Tratamiento Actual del SCA con Elevación ST

SOCIEDAD LATINOAMERICANA DE CARDIOLOGIA INTERVENCIONISTA

SOLACI

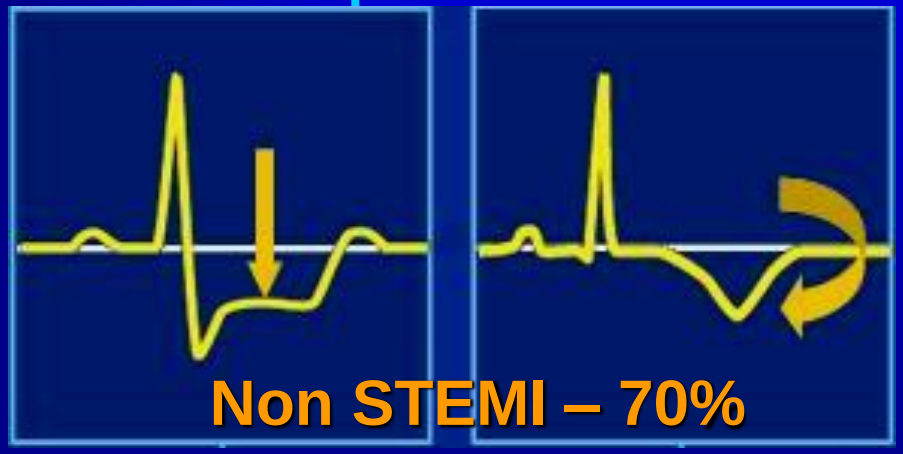
Jornadas SOLACI

Lima – Perú Octubre/2015

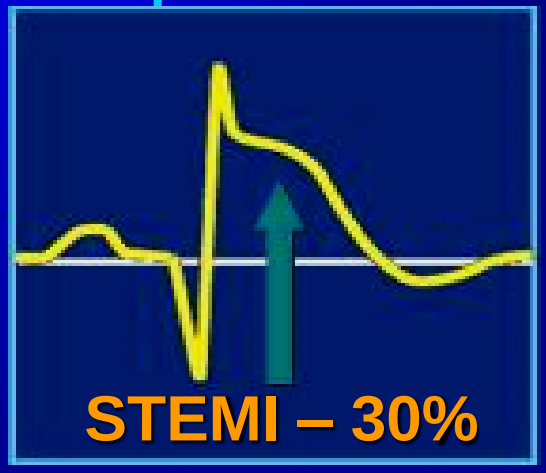
Síndrome Coronario Aguda

Prevalencia

≈ 1.260.000 hospitalizaciones/año



Non STEMI – 70%



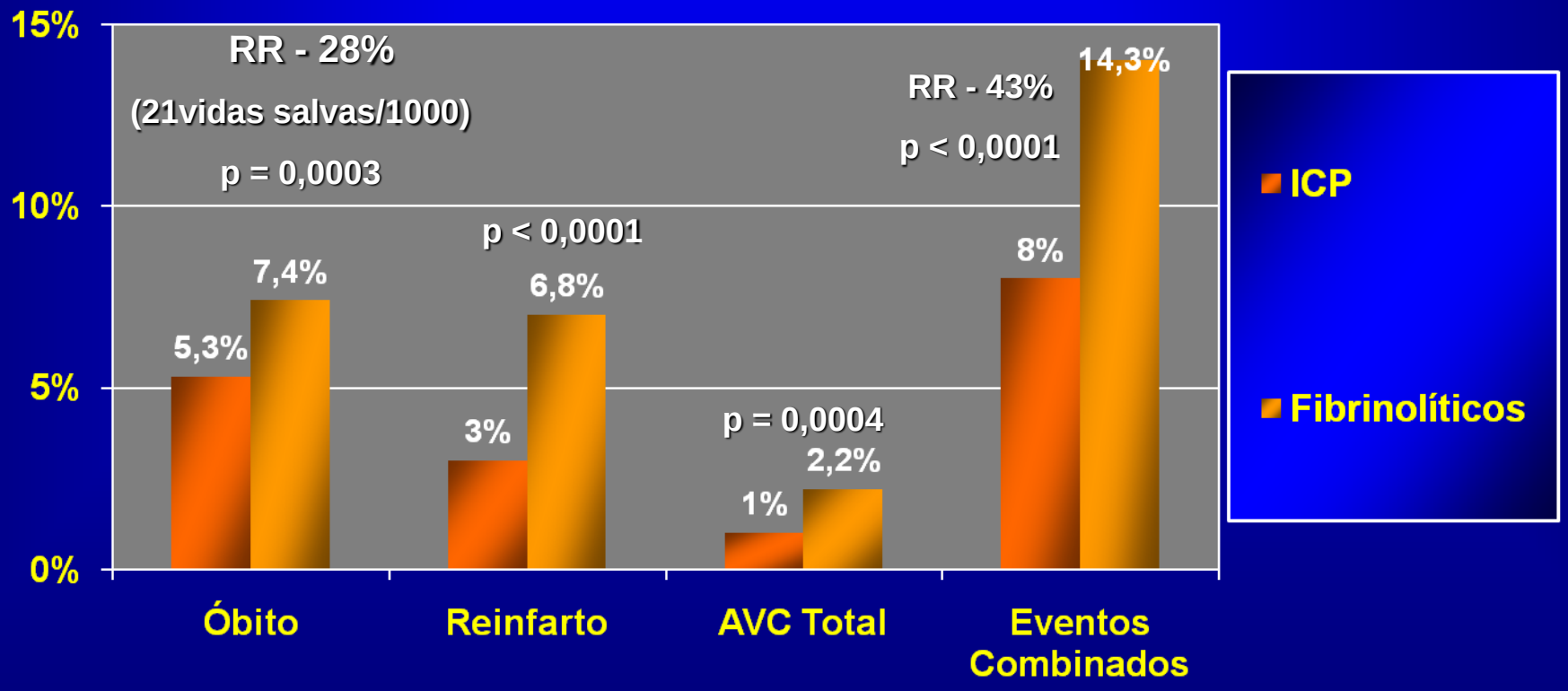
STEMI – 30%

Óbitos por SCA – 406.400/ano (≈ 1 óbito/min)

Heart Disease and Stroke Statistics/2011 Update : A Report From the American Heart Association. Circulation. 2011;123:e18-e209.

23 Estudios Randomizados
ICP Primaria vs Fibrinolíticos

n = 7.739 Resultados 30 días



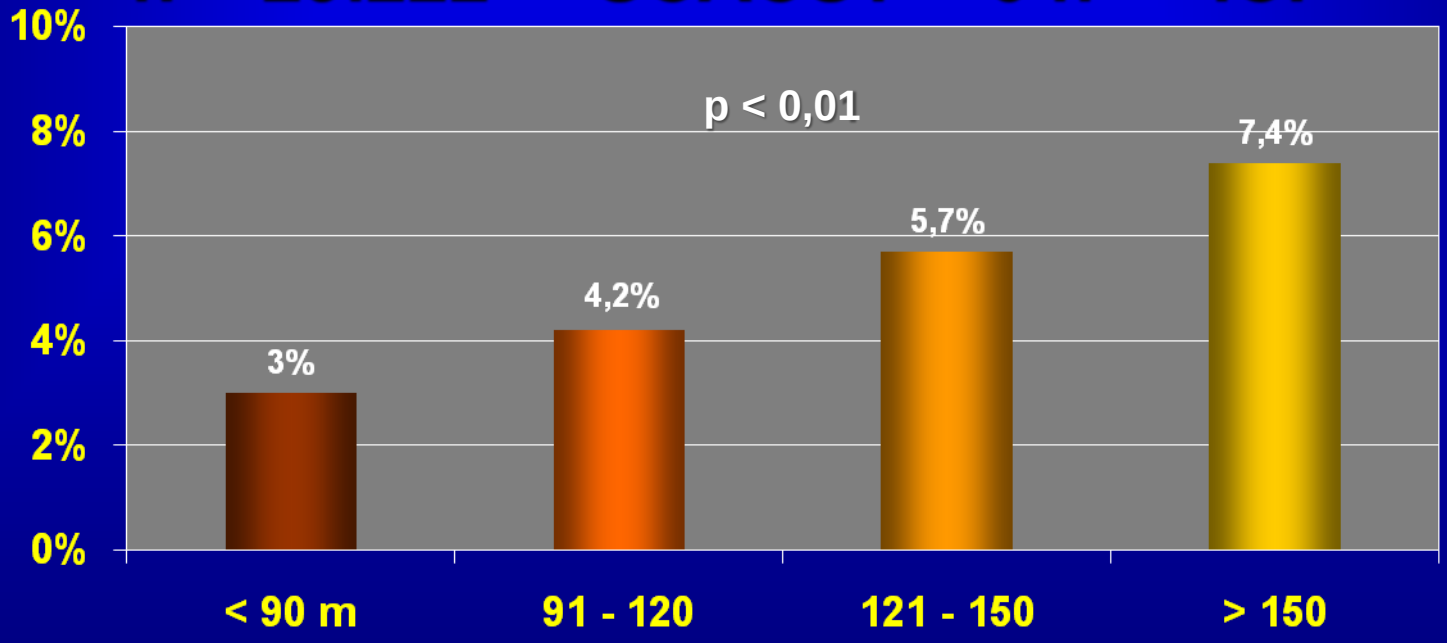
Keeley E.C. Lancet 2003;361:13-20

Mortalidad 30 días

Influencia del Retardo Puerta - Balón

Registro NRMI 3 – 4 (EUA) 1999 a 2006

n = 29.222 SCACST < 6 h → ICP



Puerta-balón > 90 m
OR 1,42; 95% IC 1,24 to 1,62
Centros c/ ICP - < 60 m

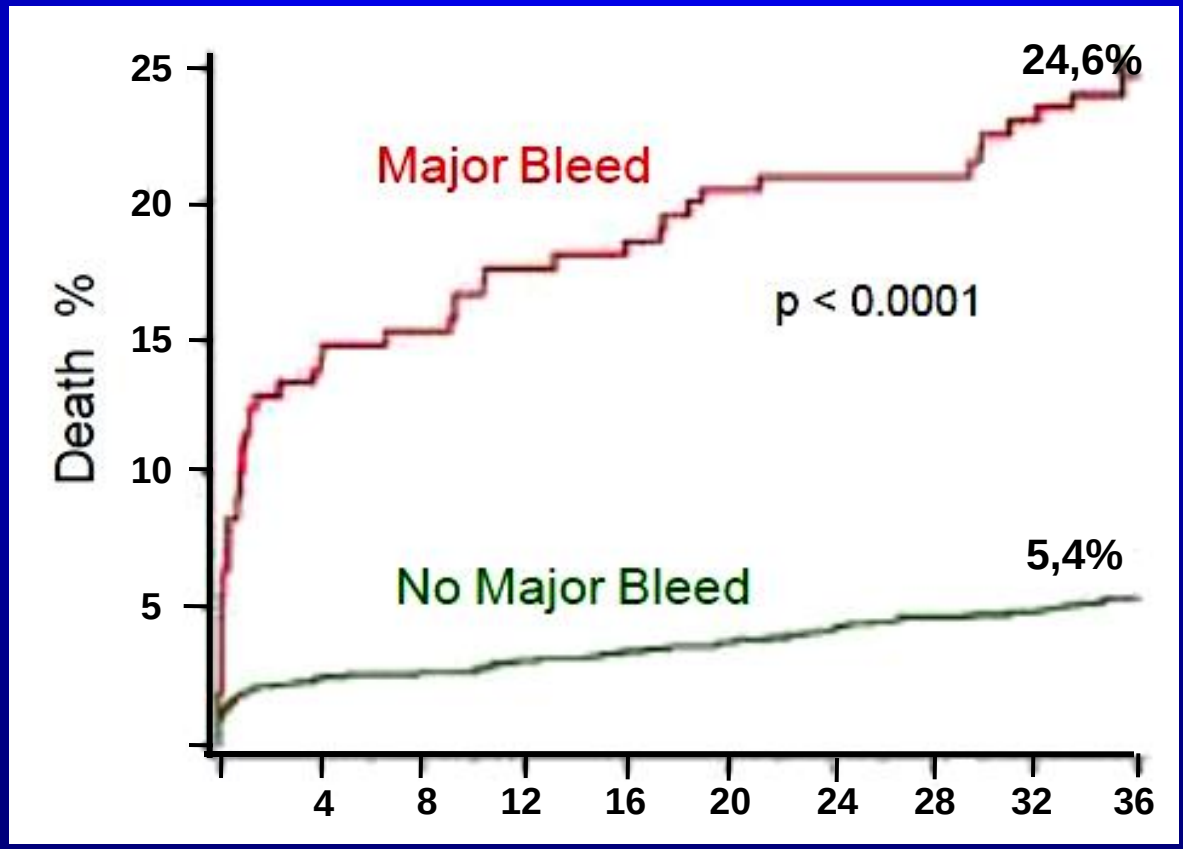
McNamara RL. J Am Coll Cardiol 2006;47:2180-86

