SOLACI
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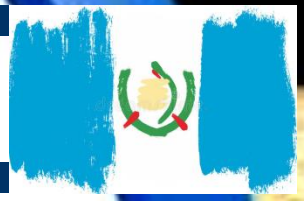
Cierre de FOP: cuando debe plantearse?



HOSPITAL ITALIANO de Buenos Aires
Instituto de Medicina Cardiovascular
Joint Commission International

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1 / 2 de Junio 2018

- ANTIGUA GUATEMALA - GUATEMALA

NO TENGO CONFLICTO DE INTERESES PARA ESTA PRESENTACION

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de Buenos Aires
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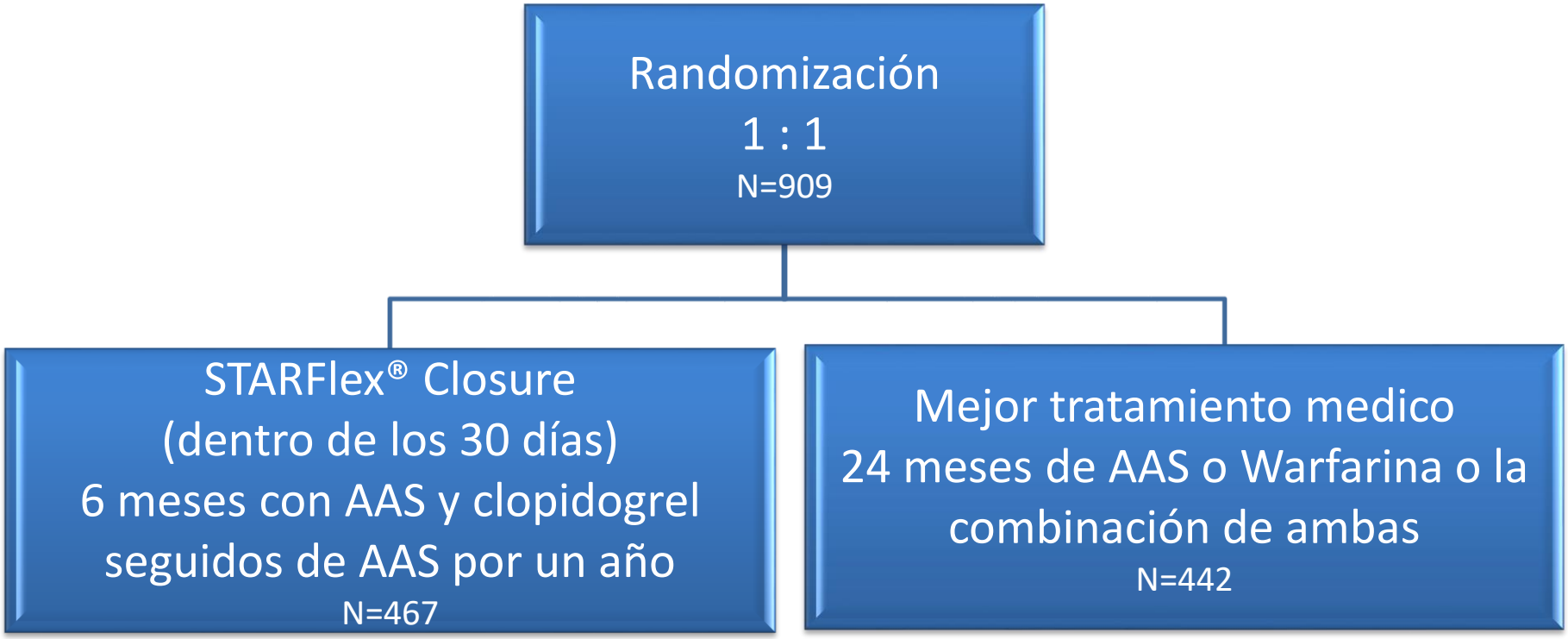
Background

- ✓ 1 de cada 4 ACV son criptogénicos[1]
- ✓ 34-46% de los ACV isquémicos ocurren entre los18-60 años[2,3]
- ✓ 40-50% de los pacientes con ACV criptogénico, tienen FOP[4,5]
- ✓ Los resultados de las estrategias de tratamiento tienen que verse en el largo plazo

[1] Hart et al. *Lancet Neurology* 2014;13:429-436.
[2] Putaala et al. *Stroke* 2009;40:1195-1203.
[3] Wolf et al. *Cerebrovascular Dis* 2015;40:129-135.
[4] Lechat et al. NEJM 1988;318:1148-1152.
[5] Webster et al. Lancet 1988;332:11-12.

CLOSURE I
Investigating the PFO Stroke Connection

Diseño del estudio



Primer enrolado Junio 2003 — Ultimo enrolado: Octubre 2008

Mas de 5 años para el enrolamiento

CLOSURE I
Investigating the PFO Stroke Connection

Punto final primario a 2 años

	STARFlex n = 447	**Trat medico** n = 462	**P***
Compuesto	5.9% (n=25)	7.7% (n=30)	0.30
Stroke	3.1% (n=12)	3.4% (n=13)	0.77
TIA	3.3%* (n=13)	4.6% (n=17)	0.39

*3 ocurrieron después de la randomización pero antes del implante

CLOSURE I
Investigating the PFO Stroke Connection

Eventos

	STARFlex N=400	Trat. medico N=451	P value
Pequeño shunt	7.0% (n=8/114)	8.0% (n=10/126)	0.75
Moderado shunt	5.3% (n=7/132)	8.4% (n=12/143)	0.31
Gran shunt	3.6% (n=3/84)	5.3% (n=3/57)	0.62
Sin aneurisma el septum	6.4% (n=15/236)	8.5% (n=20/236)	0.38
Con aneurisma el septum	4.9% (n=7/142)	6.5% (n=9/139)	0.58

Por qué el CLOSURE dio esos resultados?

