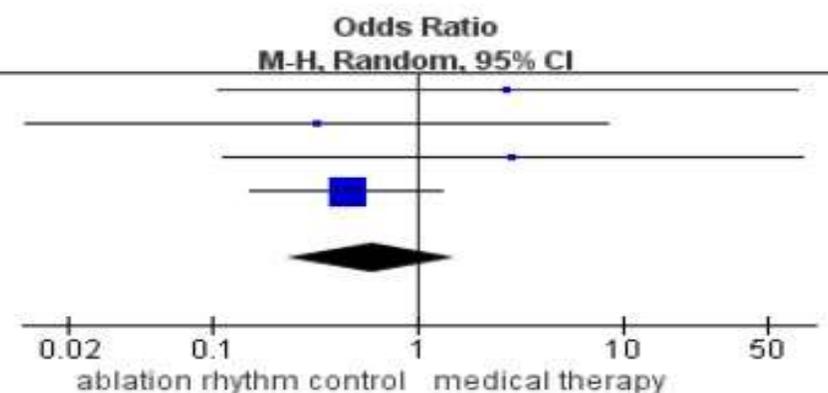
Total events

7

12

Heterogeneity:  $\tau^2 = 0.00$ ;  $\text{Chi}^2 = 2.14$ ,  $\text{df} = 3$  ( $P = 0.54$ );  $I^2 = 0\%$

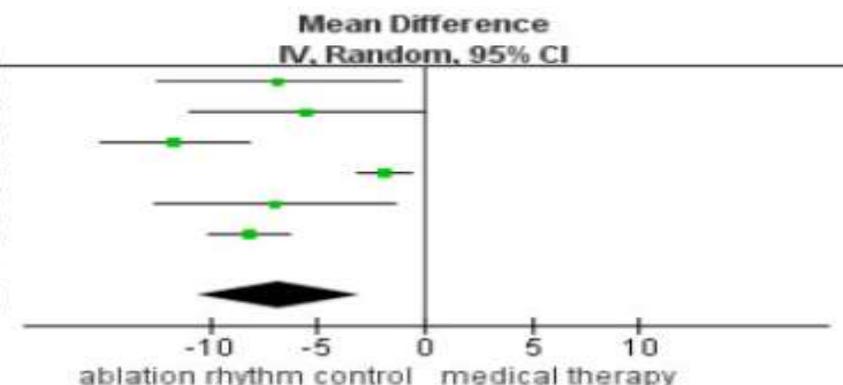
Test for overall effect:  $Z = 1.09$  ( $P = 0.27$ )



**A** catheter ablation rhythm control vs. medical therapy for LVEF improvement

Study or Subgroup	ablation rhythm control			medical therapy			Weight	Mean Difference IV, Random, 95% CI
	Mean	SD	Total	Mean	SD	Total		
1. MacDonald 2011	-8.2	12	22	-1.4	5.9	19	14.1%	-6.80 [-12.47, -1.13]
2. ARC-HF 2013	-10.9	11.5	26	-5.4	8.5	26	14.3%	-5.50 [-11.00, -0.00]
3. CAMTAF 2014	-8.1	8	26	3.6	4	24	17.6%	-11.70 [-15.17, -8.23]
4. AATAC 2016	-8.1	4	102	-6.2	5	101	20.2%	-1.90 [-3.15, -0.65]
5. CAMERA-MRI 2017	-9.2	14	33	-2.2	8.5	33	14.2%	-7.00 [-12.59, -1.41]
6. CASTLE-AF 2018	-8	8.5	179	0.2	9.6	184	19.7%	-8.20 [-10.06, -6.34]
<b>Total (95% CI)</b>			<b>388</b>			<b>387</b>	<b>100.0%</b>	<b>-6.79 [-10.55, -3.03]</b>

 Heterogeneity:  $\text{Tau}^2 = 17.84$ ;  $\text{Chi}^2 = 49.85$ ,  $\text{df} = 5$  ( $P < 0.00001$ );  $I^2 = 90\%$ 