Sangrados > Hospitalización

Mortalidad

HORIZONS AMI TRIAL (HNF + IGP IIb/IIIa vs Bivalirudina)

n = 3.602 STEMI ≤ 12 h ICP Primaria



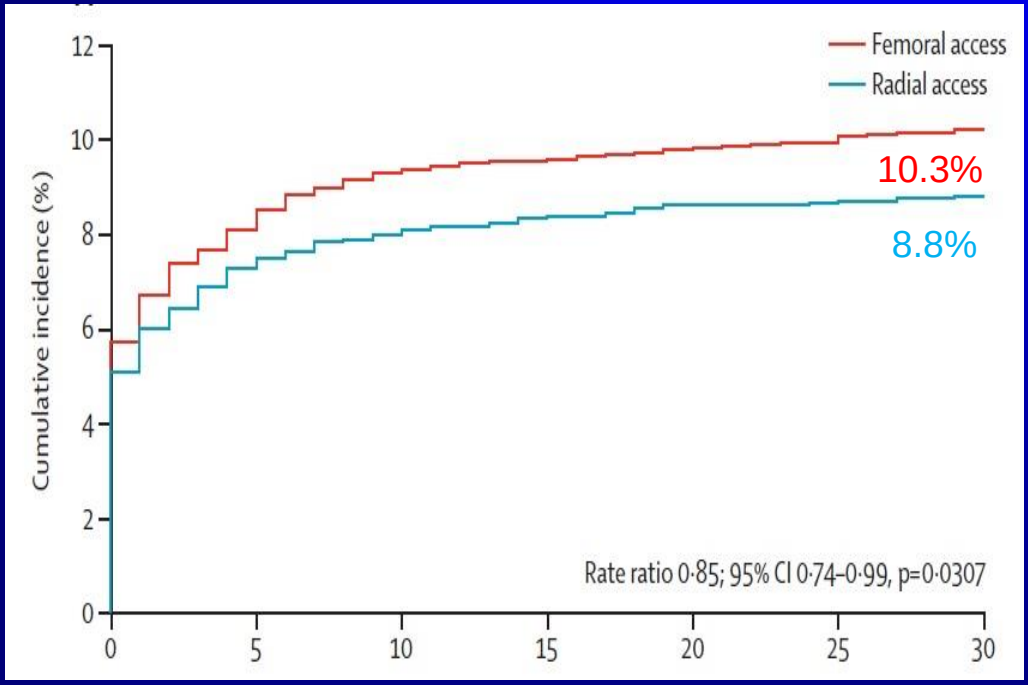
Suh JW. J Am Coll Cardiol 2011;58:1750

MATRIX Trial

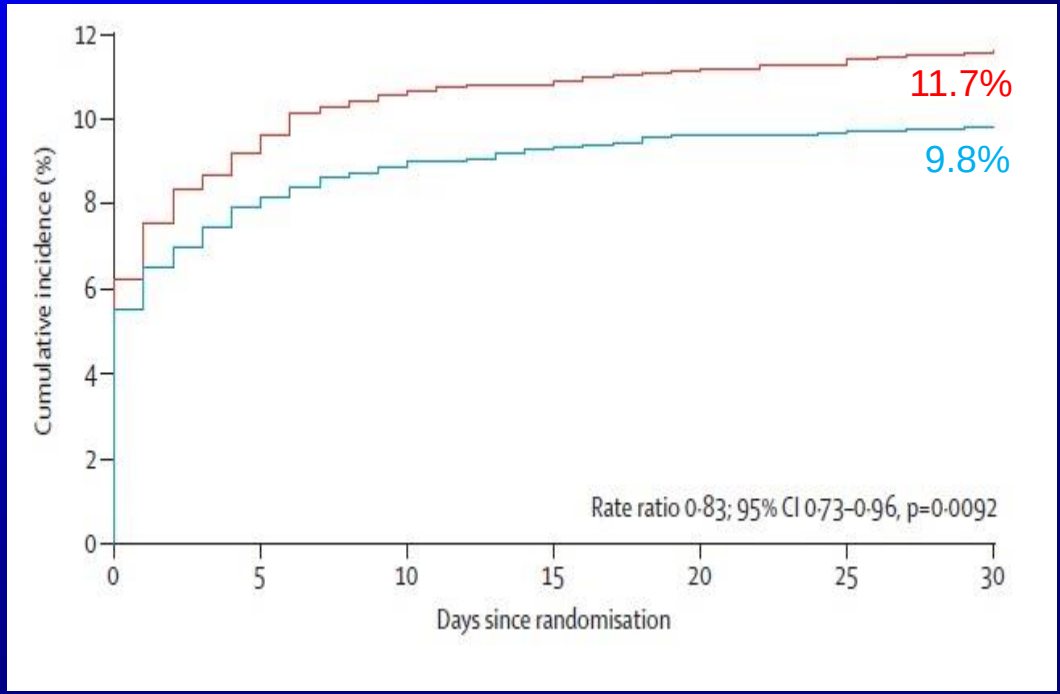
Radial vs Femoral – 30 d

n = 8.404 SCA con y sin Elevación ST 78 Centros Europa

Radial n = 4.197 Femoral n = 4.207



Muerte, IAM o ACV

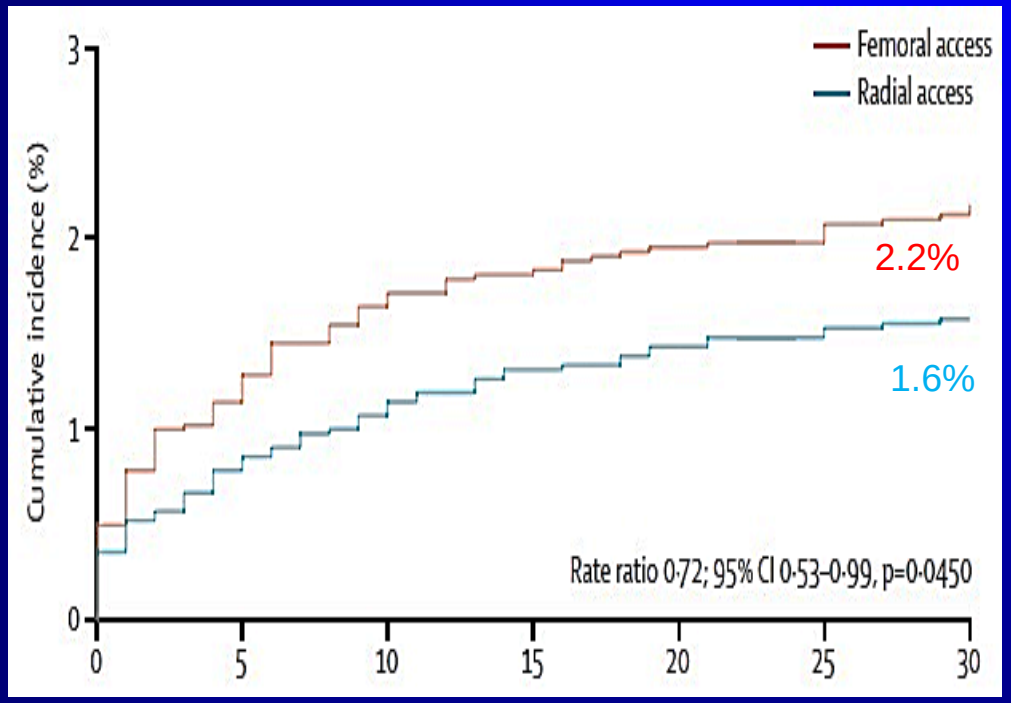


Muerte, IAM, ACV, BARC 3 o 5

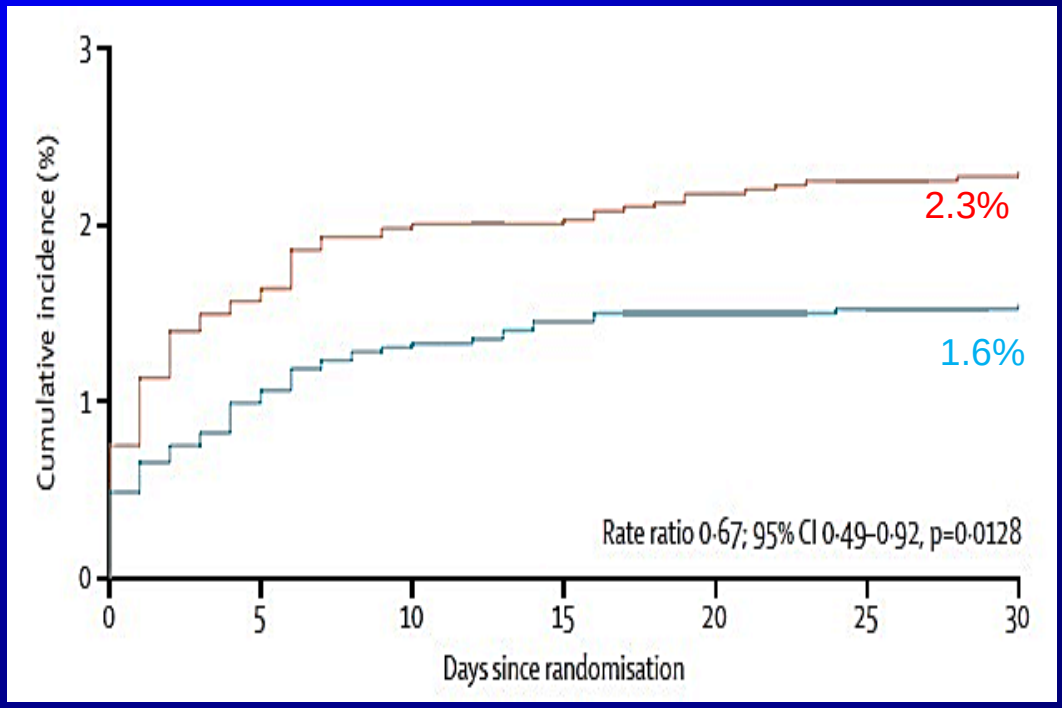
Valgimigli M. Lancet 2015;385:2465-76

MATRIX Trial

Endpoints Secundarios



Mortalidad



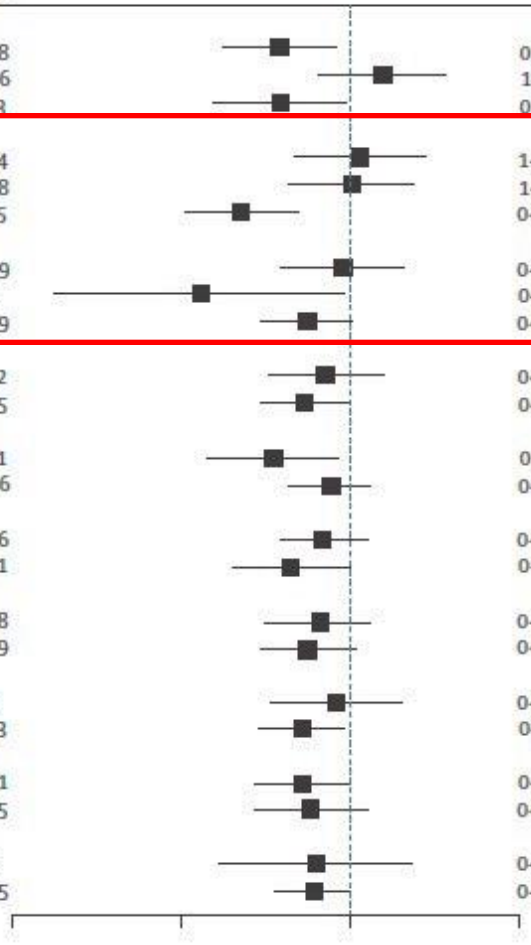
BARC 3 o 5

Valgimigli M. Lancet 2015;385:2465-76

MATRIX Trial

Muerte, IAM, ACV - Subgrupos

Subgroup	Radial access (n=4197)	Femoral access (n=4207)	Rate ratio (95% CI)	p value	p value for interaction
Centre's annual volume of PCI					0·76*
Low (247–544)	147/1483	187/1438	0·74 (0·59–0·93)	0·011	
Intermediate (548–991)	127/1467	115/1496	1·13 (0·88–1·47)	0·34	
High (1000–1950)	95/1247	127/1273	0·75 (0·57–0·98)	0·037	
Centre's proportion of radial PCI					0·0048*
Low (14·9–64·4%)	111/1435	114/1524	1·04 (0·79–1·36)	0·80	
Intermediate (65·4–79·0%)	124/1458	121/1428	1·00 (0·78–1·30)	0·98	
High (80·0–98·0%)	134/1304	194/1255	0·64 (0·51–0·81)	0·00014	
ACS type					0·19
STEMI	121/2001	126/2009	0·96 (0·75–1·24)	0·77	
NSTE-ACS (troponin negative)	19/243	37/269	0·54 (0·30–0·97)	0·038	
NSTE-ACS (troponin positive)	229/1953	266/1929	0·84 (0·69–1·01)	0·06	
Age					0·60
≥75 years	146/1068	166/1102	0·90 (0·71–1·14)	0·38	
<75 years	223/3129	263/3105	0·83 (0·69–1·00)	0·050	
Sex					0·15
Women	97/1071	141/1161	0·73 (0·56–0·95)	0·019	
Men	272/3126	288/3046	0·92 (0·77–1·09)	0·32	
BMI					0·39
≥25 kg/m²	240/2797	268/2816	0·89 (0·75–1·07)	0·22	
<25 kg/m²	129/1400	161/1391	0·78 (0·62–1·00)	0·047	
Intended start or continuation of prasugrel or ticagrelor					0·76
Yes	165/2240	186/2228	0·88 (0·71–1·09)	0·23	
No	204/1957	243/1979	0·84 (0·69–1·02)	0·07	
Diabetes					0·36
Yes	118/951	122/932	0·94 (0·72–1·23)	0·66	
No	251/3246	307/3273	0·81 (0·69–0·97)	0·019	
Estimated glomerular filtration rate					0·86
≥60 mL/min	199/2584	239/2581	0·82 (0·68–1·00)	0·046	
<60 mL/min	142/1355	168/1365	0·84 (0·67–1·06)	0·15	
History of peripheral vascular disease					0·97
Yes	50/341	62/372	0·86 (0·59–1·27)	0·46	
No	319/3856	367/3835	0·86 (0·73–1·00)	0·050	