Hay otros hallazgos a tener en cuenta

- ✓ Muchos operadores estaban en el comienzo de la curva de aprendizaje
- ✓ Tasa de complicaciones muy alta en el grupo cierre percutaneo
- ✓ Dispositivo obsoleto

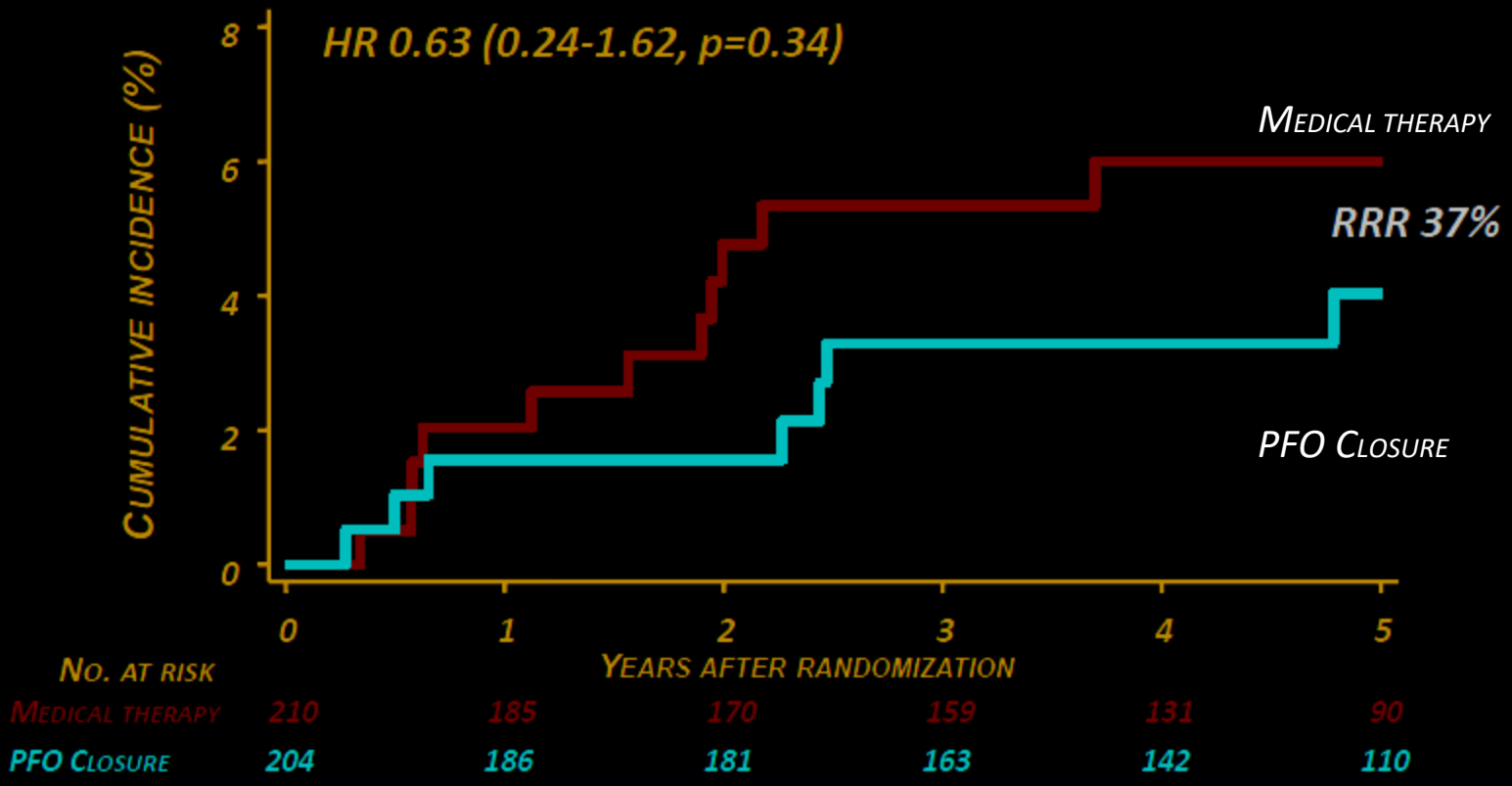
PC Trial

Criterios de inclusión

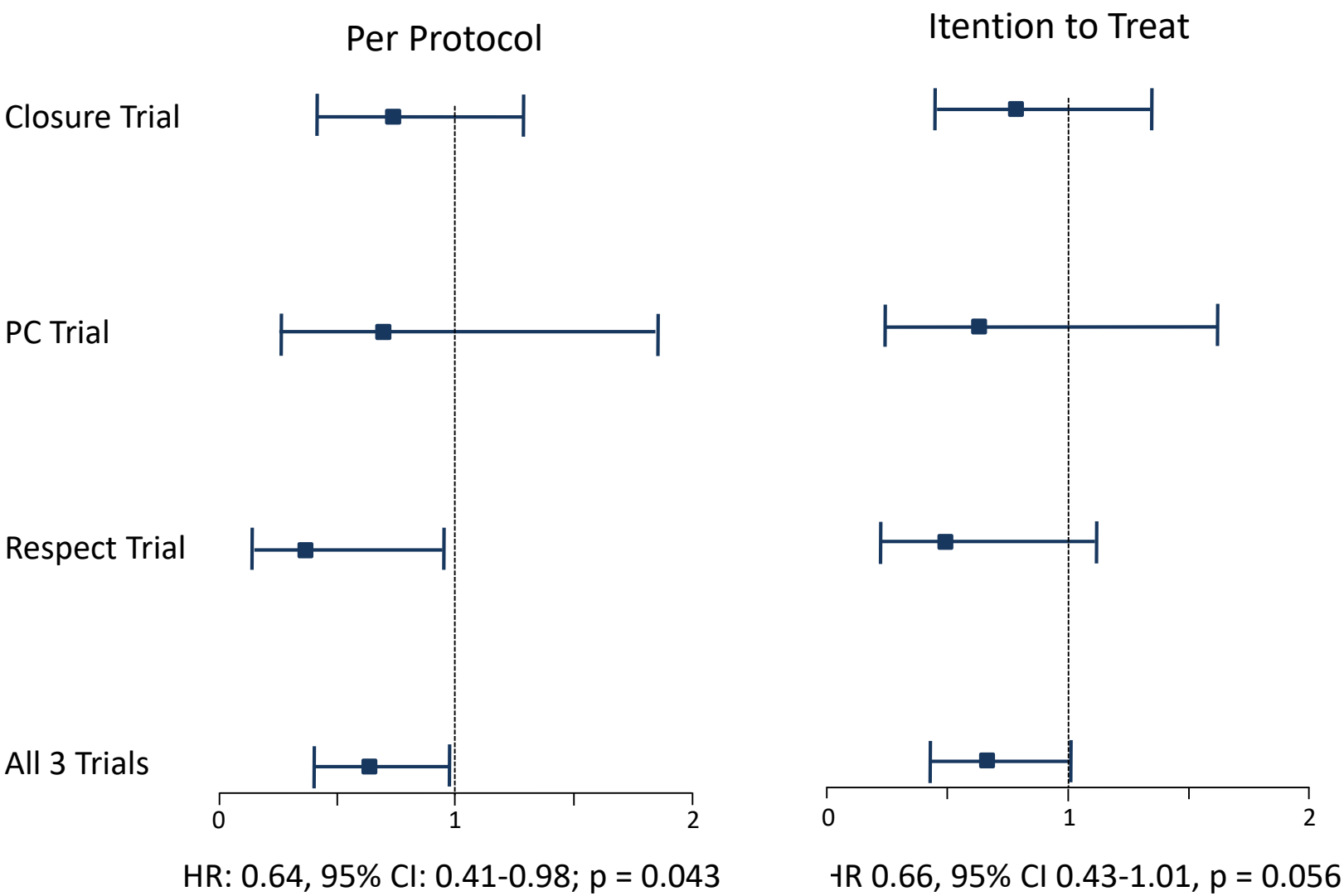
- Edad < 60 años
- Presencia de PFO (con o sin aneurisma septal)
- Stroke o TIA demostrado clinica y neuroradilogicamente
- Embolia periferica demostrada clinica y radiologicamente