 Test for overall effect:  $Z = 3.54$  ( $P = 0.0004$ )

**B** catheter ablation rhythm control vs. medical therapy for AF/AT recurrence

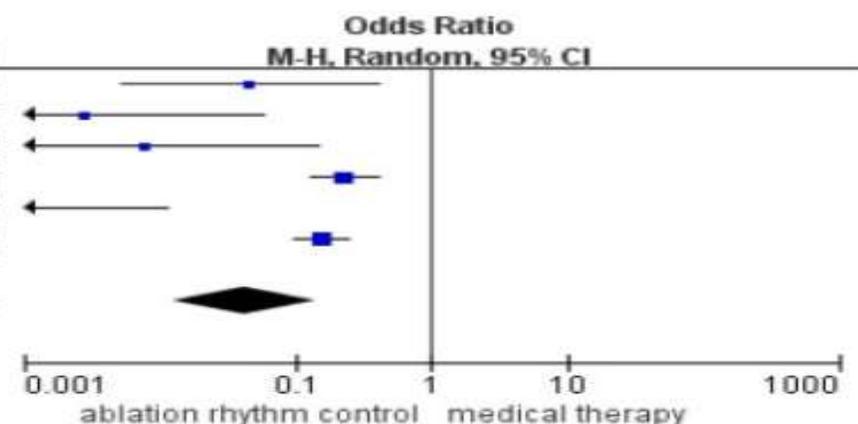
Study or Subgroup	ablation rhythm control		medical therapy		Weight	Odds Ratio M-H, Random, 95% CI
	Events	Total	Events	Total		
1. MacDonald 2011	10	22	18	19	15.2%	0.05 [0.01, 0.41]
2. ARC-HF 2013	3	26	26	26	10.5%	0.00 [0.00, 0.06]
3. CAMTAF 2014	7	26	24	24	10.9%	0.01 [0.00, 0.15]
4. AATAC 2016	29	102	64	101	27.7%	0.23 [0.13, 0.41]
5. CAMERA-MRI 2017	0	33	33	33	7.2%	0.00 [0.00, 0.01]
6. CASTLE-AF 2018	66	179	145	184	28.4%	0.16 [0.10, 0.25]
<b>Total (95% CI)</b>		<b>388</b>		<b>387</b>	<b>100.0%</b>	<b>0.04 [0.01, 0.14]</b>