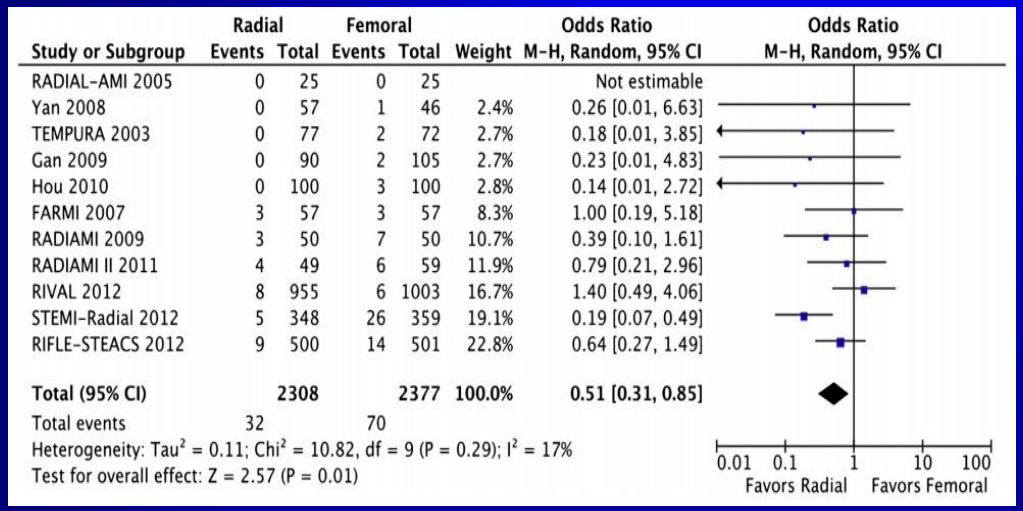
Valgimigli M. Lancet 2015;385:2465-76

Radial vs Femoral

Sangrados

12 Estudios Randomizados **ICP IAM con ST Elevado**

n = 5.055



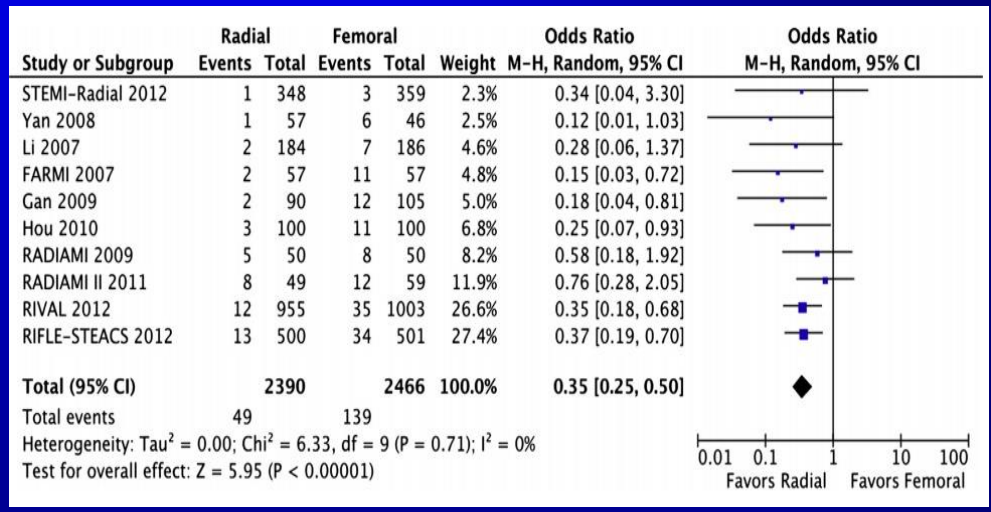
Study or Subgroup	Radial Events	Radial Total	Femoral Events	Femoral Total	Weight	Odds Ratio M-H, Random, 95% CI
RADIAL-AMI 2005	0	25	0	25		Not estimable
Yan 2008	0	57	1	46	2.4%	0.26 [0.01, 6.63]
TEMPURA 2003	0	77	2	72	2.7%	0.18 [0.01, 3.85]
Gan 2009	0	90	2	105	2.7%	0.23 [0.01, 4.83]
Hou 2010	0	100	3	100	2.8%	0.14 [0.01, 2.72]
FARMI 2007	3	57	3	57	8.3%	1.00 [0.19, 5.18]
RADIAMI 2009	3	50	7	50	10.7%	0.39 [0.10, 1.61]
RADIAMI II 2011	4	49	6	59	11.9%	0.79 [0.21, 2.96]
RIVAL 2012	8	955	6	1003	16.7%	1.40 [0.49, 4.06]
STEMI-Radial 2012	5	348	26	359	19.1%	0.19 [0.07, 0.49]
RIFLE-STEACS 2012	9	500	14	501	22.8%	0.64 [0.27, 1.49]
Total (95% CI)		**2308**		**2377**	**100.0%**	**0.51 [0.31, 0.85]**
Total events	32		70			

Heterogeneity: $Tau^2 = 0.11$; $Chi^2 = 10.82$, df = 9 (P = 0.29); $I^2 = 17\%$

Test for overall effect: Z = 2.57 (P = 0.01)

0.01 0.1 1 10 100

Favors Radial Favors Femoral



Study or Subgroup	Radial Events	Radial Total	Femoral Events	Femoral Total	Weight	Odds Ratio M-H, Random, 95% CI
STEMI-Radial 2012	1	348	3	359	2.3%	0.34 [0.04, 3.30]
Yan 2008	1	57	6	46	2.5%	0.12 [0.01, 1.03]
Li 2007	2	184	7	186	4.6%	0.28 [0.06, 1.37]
FARMI 2007	2	57	11	57	4.8%	0.15 [0.03, 0.72]
Gan 2009	2	90	12	105	5.0%	0.18 [0.04, 0.81]
Hou 2010	3	100	11	100	6.8%	0.25 [0.07, 0.93]
RADIAMI 2009	5	50	8	50	8.2%	0.58 [0.18, 1.92]
RADIAMI II 2011	8	49	12	59	11.9%	0.76 [0.28, 2.05]
RIVAL 2012	12	955	35	1003	26.6%	0.35 [0.18, 0.68]
RIFLE-STEACS 2012	13	500	34	501	27.4%	0.37 [0.19, 0.70]
Total (95% CI)		**2390**		**2466**	**100.0%**	**0.35 [0.25, 0.50]**
Total events	49		139			

Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 6.33$, df = 9 (P = 0.71); $I^2 = 0\%$

Test for overall effect: Z = 5.95 (P < 0.00001)

0.01 0.1 1 10 100

Favors Radial Favors Femoral

Sangrados > **Sangrado en la vía de acceso**

Karrowni W. JACC Cardiovasc Interv 2013;6:814-823

Mortalidad
Radial vs Femoral

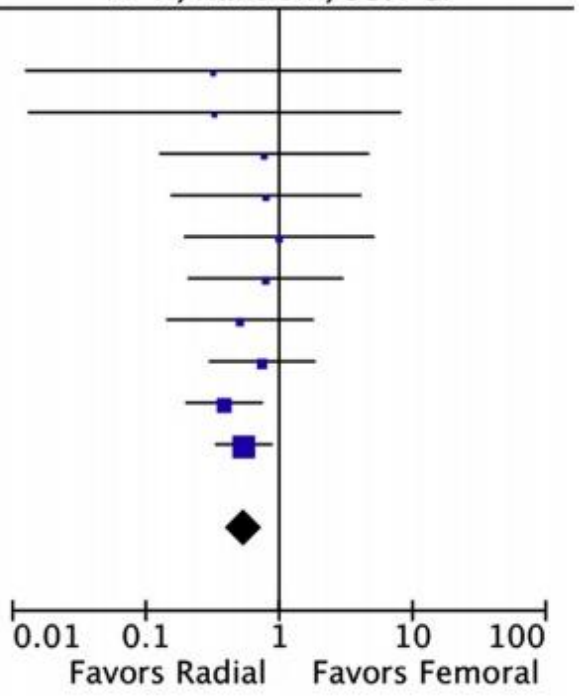
12 Estudios Randomizados **ICP IAM con ST Elevado**

n = 5.055

Study or Subgroup	Radial Events	Radial Total	Femoral Events	Femoral Total	Weight	Odds Ratio M-H, Random, 95% CI
RADIAMI II 2011	0	49	0	59		Not estimable
RADIAL-AMI 2005	0	25	1	25	1.0%	0.32 [0.01, 8.25]
RADIAMI 2009	0	50	1	50	1.0%	0.33 [0.01, 8.21]
Gan 2009	2	90	3	105	3.1%	0.77 [0.13, 4.73]
Yan 2008	3	57	3	46	3.7%	0.80 [0.15, 4.14]
FARMI 2007	3	57	3	57	3.8%	1.00 [0.19, 5.18]
Hou 2010	4	100	5	100	5.6%	0.79 [0.21, 3.04]
TEMPURA 2003	4	77	7	72	6.3%	0.51 [0.14, 1.82]
STEMI-Radial 2012	8	348	11	359	11.9%	0.74 [0.30, 1.87]
RIVAL 2012	12	955	32	1003	22.7%	0.39 [0.20, 0.75]
RIFLE-STEACS 2012	26	500	46	501	41.0%	0.54 [0.33, 0.89]
Total (95% CI)		**2308**		**2377**	**100.0%**	**0.55 [0.40, 0.76]**
Total events	62		112			

Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 2.83$, df = 9 (P = 0.97); $I^2 = 0\%$

Test for overall effect: Z = 3.66 (P = 0.0003)

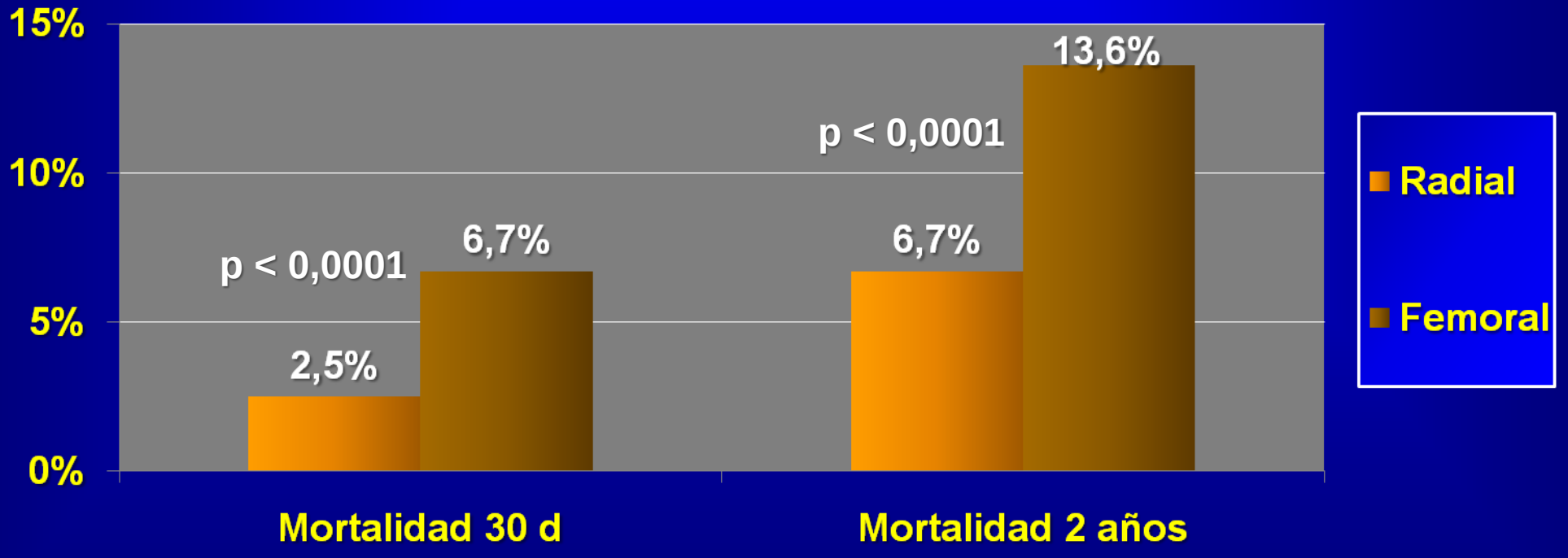


Karrowni W. JACC Cardiovasc Interv 2013;6:814-823

Radial vs Femoral
Práctica Clínica

2006 a 2010 Reino Unido n = 46.128 ICP IAM

Femoral n = 28.091 (60,9%) **Radial** n = 18.037 (39,1%)