PC Trial: punto final combinado

Muerte, stroke, TIA y embolia periférica

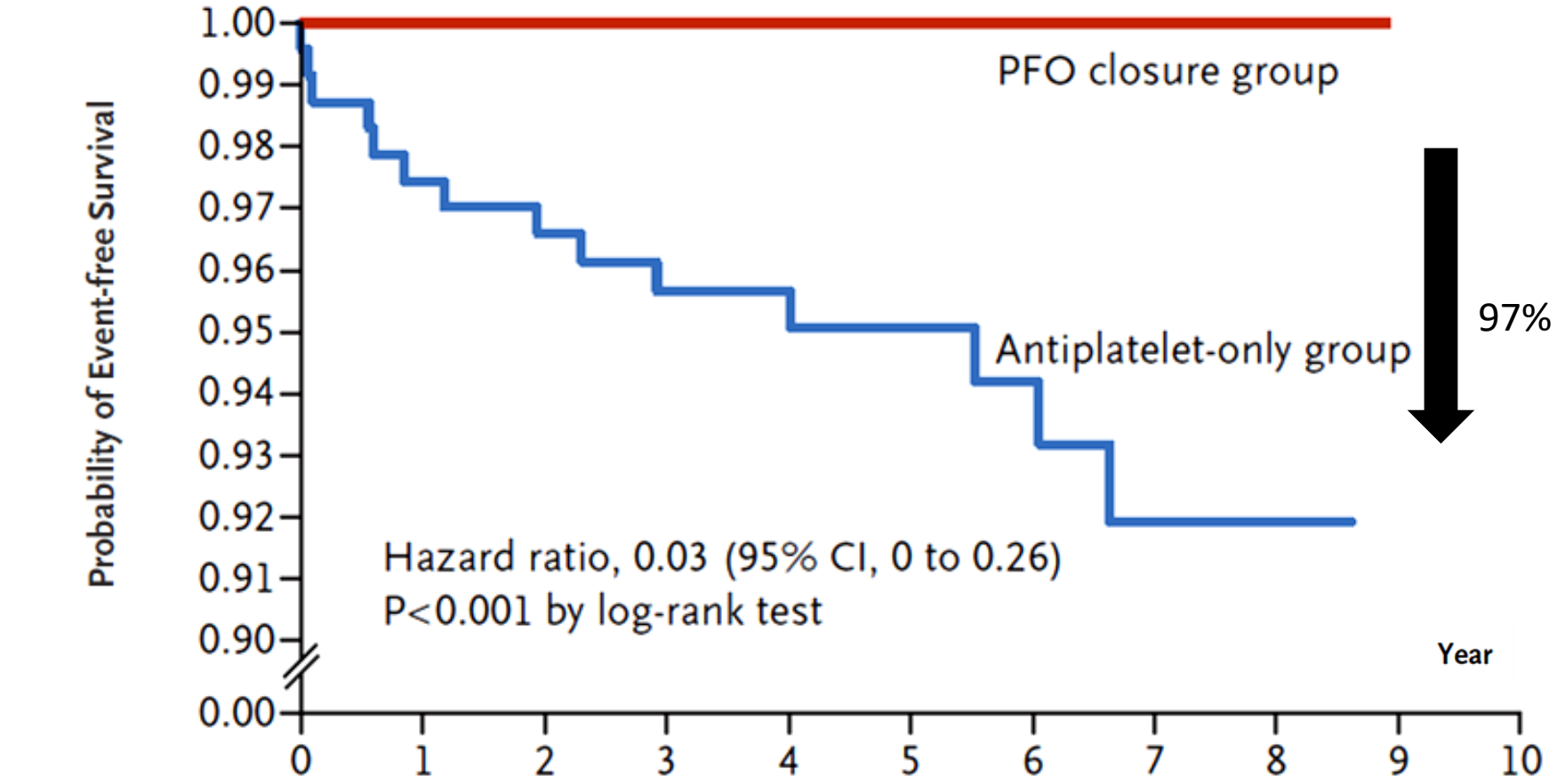


Metanálisis



Riaz et al. BMC Cardiovascular Disorders 2013, 13:116

CLOSE Trial

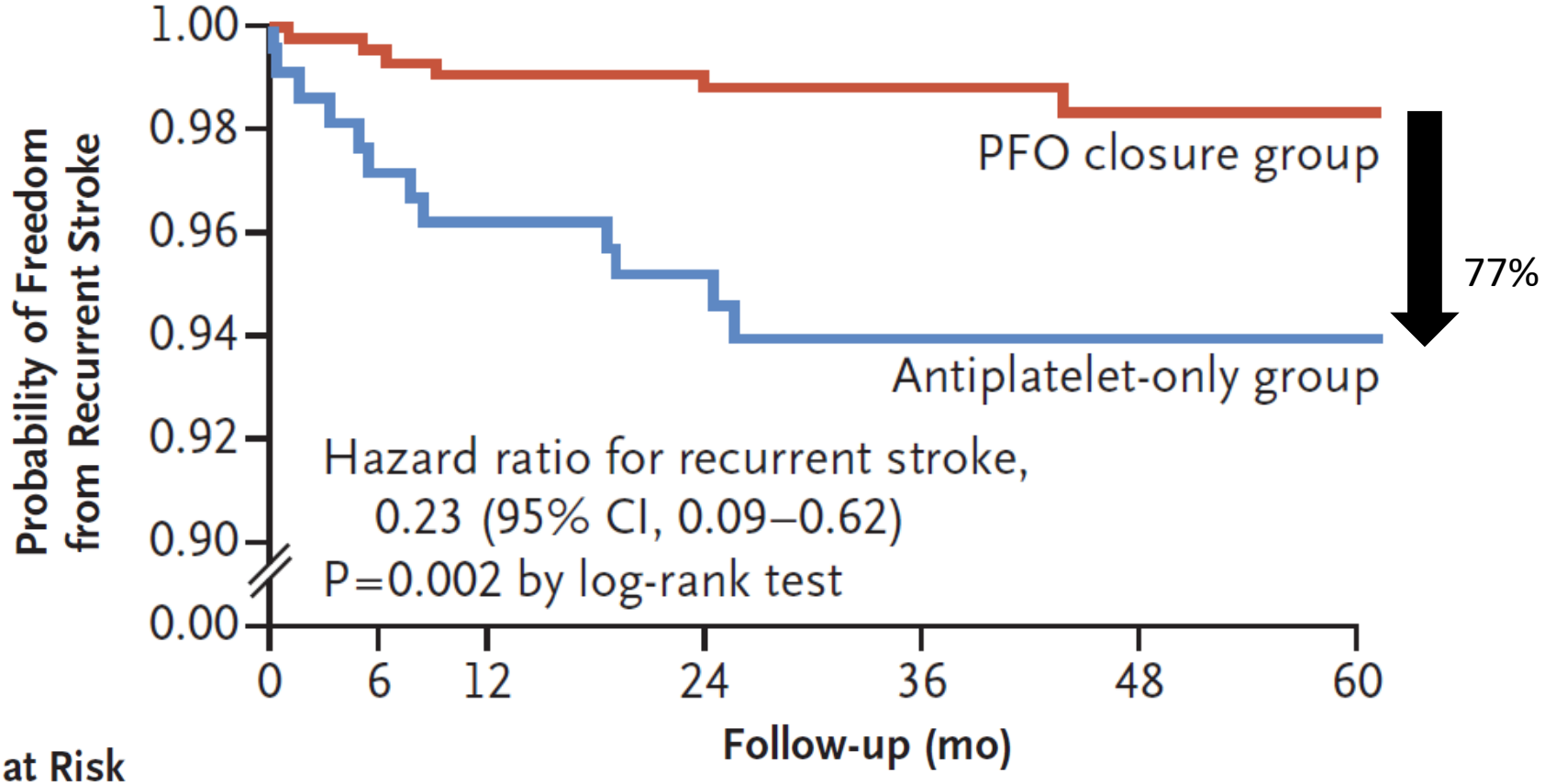


No. at Risk

PFO closure group	238	238	232	200	179	141	99	64	20	0	0