Total events

115

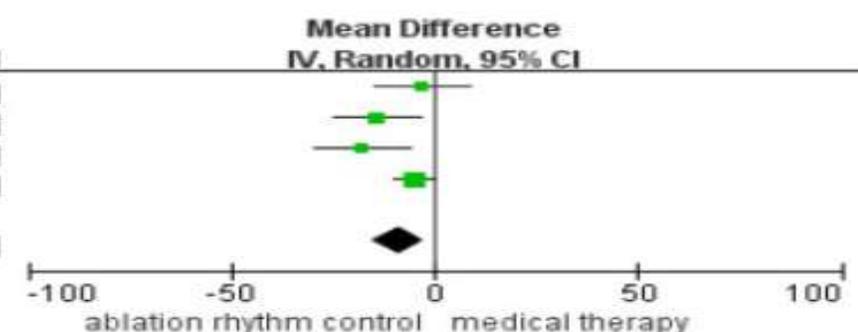
310

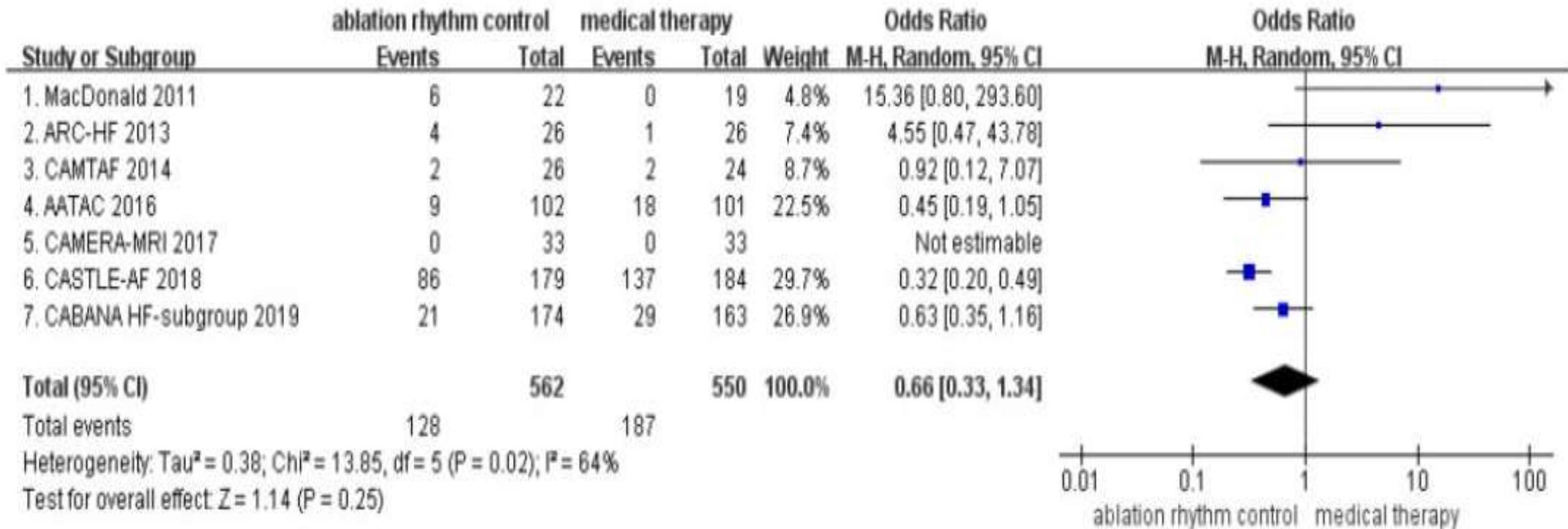
 Heterogeneity:  $\text{Tau}^2 = 1.30$ ;  $\text{Chi}^2 = 26.32$ ,  $\text{df} = 5$  ( $P < 0.0001$ );  $I^2 = 81\%$ 

 Test for overall effect:  $Z = 5.08$  ( $P < 0.00001$ )

**C** catheter ablation rhythm control vs. medical therapy for Quality of Life (MLHFQ score)

Study or Subgroup	ablation rhythm control			medical therapy			Weight	Mean Difference IV, Random, 95% CI
	Mean	SD	Total	Mean	SD	Total		
1. MacDonald 2011	-5.7	19.7	20	-2.8	17.9	18	19.3%	-2.90 [-14.85, 9.05]
2. ARC-HF 2013	-19.58	22.32	24	-5.35	15.71	26	22.0%	-14.23 [-25.01, -3.45]
3. CAMTAF 2014	-18	21.99	26	-0.2	21.47	24	19.1%	-17.80 [-29.85, -5.75]
4. AATAC 2016	-11	19	94	-6	17	83	39.6%	-5.00 [-10.30, 0.30]
<b>Total (95% CI)</b>			<b>164</b>			<b>151</b>	<b>100.0%</b>	<b>-9.07 [-15.66, -2.48]</b>

 Heterogeneity:  $\text{Tau}^2 = 21.26$ ;  $\text{Chi}^2 = 5.72$ ,  $\text{df} = 3$  ( $P = 0.13$ );  $I^2 = 48\%$ 

 Test for overall effect:  $Z = 2.70$  ( $P = 0.007$ )