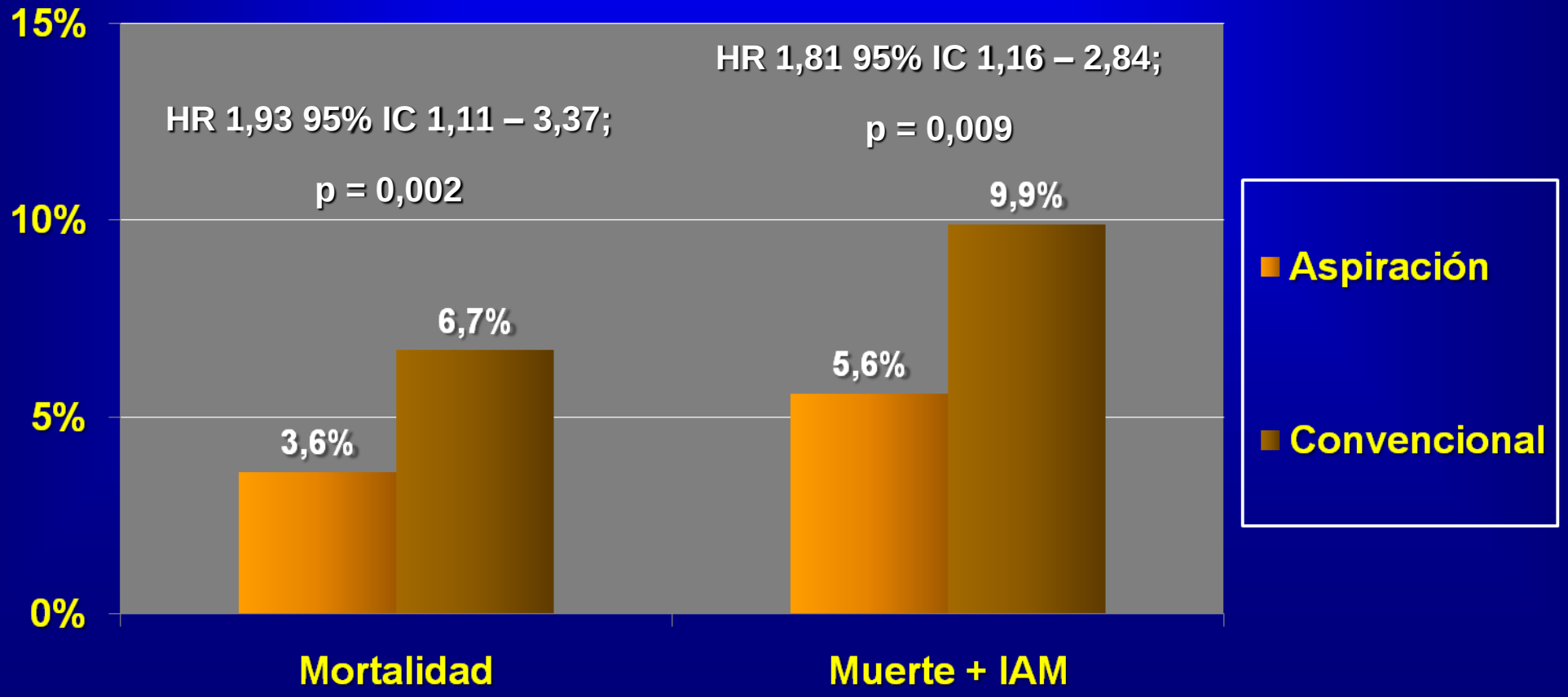
Mamas MA. J Am Coll Cardiol Intv 2013;6:698-706

TAPAS TRIAL

Resultados 1 año

n = 1.701 IAM c/ Supra ST

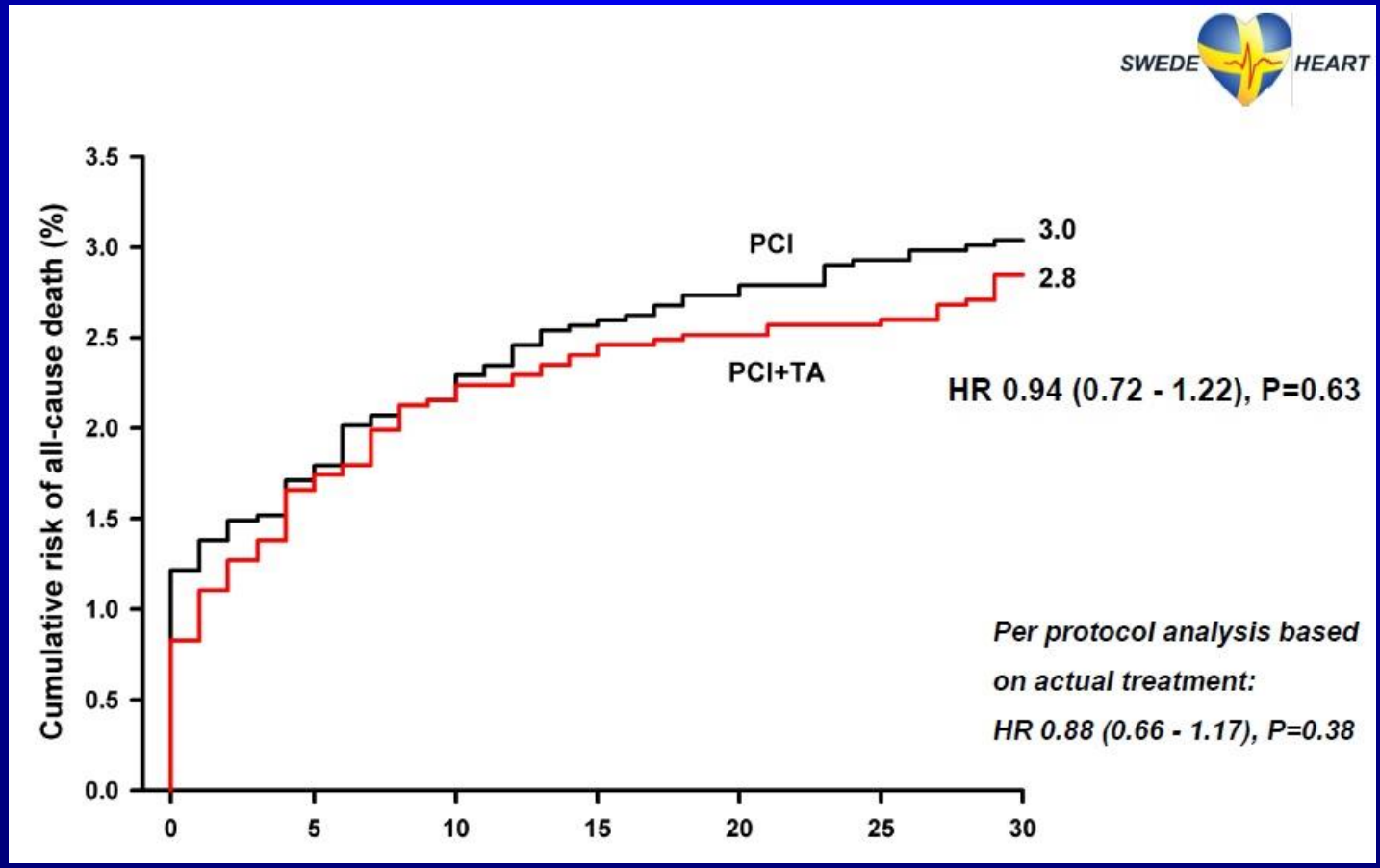
Enero/2005 a Diciembre/2006 Universidad Groningen/Holanda