Antiplatelet-only group	235	229	223	198	160	130	96	55	19	0	0

Mas JL et al for the CLOSE Investigators. **N Engl J Med** 377;11 **September 14, 2017**

Gore REDUCE Clinical Study

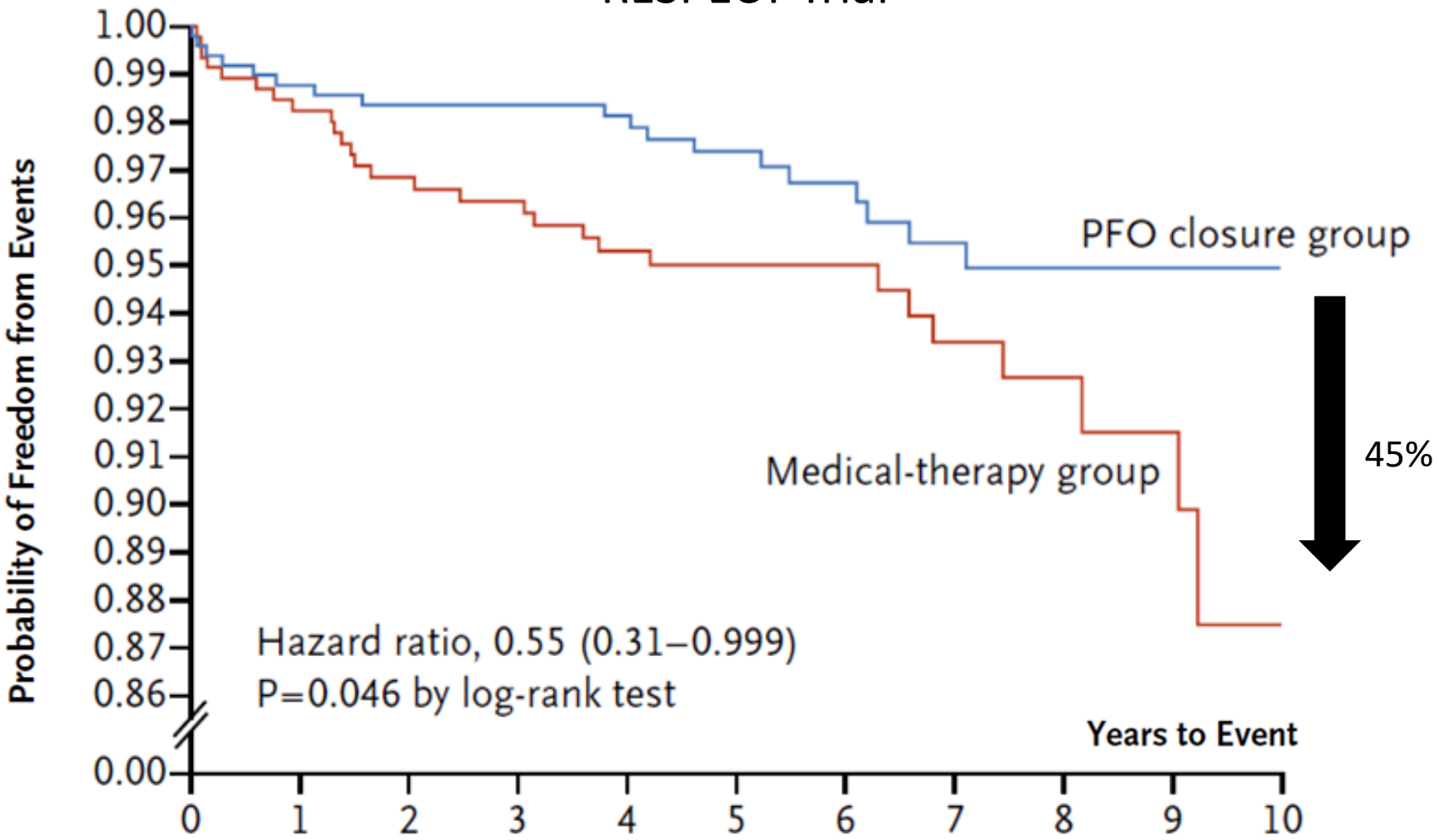


No. at Risk

PFO closure group	441	422	417	398	278	182	102
Antiplatelet-only group	223	202	194	173	116	78	30