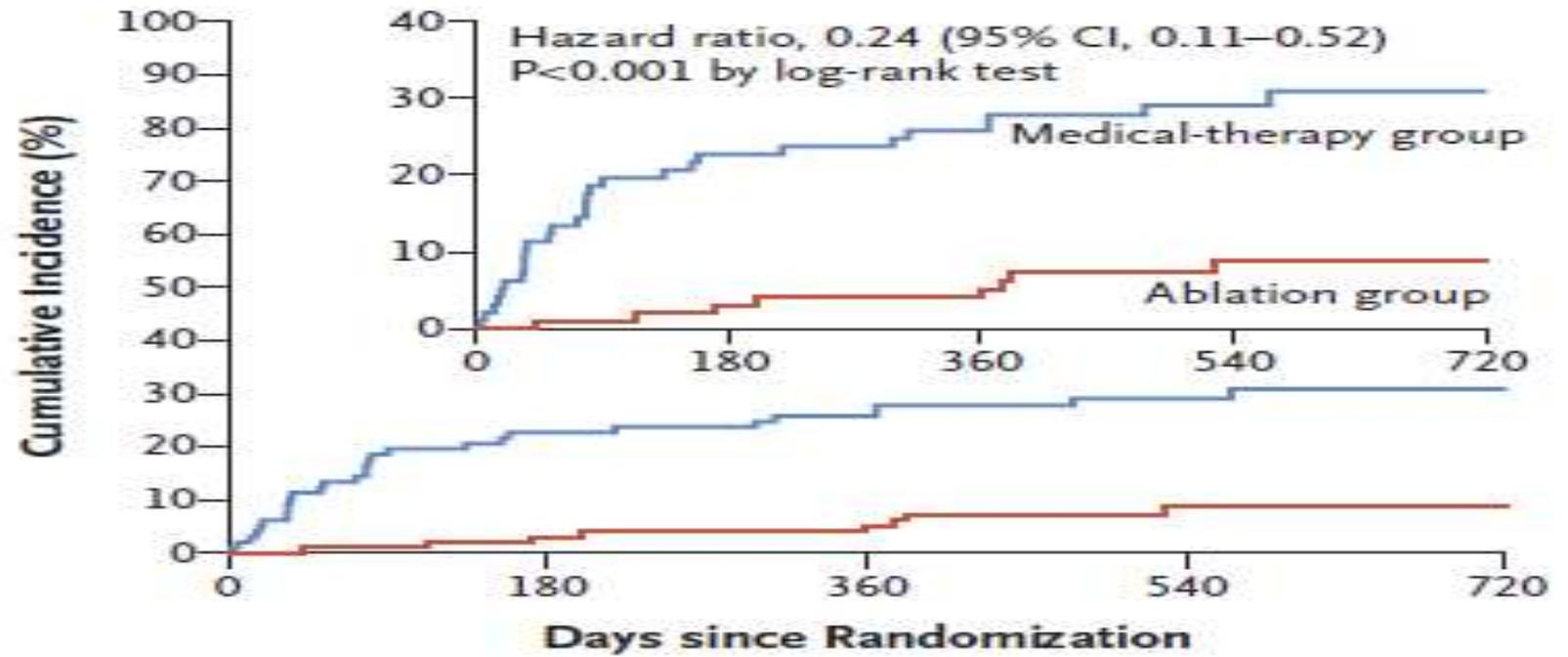
**Figure 4** Composite adverse events (catheter ablation rhythm control vs. medical therapy).