Vlaaar P.J. Lancet 2008;371:1915-20

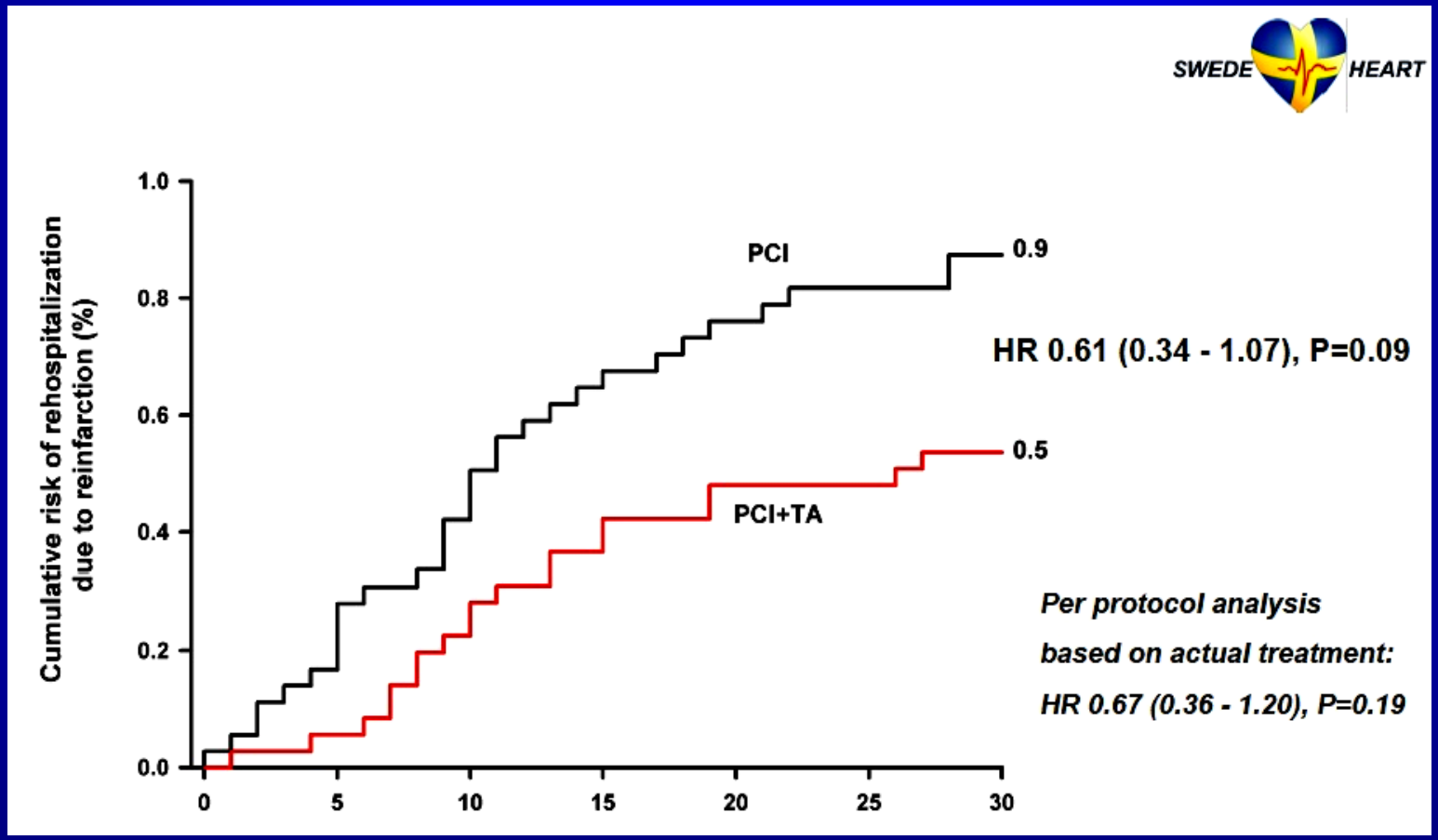
TASTE TRIAL
Mortalidad – 30 días

n = 7.244 STEMI < 24 h 31 Centros Escandinávia Aspiración Manual



Frobert O. N Engl J Med 2013;369:1587-1597

TASTE TRIAL
Reinfarto – 30 días

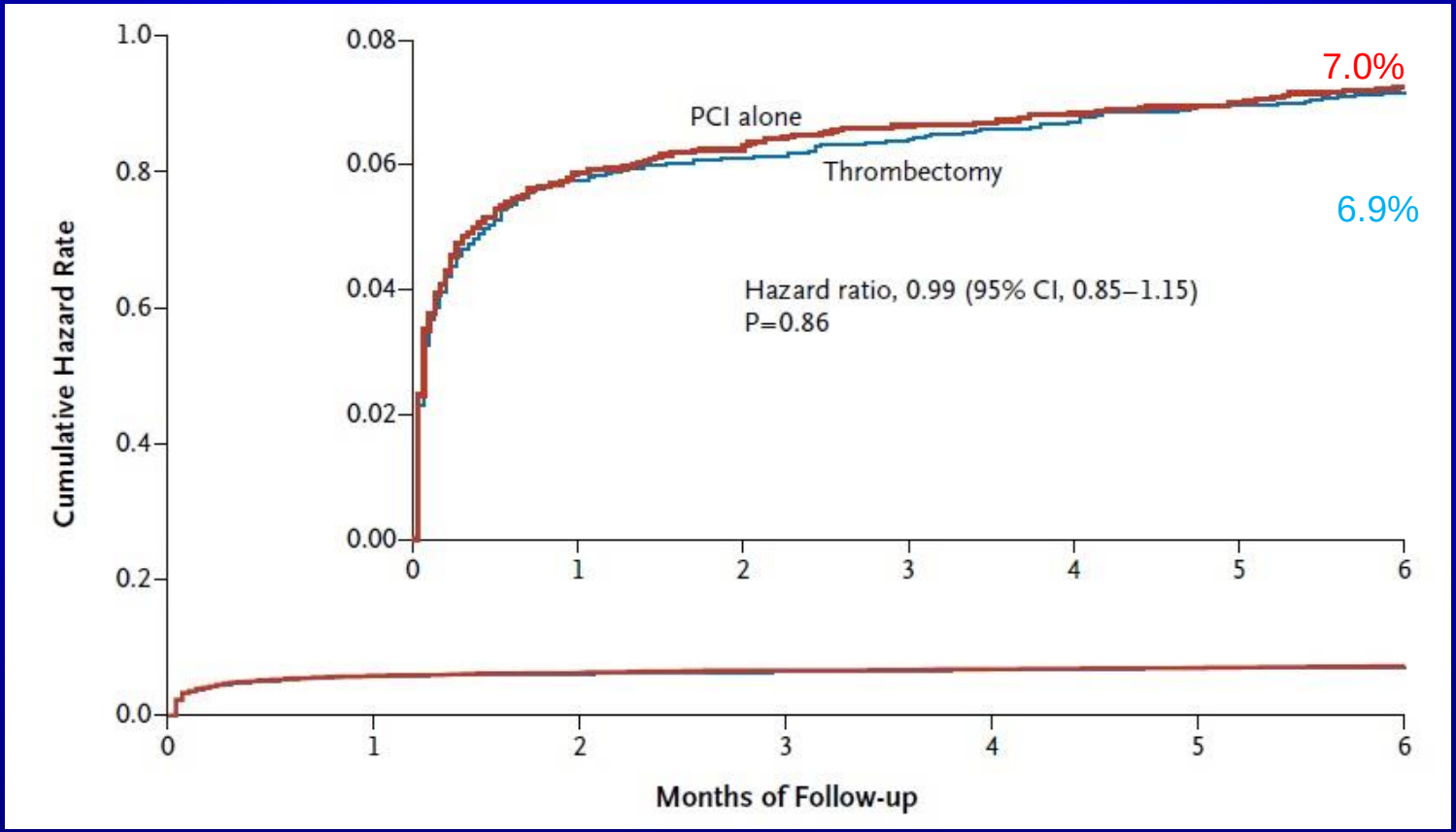


Trombosis del Stent – ICP 0,5% vs ICP + TA 0,2% - p = 0,06

Frobert O. N Engl J Med 2013;369:1587-1597

TOTAL TRIAL
Endpoint Primario

n = 10.732 STEMI ≤ 12 h 79 centros 19 países Cateter Export

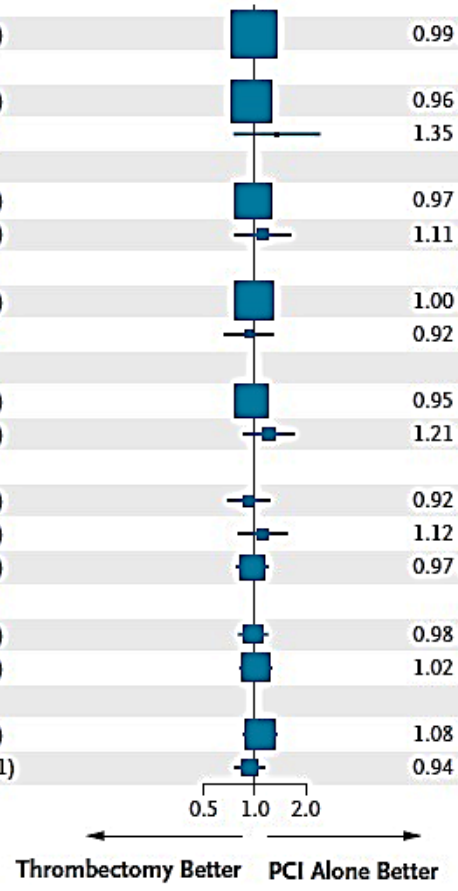


Muerte CV, IAM, Choque Cardiogénico, ICC IV

Sanjit J. N Engl J Med 2015;372:1389-1398

TOTAL TRIAL
Endpoint Primario

Subgroup	No. of Patients	Thrombectomy	PCI Alone	Hazard Ratio (95% CI)	P Value for Interaction
		no. of events/total no. (%)			
Overall	10,063	347/5033 (6.9)	351/5030 (7.0)	0.99 (0.85–1.15)	
TIMI thrombus grade					0.26
≥3	9,052	322/4571 (7.0)	329/4481 (7.3)	0.96 (0.82–1.12)	
<3	998	24/460 (5.2)	21/538 (3.9)	1.35 (0.75–2.43)	
TIMI thrombus grade					0.52
≥4	7,943	289/3960 (7.3)	300/3983 (7.5)	0.97 (0.82–1.14)	
<4	2,107	57/1071 (5.3)	50/1036 (4.8)	1.11 (0.76–1.62)	
Symptom onset					0.66
<6 hr	8,375	274/4159 (6.6)	278/4216 (6.6)	1.00 (0.84–1.18)	
6–12 hr	1,665	70/862 (8.1)	71/803 (8.8)	0.92 (0.66–1.28)	
Initial TIMI flow					0.22
0–1	7,443	273/3699 (7.4)	291/3744 (7.8)	0.95 (0.80–1.12)	
2–3	2,519	72/1282 (5.6)	58/1237 (4.7)	1.21 (0.85–1.70)	
Site PCI volume					0.66
Lower third	2,450	90/1229 (7.3)	97/1221 (7.9)	0.92 (0.69–1.22)	
Middle third	2,139	78/1077 (7.2)	69/1062 (6.5)	1.12 (0.81–1.55)	
Upper third	5,474	179/2727 (6.6)	185/2747 (6.7)	0.97 (0.79–1.20)	
Myocardial infarction type					0.77
Anterior	4,016	176/1961 (9.0)	188/2055 (9.1)	0.98 (0.80–1.20)	
Nonanterior	6,037	171/3066 (5.6)	162/2971 (5.5)	1.02 (0.82–1.27)	
Age					0.36
≤65 yr	6,662	156/3354 (4.7)	143/3308 (4.3)	1.08 (0.86–1.35)	
>65 yr	3,401	191/1679 (11.4)	208/1722 (12.1)	0.94 (0.77–1.14)	

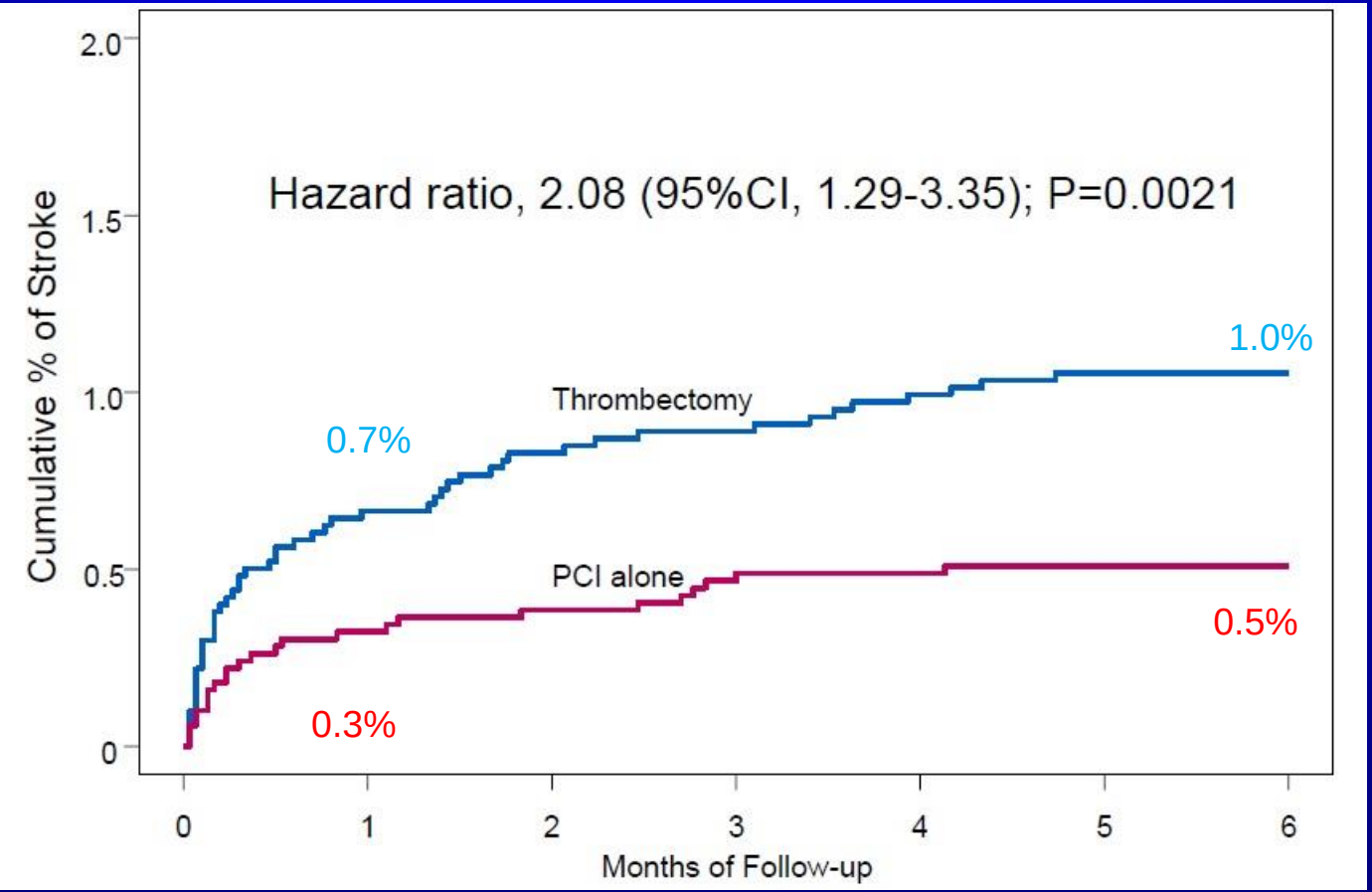


Sanjit J. N Engl J Med 2015;372:1389-1398

TOTAL TRIAL

Endpoint Seguridad – 30 d

n = 10.732 STEMI ≤ 12 h



Sanjit J. N Engl J Med 2015;372:1389-1398

TRANFER - AMI

Diseño del Estudio

n = 1.059 Centros s/ Laboratorio de Hemodinámica

IAMCEST ≤ 12 h Alto Riesgo:

IAM anterior o IAM inferior + 1 criterio: PAS < 100 mmHg, FC > 100 bpm, Killip II/III, Depresión ST ≥ 2 mm anterior, Elevación ST V_4R

TNK + AAS + Heparina + Clopidogrel (encorajado)

n = 1593

ICP Precoz ≤ 6 h

n = 1438

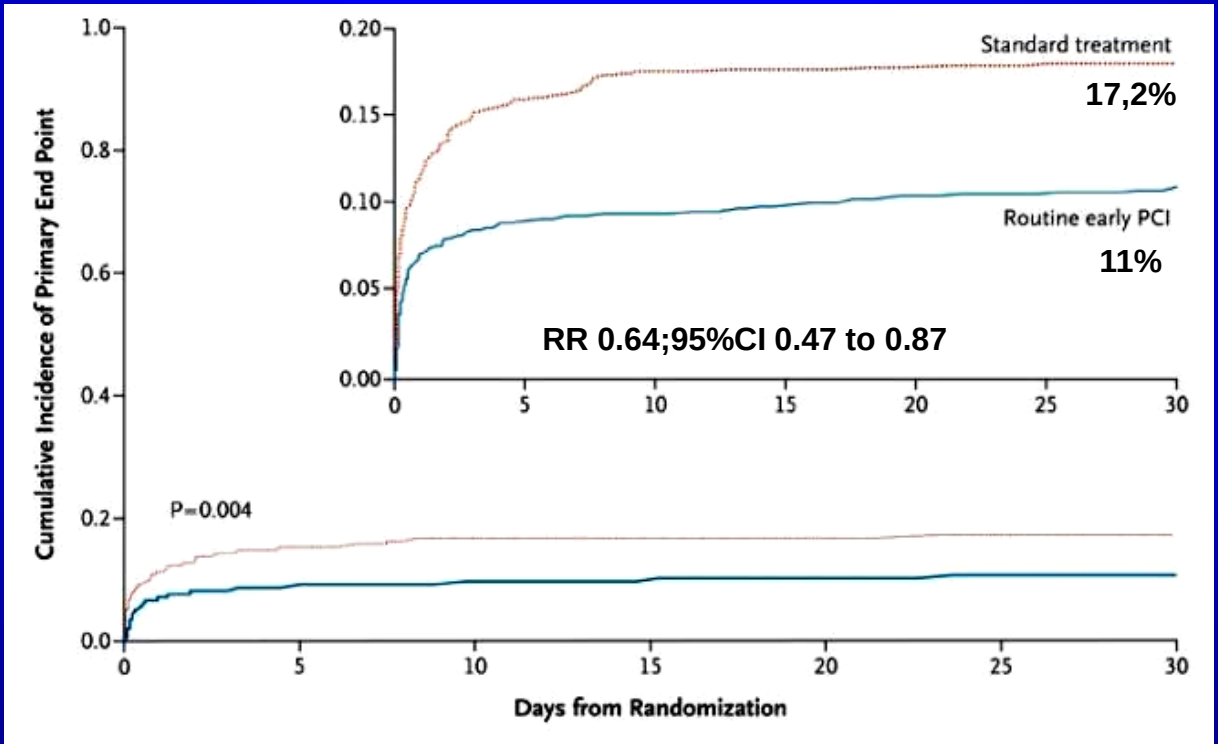
Conservadora (angiografía ≤ 2 sem)