Sondergaard L et al for the Gore REDUCE Clinical Study Investigators. **N Engl J Med** 377;11 **September 14, 2017**

RESPECT Trial

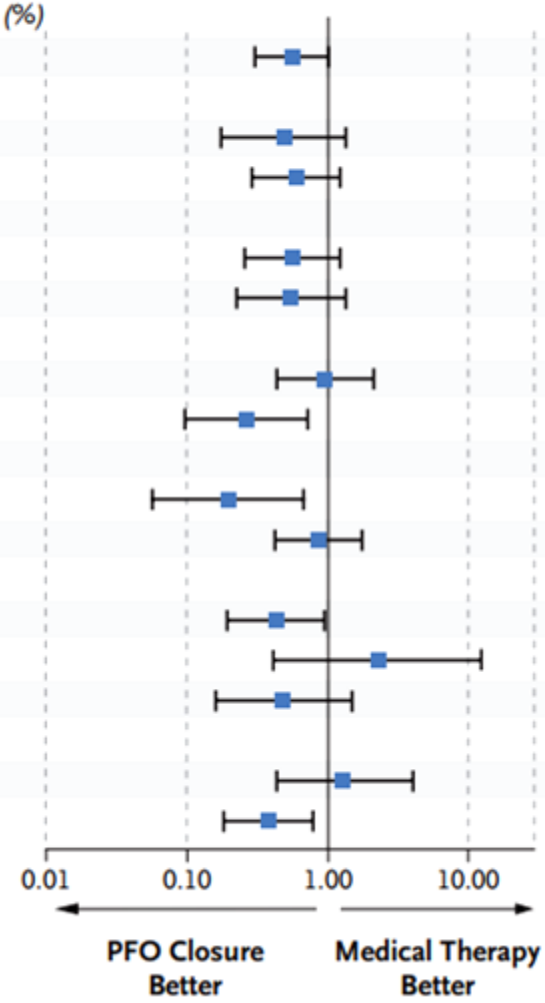


No. at I

PFO closure group	499	476	464	447	421	352	262	197	128	77	41
Medical-therapy group	481	433	394	380	354	282	218	150	104	59	31

Saber JL et al for the RESPECT Investigators. **N Engl J Med** 377;11 **September 14, 2017**

Subgroup	PFO Closure Group	Medical-Therapy Group	Hazard Ratio (95% CI)	P Value by Log-Rank Test	P Value for Interaction
	no. of patients with event/total no. (%)				
Overall	18/499 (3.6)	28/481 (5.8)	0.55 (0.30–1.00)	0.046	
Age					0.78
18–45 yr	6/230 (2.6)	10/210 (4.8)	0.49 (0.18–1.35)	0.16	
46–60 yr	12/262 (4.6)	18/266 (6.8)	0.59 (0.28–1.23)	0.16	
Sex					1.00
Male	10/268 (3.7)	16/268 (6.0)	0.56 (0.25–1.23)	0.14	
Female	8/231 (3.5)	12/213 (5.6)	0.55 (0.22–1.34)	0.18	
Shunt size					0.04
None, trace or moderate	13/247 (5.3)	12/244 (4.9)	0.96 (0.44–2.11)	0.93	
Substantial ✓	5/247 (2.0)	16/231 (6.9)	0.26 (0.10–0.71)	0.005	
Atrial septal aneurysm					0.04
Present ✓	3/179 (1.7)	13/170 (7.6)	0.20 (0.06–0.70)	0.005	
Absent	15/320 (4.7)	15/311 (4.8)	0.86 (0.42–1.76)	0.68	
Index infarct topography					0.21
Superficial	9/280 (3.2)	18/269 (6.7)	0.43 (0.19–0.96)	0.03	
Small deep	4/57 (7.0)	2/70 (2.9)	2.25 (0.41–12.32)	0.34	
Other	5/157 (3.2)	8/140 (5.7)	0.48 (0.16–1.48)	0.19	
Planned medical regimen					0.07
Anticoagulant	8/132 (6.1)	5/121 (4.1)	1.32 (0.43–4.03)	0.63	
Antiplatelet ✓	10/367 (2.7)	23/360 (6.4)	0.38 (0.18–0.79)	0.007	



Saber JL et al for the RESPECT Investigators. **N Engl J Med** 377;11 **September 14, 2017**

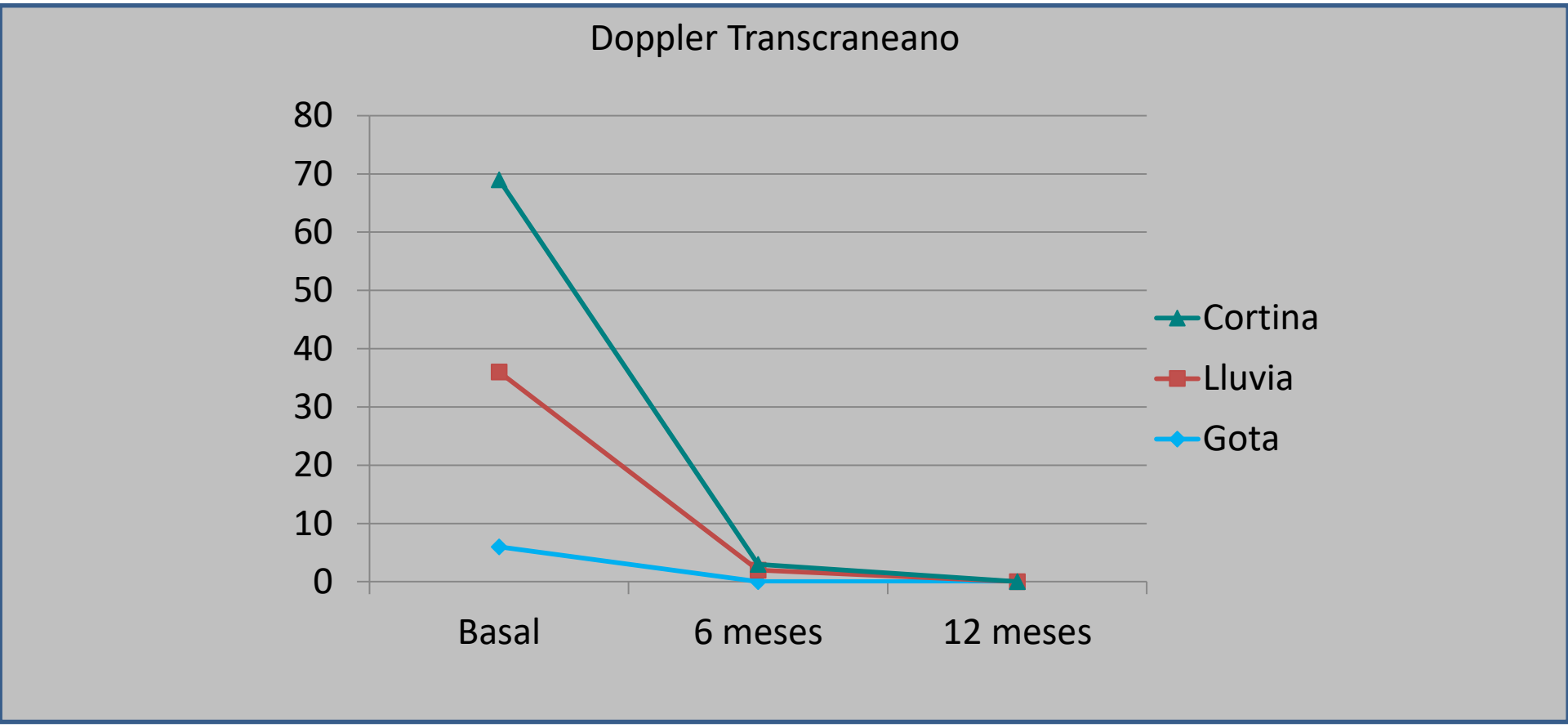
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