# CASTLE HTX

## A Primary End Point



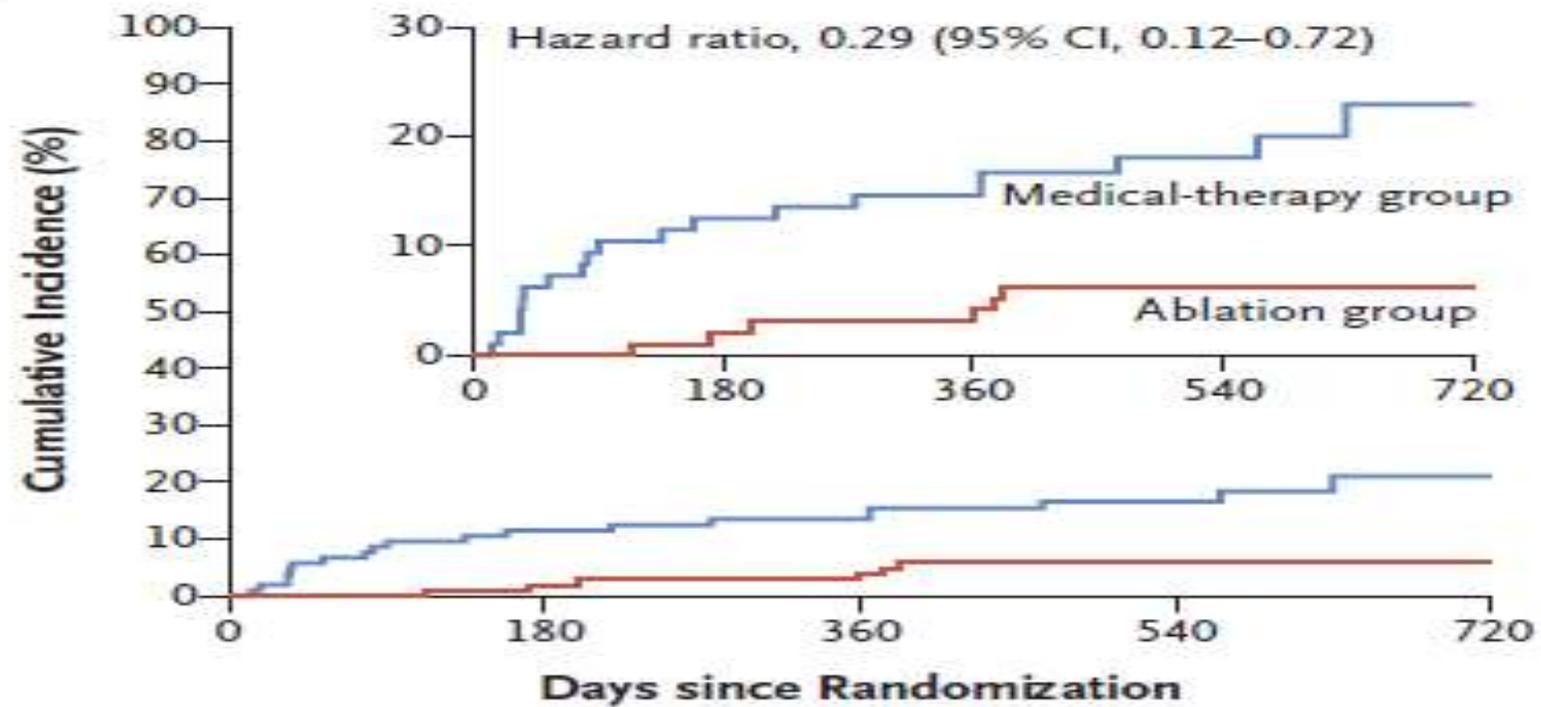
### No. at Risk

Medical-therapy group	97	75	72	41	12
Ablation group	97	94	88	50	20



# CASTLE HTX

**B Death from Any Cause**



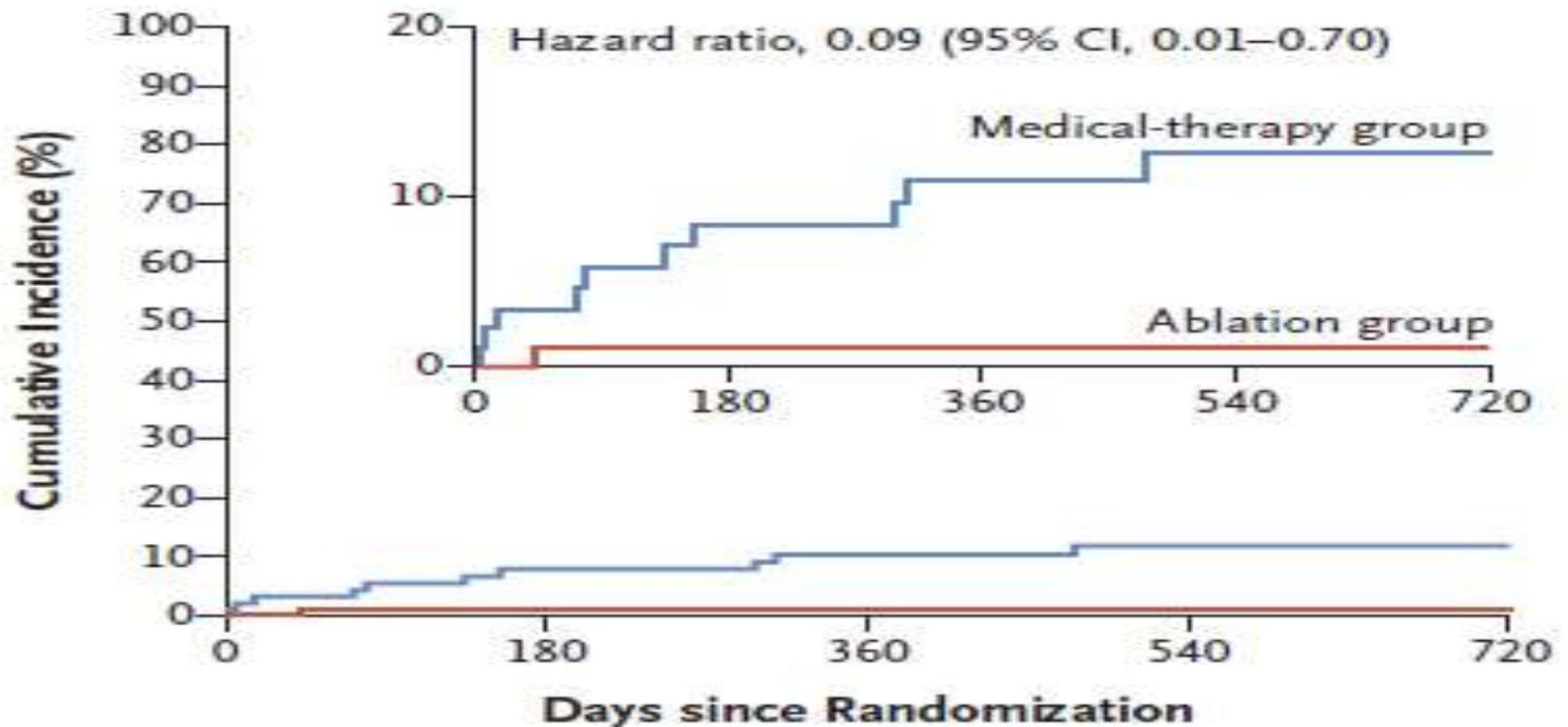
**No. at Risk**

Medical-therapy group	97	85	83	45	13
Ablation group	97	95	93	51	20