ICP rescate/salvamento

Cantor WJ N Engl J Med 2009;360:2705-18

TRANSFER - AMI

Desfecho Primário



Muerte, Reinfarto, Isq. Recurrente, IC nueva o agravamiento, Choque Cardiogénico

Sangrado > TIMI ou GUSTO
ICP Precoce 7,4% vs Conservadora 9% (p = 0,36)

Cantor WJ N Engl J Med 2009;360:2705-18

IAM Pós Trombólisis

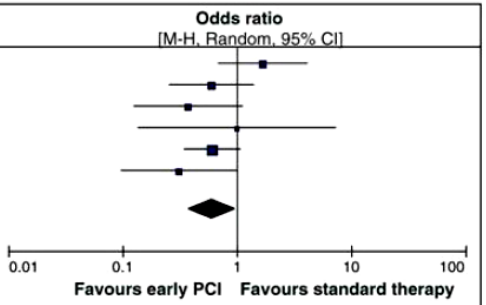
ICP de Rutina vs Terapia Convencional

Meta-análisis 7 Trials n = 2.961

Reinfarction, 6-12 months

Study	Early PCI Events	Early PCI Total	Standard therapy Events	Standard therapy Total	Weight %	Odds ratio [M-H, Random, 95% CI]
CARESS-IN-AMI	13	299	9	301	18.2	1.47 [0.62, 3.50]
GRACIA-1	9	248	15	251	19.6	0.59 [0.25, 1.38]
CAPITAL-AMI	5	86	12	84	13.7	0.37 [0.12, 1.10]
SIAM-III	2	82	2	81	5.0	0.99 [0.14, 7.18]
TRANSFER-AMI	21	537	33	522	31.1	0.60 [0.34, 1.06]
NORDISTEMI	4	134	12	132	12.5	0.31 [0.10, 0.98]
Total	**54/1386 (3.9%)**		**83/1371 (6%)**		**100.0**	**0.64 [0.40, 0.98]** NNT 46[26-187]

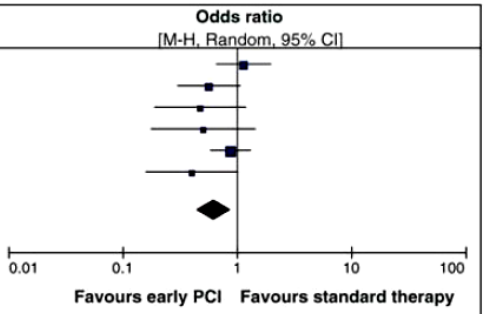
Heterogeneity: $\tau^2 = 0.10$; $\chi^2 = 6.33$, df = 5 ($P = 0.28$); $I^2 = 21\%$
Test for overall effect: $Z = 2.12$ ($P = 0.03$)
Egger`s regression test: P value 0.40



Death-Reinfarction, 6-12 months

Study	Early PCI Events	Early PCI Total	Standard therapy Events	Standard therapy Total	Weight %	Odds ratio [M-H, Random, 95% CI]
CARESS-IN-AMI	30	299	28	301	22.0	1.09 [0.63, 1.87]
GRACIA-1	17	248	29	251	18.3	0.56 [0.30, 1.05]
CAPITAL-AMI	8	86	15	84	10.1	0.47 [0.19, 1.18]
SIAM-III	6	82	11	81	8.1	0.50 [0.18, 1.43]
TRANSFER-AMI	51	537	56	522	31.5	0.87 [0.59, 1.30]
NORDISTEMI	7	134	16	132	10.0	0.40 [0.16, 1.01]
Total	**119/1386 (8.6%)**		**155/1371 (11.2%)**		**100.0**	**0.71 [0.52, 0.97]** NNT 37[20-206]

Heterogeneity: $\tau^2 = 0.04$; $\chi^2 = 6.49$, df = 5 ($P = 0.26$); $I^2 = 23\%$
Test for overall effect: $Z = 2.19$ ($P = 0.03$)
Egger`s regression test: P value 0.03



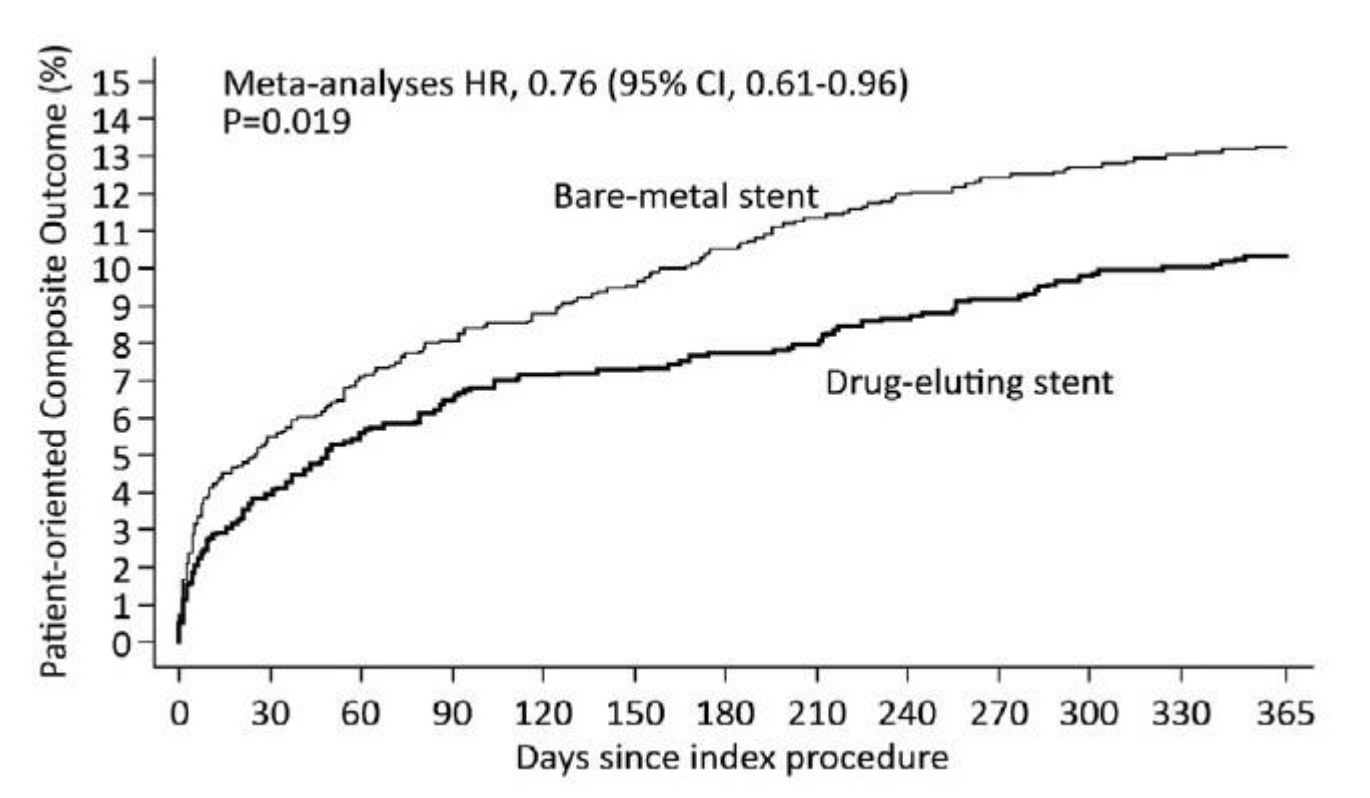
Sangrado > 30 d
OR:0.93, 96% CI:0.67 – 1.34, p = 0,70