	CLOSE	GORE REDUCE	RESPECT
N	663	664	980
Comparado con	Anticoagulación y DAPT	AAS y/o Clopidogrel o Dipiridamol	Anticoagulación, AAS, clopidogrel o Dipiridamol
Selección de pacientes	▪cryptogenic ischemic stroke ▪within the previous 6 months ▪PFO with anatrial septal aneurysm or large interatrial shunt	▪cryptogenic ischemic stroke (clinical o by MRI) within the previous 6 months ▪PFO with a right-to-left shunt	▪cryptogenic ischemic Stroke ▪PFO
F/U	10 años	5 años	10 años

RESPECT

Event	Device Group N=499 n (%)	Medical Group N=481 n (%)	P-value[2]
Diabetes mellitus	33 (6.6%)	40 (8.3%)	0.332
Systemic hypertension	158 (31.7%)	150 (31.2%)	0.891
Current smoker	75 (15%)	55 (11.4%)	0.109
Hypercholesterolemia	194 (38.9%)	193 (40.1%)	0.696
Coronary artery disease (CAD)	19 (3.8%)	9 (1.9%)	0.084
Peripheral vascular disease (PVD)	5 (1%)	1 (0.2%)	0.218
Previous transient ischemic attack (TIA)	58 (11.6%)	61 (12.7%)	0.626
Previous stroke[1]	53 (10.6%)	51 (10.6%)	1
History of migraine	195 (39.1%)	185 (38.5%)	0.844
History of deep vein thrombosis (DVT)	20 (4%)	15 (3.1%)	0.494