# CASTLE HTX

## C Implantation of a Left Ventricular Assist Device

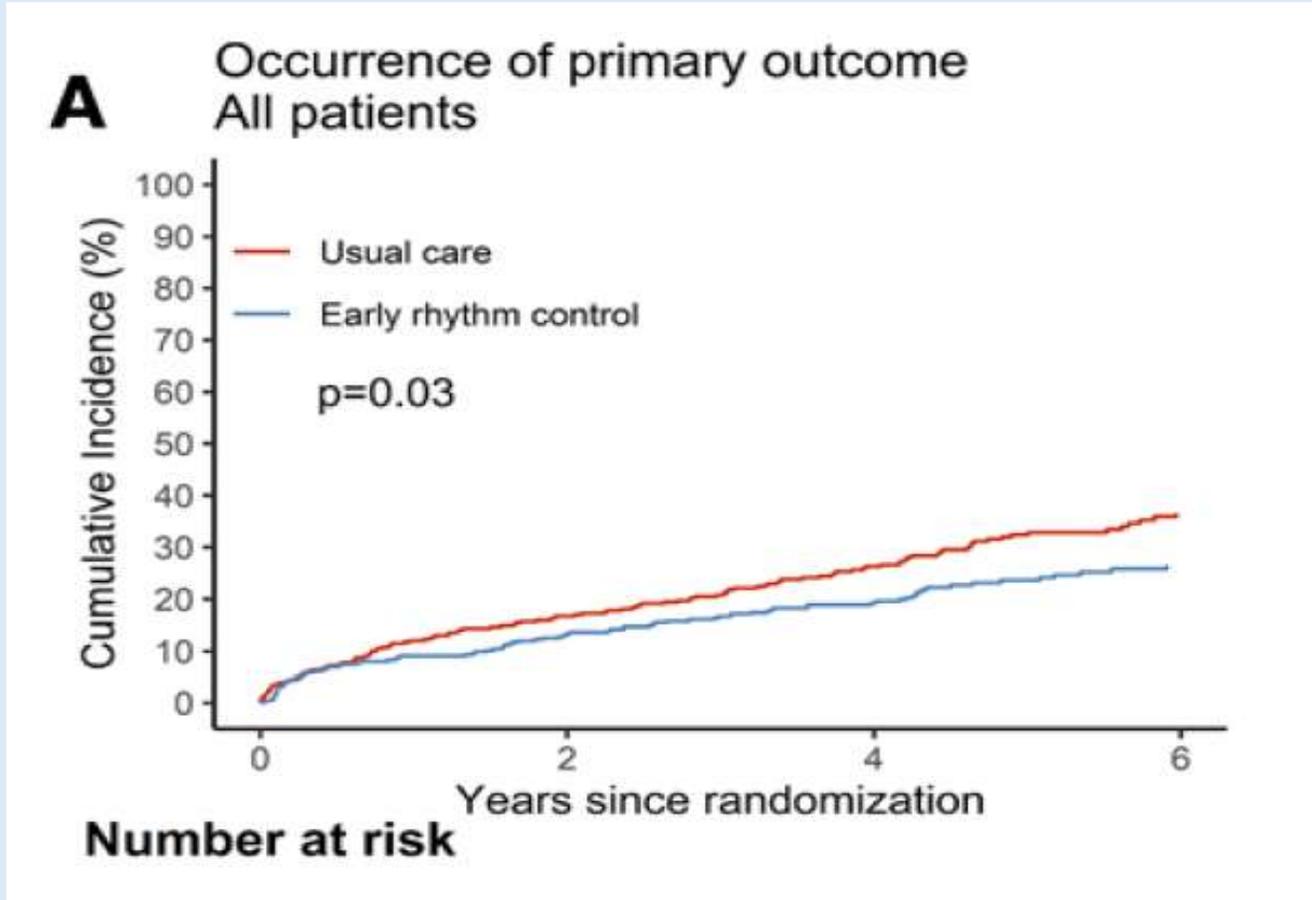


### No. at Risk

Medical-therapy group	97	79	76	42	12
Ablation group	97	94	92	51	20



# Early Rhythm Control Therapy in Patients With Atrial Fibrillation and Heart Failure



# CONCLUSIONES

- Manejo interdisciplinario centrado en el paciente
- Control estricto de factores de riesgo
- Anticoagular cuando se requiera y a la dosis adecuada
- Paciente frágil anticoagular con DOAC (idealmente apixaban)
- Patología crónica de seguimiento periódico.
- Priorizar ritmo, de forma temprana en pacientes con ICFER + FA.



**XIII CONGRESO INTERNACIONAL DE CARDIOLOGIA  
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