Borgia F. Eur Heart J 2010;31:2156-63

EXAMINATION/CONFORTABLE TRIAL

Muerte, IAM o TVR

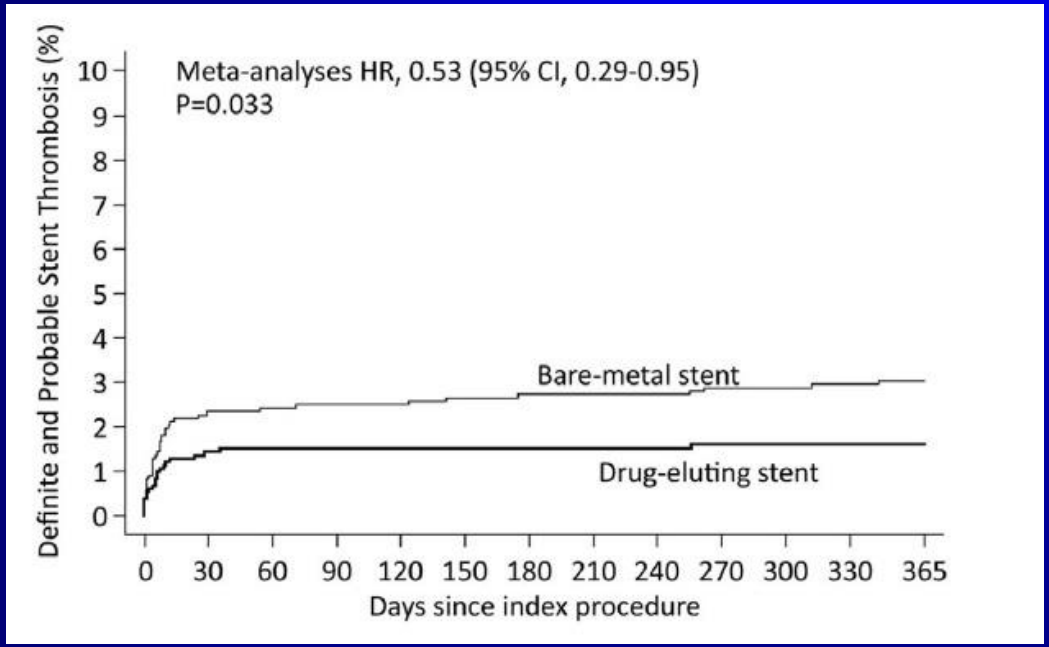
n = 2.655 **SF Everolimus y Biolimus**

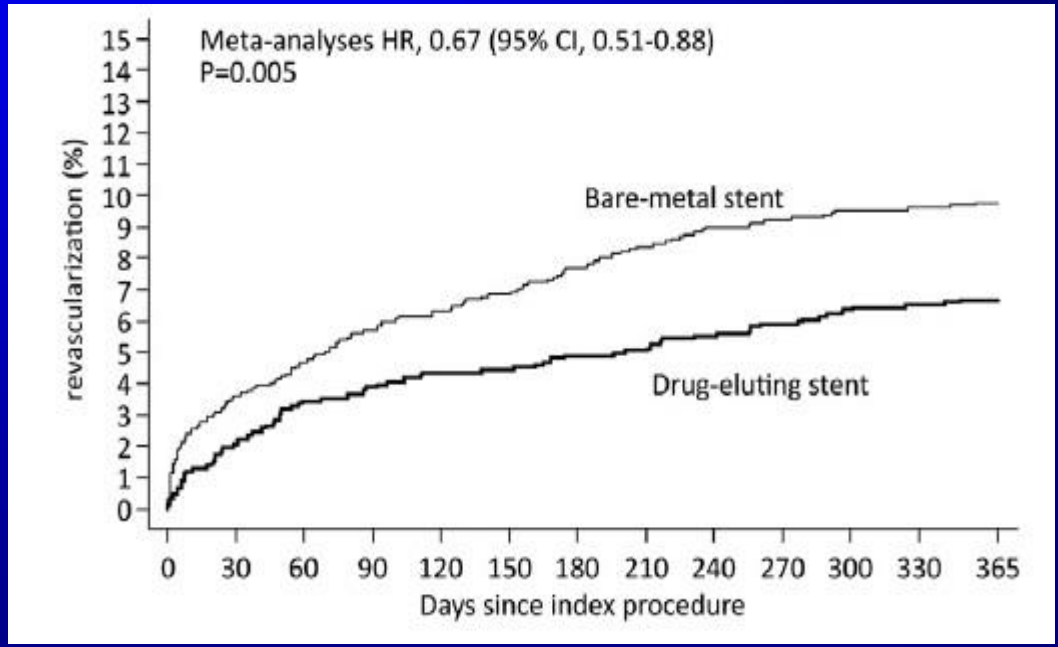


Sabaté M. J Am Coll Cardiol Intv 2014;7:55-63

EXAMINATION/CONFORTABLE TRIAL

Trombosis y Nueva Revascularización



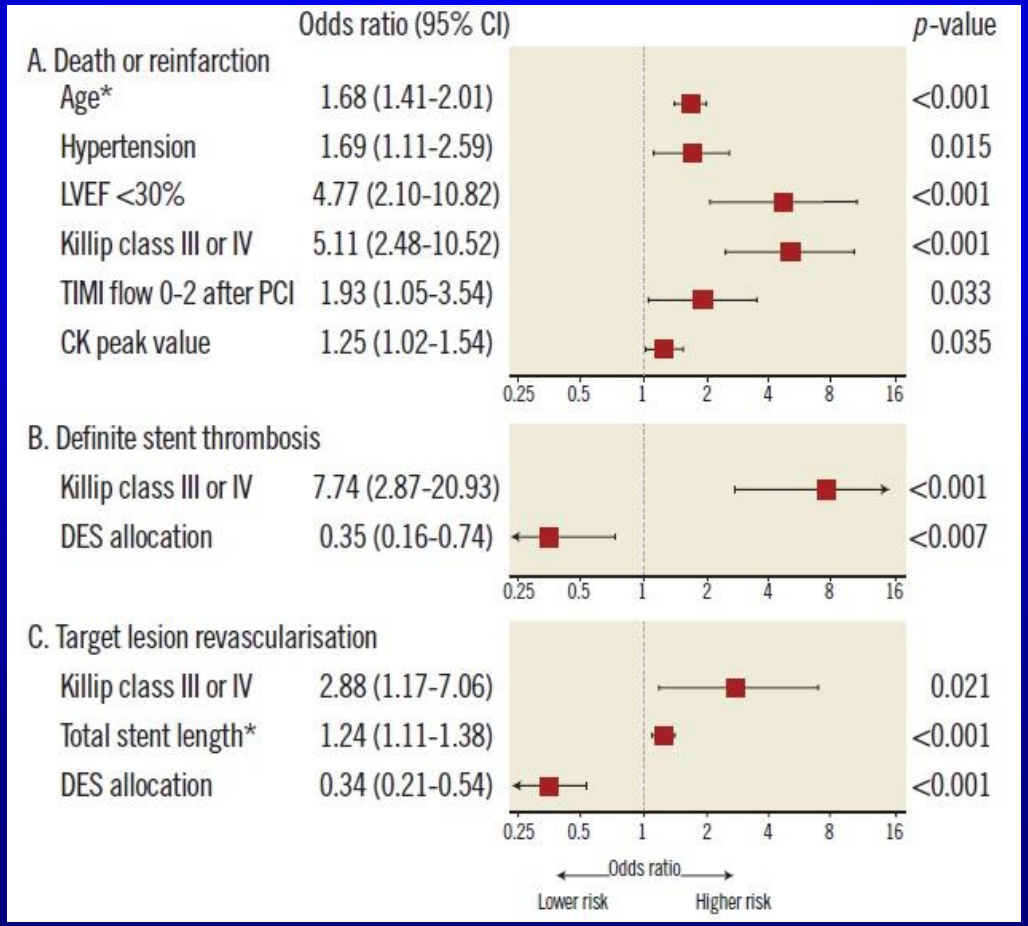


Sabaté M. J Am Coll Cardiol Intv 2014;7:55-63

Predictores Independientes de Eventos

Examination y Comfortable Trials

n = 2.655 Xience V y Biomatrix vs Convencional

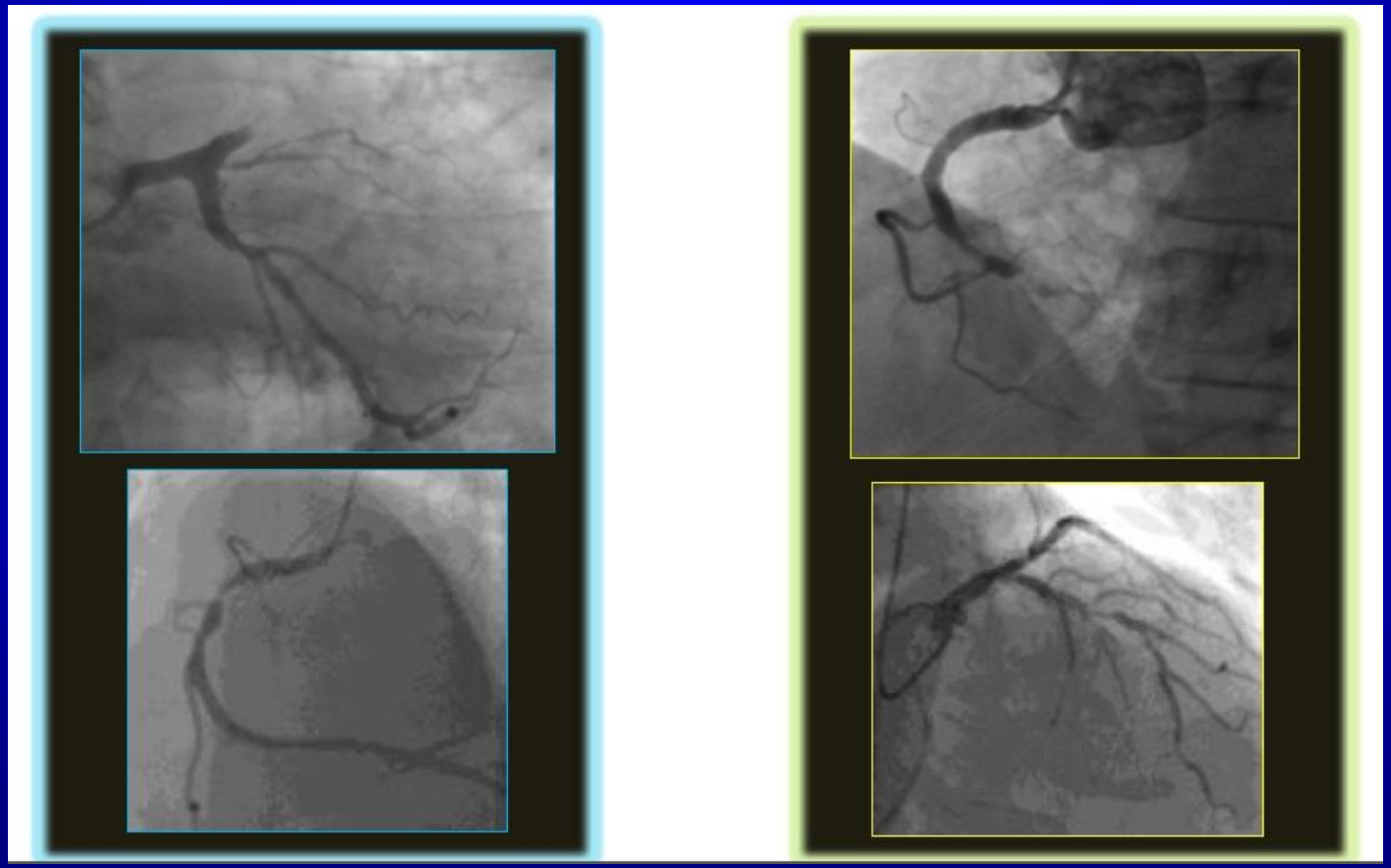


Taniwaki M. Eur Heart J 2015;12:391-398

DAC Multiarterial en el IAM

Incidencia

30 a 40% dos Pacientes sometidos a ICP Primaria

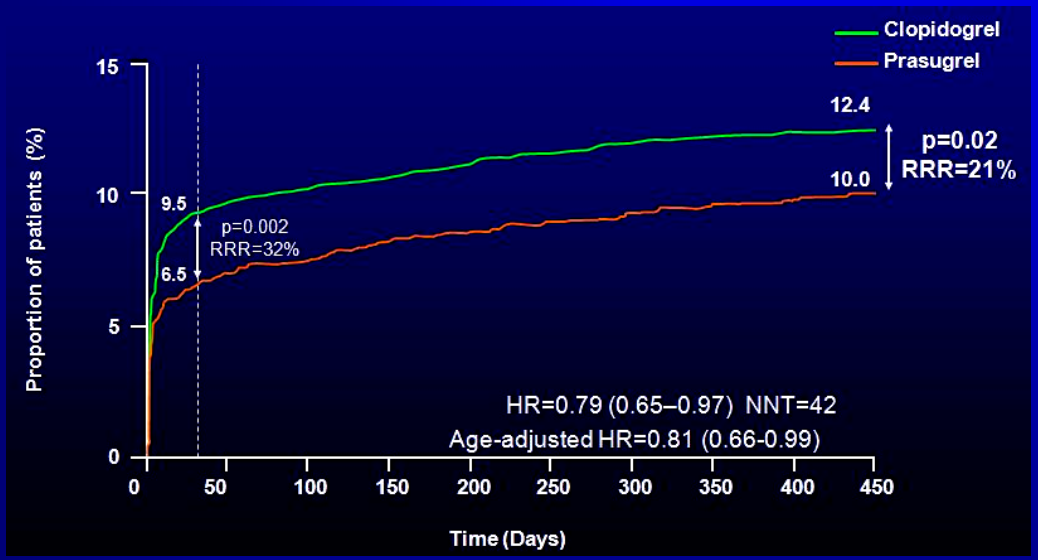


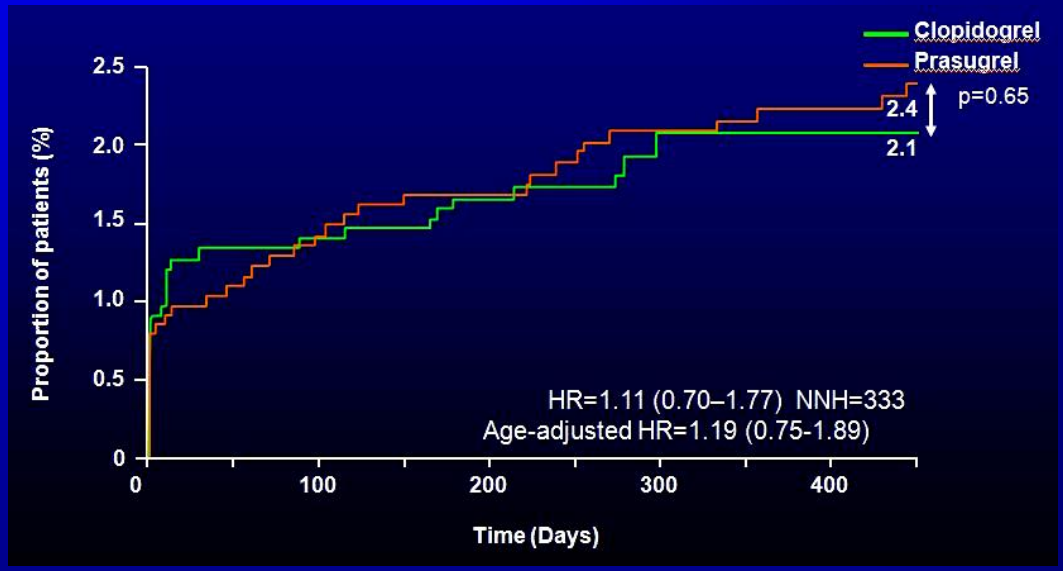
Muller D.W. Am Heart J 1991;121:1042-1049; Toma M. Eur Heart J 2010;31:1701-1707