Berrocal D, Previgliano I, Trentacoste L y Fernández A. Datos NO publicados

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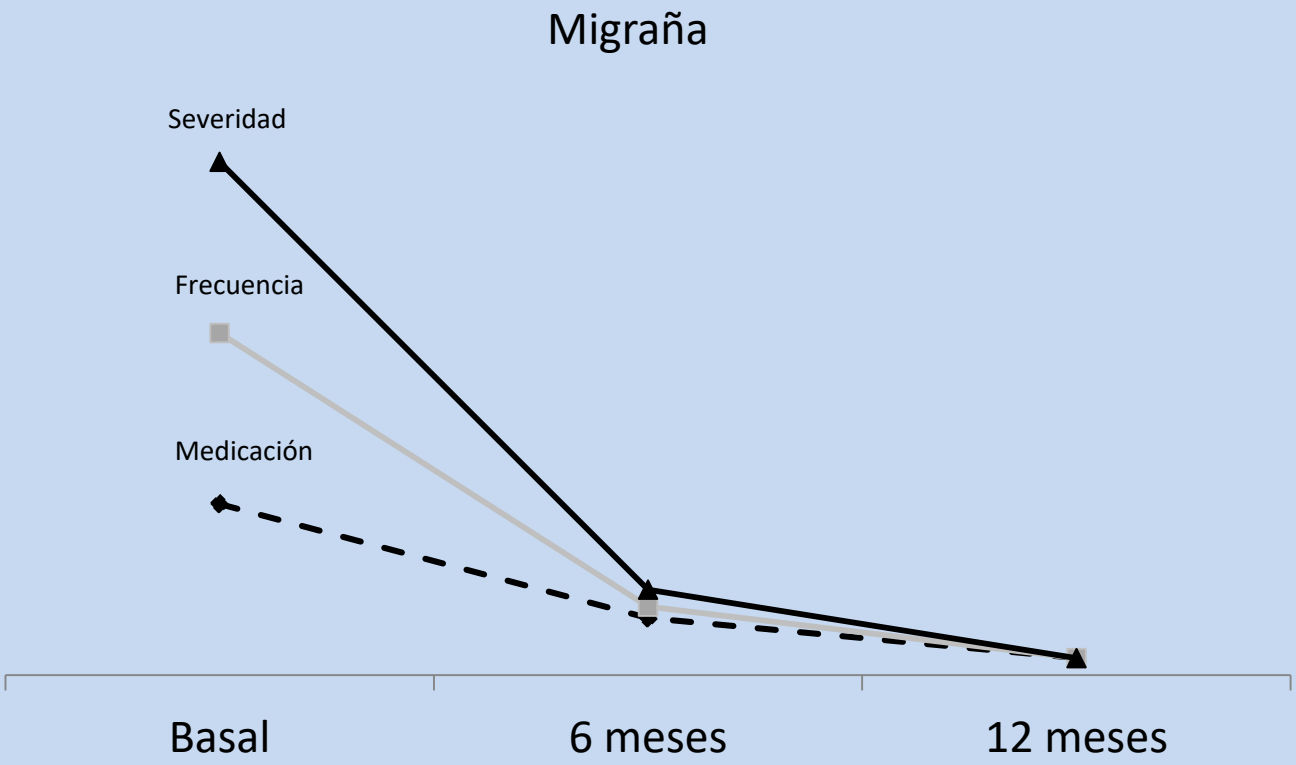
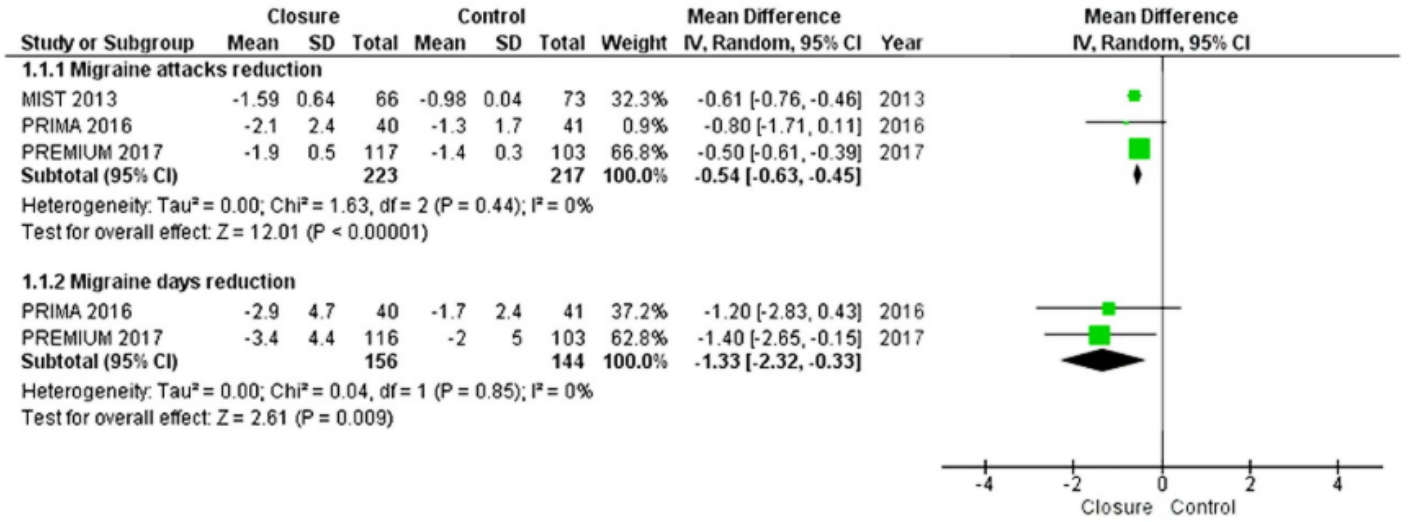
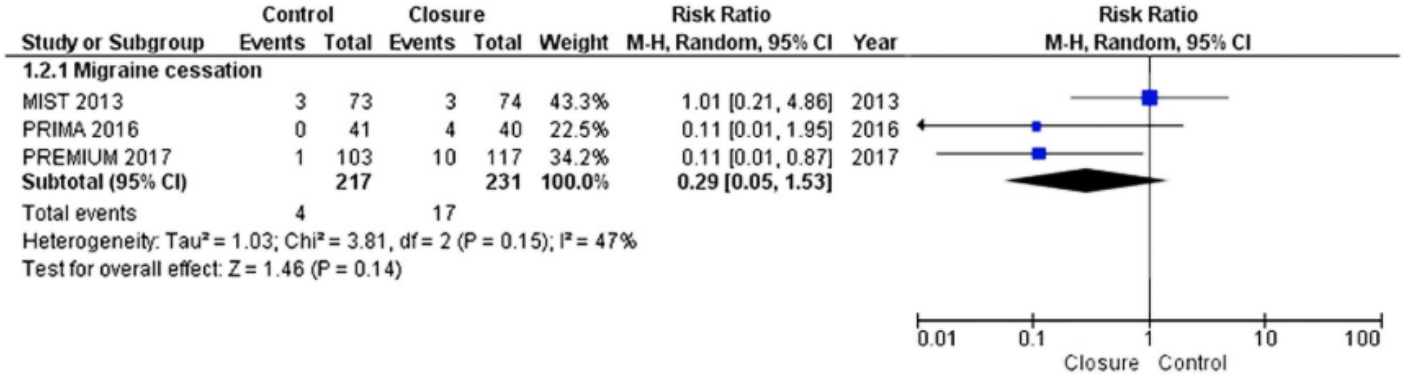
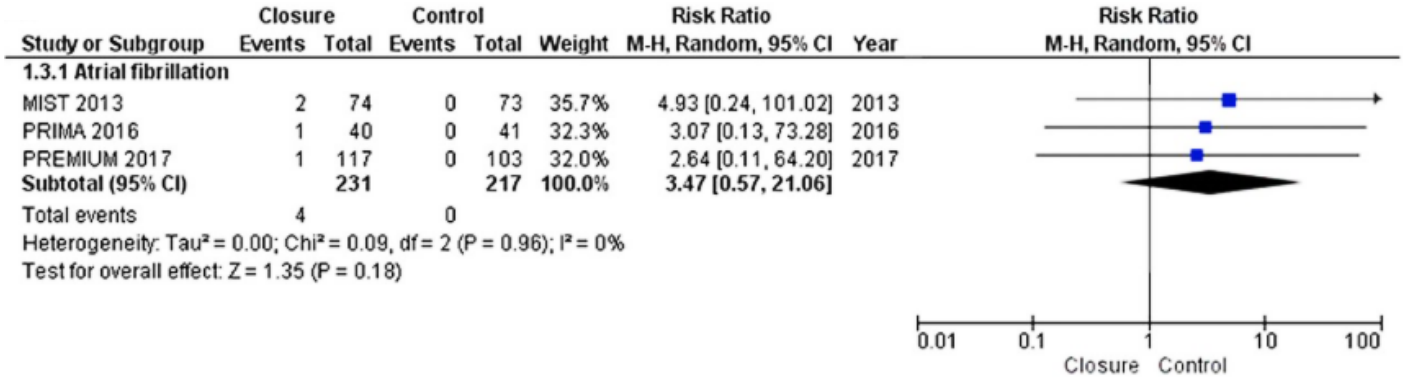
NO nuevo ACV ni AIT en el seguimiento



Berrocal D, Previgliano I, Trentacoste L y Fernández A. Datos NO publicados


Closure
Control
Mean Difference
Mean Difference
Study or Subgroup Mean SD Total Mean SD Total Weight IV, Random, 95% CI Year
IV, Random, 95% CI
1.1.1 Migraine attacks reduction
MIST 2013 -1.59 0.64 66 -0.98 0.04 73 32.3% -0.61 [-0.76, -0.46] 2013
PRIMA 2016 -2.1 2.4 40 -1.3 1.7 41 0.9% -0.80 [-1.71, 0.11] 2016
PREMIUM 2017 -1.9 0.5 117 -1.4 0.3 103 66.8% -0.50 [-0.61, -0.39] 2017
Subtotal (95% CI) 223 217 100.0% -0.54 [-0.63, -0.45]
Heterogeneity: Tau² = 0.00; Chi² = 1.63, df = 2 (P = 0.44); I² = 0%
Test for overall effect: Z = 12.01 (P < 0.00001)
1.1.2 Migraine days reduction
PRIMA 2016 -2.9 4.7 40 -1.7 2.4 41 37.2% -1.20 [-2.83, 0.43] 2016
PREMIUM 2017 -3.4 4.4 116 -2 5 103 62.8% -1.40 [-2.65, -0.15] 2017
Subtotal (95% CI) 156 144 100.0% -1.33 [-2.32, -0.33]
Heterogeneity: Tau² = 0.00; Chi² = 0.04, df = 1 (P = 0.85); I² = 0%
Test for overall effect: Z = 2.61 (P = 0.009)
-4 -2 0 2 4
Closure Control


Control
Closure
Risk Ratio
Risk Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI Year
M-H, Random, 95% CI
1.2.1 Migraine cessation
MIST 2013 3 73 3 74 43.3% 1.01 [0.21, 4.86] 2013
PRIMA 2016 0 41 4 40 22.5% 0.11 [0.01, 1.95] 2016
PREMIUM 2017 1 103 10 117 34.2% 0.11 [0.01, 0.87] 2017
Subtotal (95% CI) 217 231 100.0% 0.29 [0.05, 1.53]
Total events 4 17
Heterogeneity: Tau² = 1.03; Chi² = 3.81, df = 2 (P = 0.15); I² = 47%
Test for overall effect: Z = 1.46 (P = 0.14)
0.01 0.1 1 10 100
Closure Control


Closure
Control
Risk Ratio
Risk Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI Year
M-H, Random, 95% CI
1.3.1 Atrial fibrillation
MIST 2013 2 74 0 73 35.7% 4.93 [0.24, 101.02] 2013
PRIMA 2016 1 40 0 41 32.3% 3.07 [0.13, 73.28] 2016
PREMIUM 2017 1 117 0 103 32.0% 2.64 [0.11, 64.20] 2017
Subtotal (95% CI) 231 217 100.0% 3.47 [0.57, 21.06]
Total events 4 0
Heterogeneity: Tau² = 0.00; Chi² = 0.09, df = 2 (P = 0.96); I² = 0%
Test for overall effect: Z = 1.35 (P = 0.18)
0.01 0.1 1 10 100
Closure Control

AMERICAN ACADEMY OF NEUROLOGY®

AAN Summary of Practice Advisory for **Clinicians**

Practice Advisory Update of Practice Parameter: Recurrent Stroke with Patent Foramen Ovale

This is a summary of the American Academy of Neurology (AAN) practice advisory, "Recurrent Stroke with Patent Foramen Ovale," which was pu
Neurology® online on July 27, 2016, and appears in the August 23, 2016, *Neurology* print issue.

***Please refer to the full practice advisory at AAN.com/guidelines for more information, including descriptions of the proc
evidence, deriving conclusions, and making recommendations.***

In patients with a PFO who have had a cryptogenic ischemic stroke or TIA, does percuta
stroke recurrence compared with medical therapy alone?

Level A	Clinicians must counsel patients consid a PFO is common; it occurs in about 1 in 4 people; it is impossible to determine with okes or TIAs; the effectiveness of the procedure for reducing stroke risk remains u th relatively uncommon, yet potentially serious, complications.
Level C	In rare circumstanc te medical therapy with no other mechanism identified, clinicians may offer the A
Level R	Clini PFO closure to patients with cryptogenic ischemic stroke outside of a

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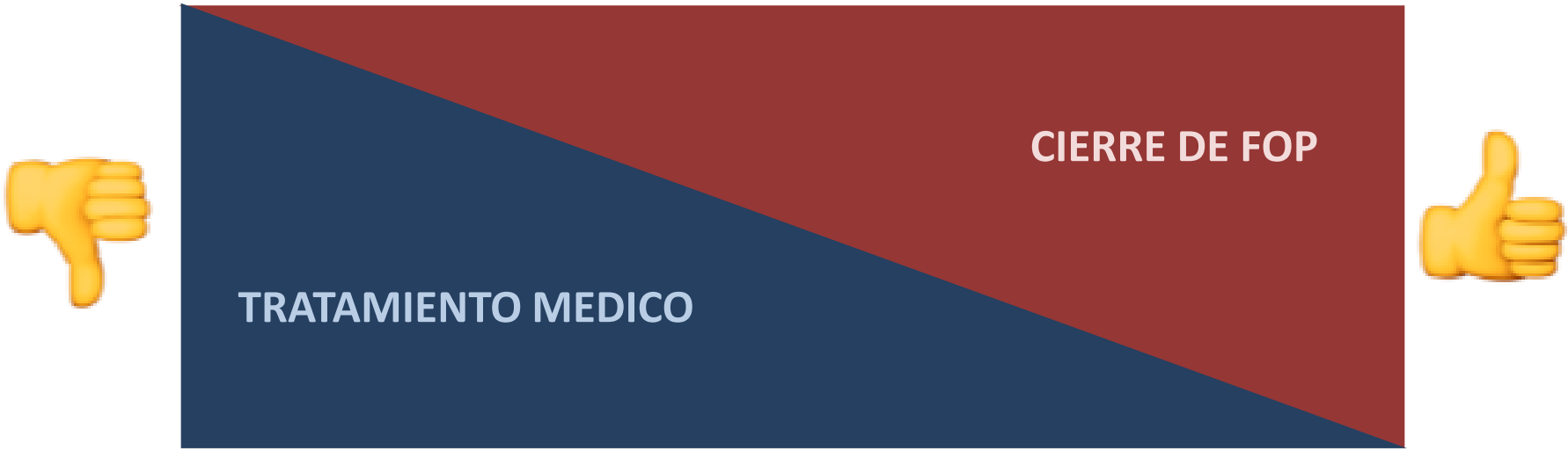
Descartados enf. Carotidea, FA, focos comiciales (migraña)



Migraña

Migraña Aura
Shunt ++/+++
Aneurisma de SIA

Oligo - Asintomáticos
Shunt ++/+++
Aneurisma de SIA
y/o
Hits + y/o MRI +
y/o
Trombofilia+

1er ACV
Shunt ++++
Aneurisma de SIA
y/o
Hits + y/o MRI +
y/o
Trombofilia+

≠