TRITON – TIMI 38

Resultados

IAM con Supra ST **n = 3.534**





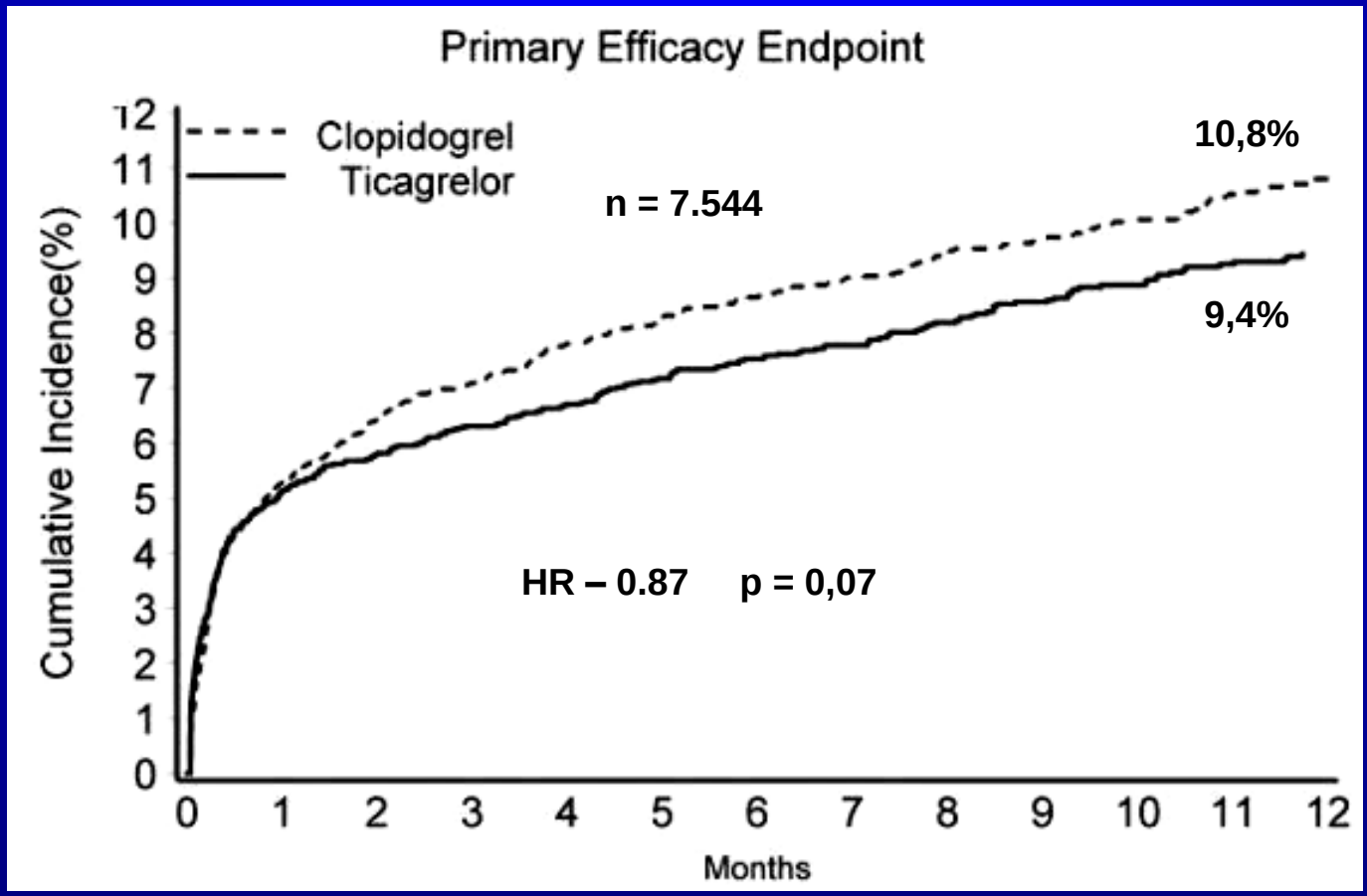
Muerte CV, IAM, ACV

Sangrados >

Montalescot G. Lancet 2009;373:723-31

PLATO Trial

IAM com Supra de ST

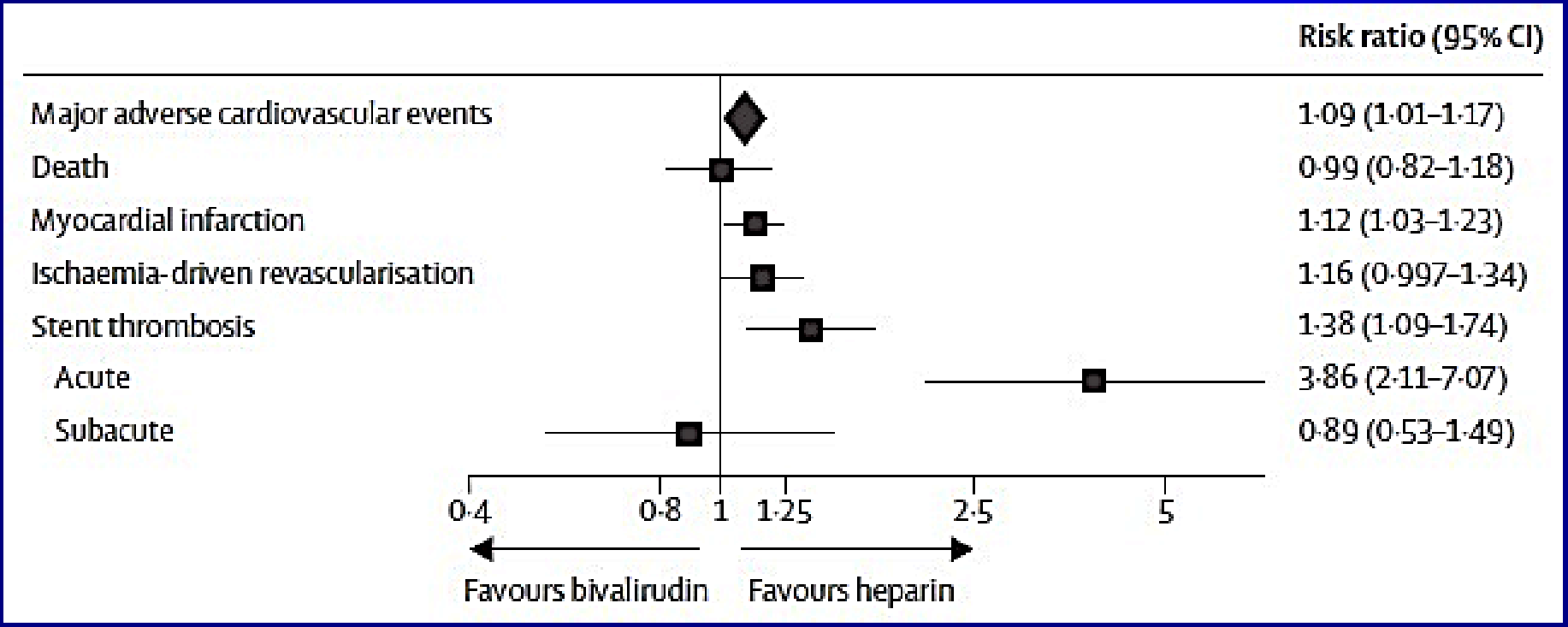


Steg P.G. Circulation 2010;122:2131-41

Bivalirudina vs Heparina

Eventos Adversos – 30 días

n = 33.958 16 Trials (7 SCA) ICP Planeada



Revasc. por Isquemia en SCA

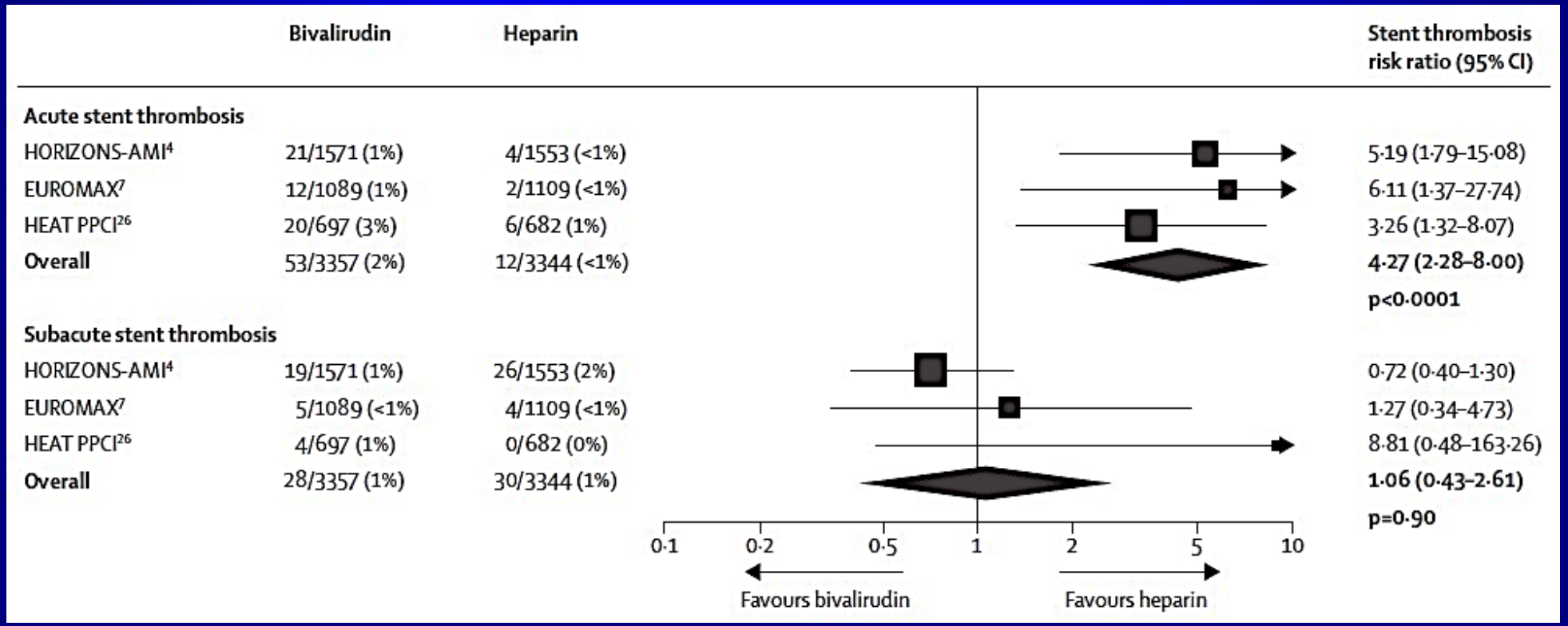
RR 1.26, 95%CI 1.02 – 1.56

Cavender M.A. Lancet 2014;384:599-604

Farmacología Antitrombínica

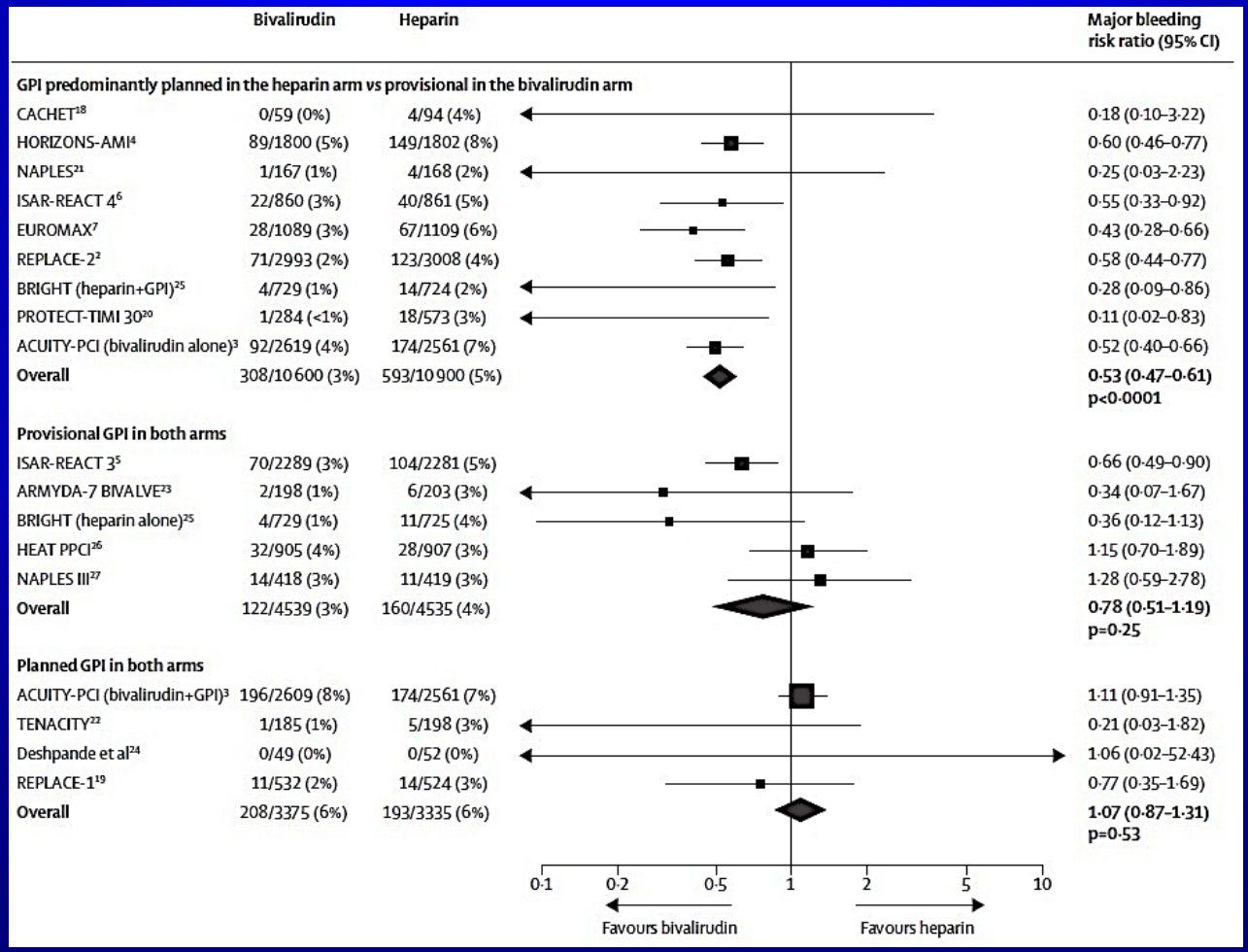
Bivalirudina vs Heparina

STEMI Trials



Cavender M.A. Lancet 2014;384:599-604

Sangrados > *Bivalirudina vs Heparina*



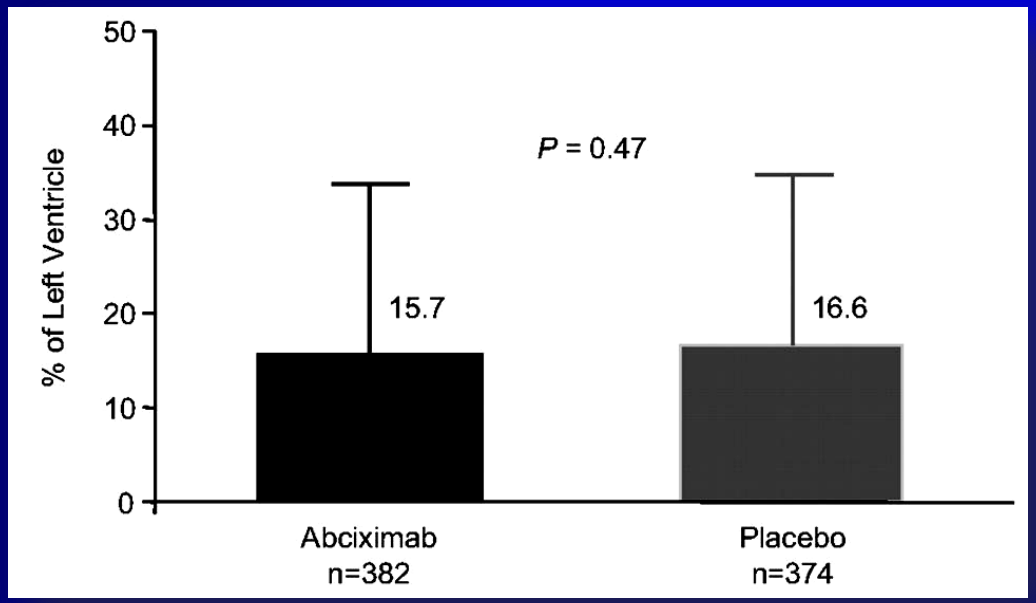
Cavender M.A. Lancet 2014;384:599-604

BRAVE 3 TRIAL

Endpoint Primario

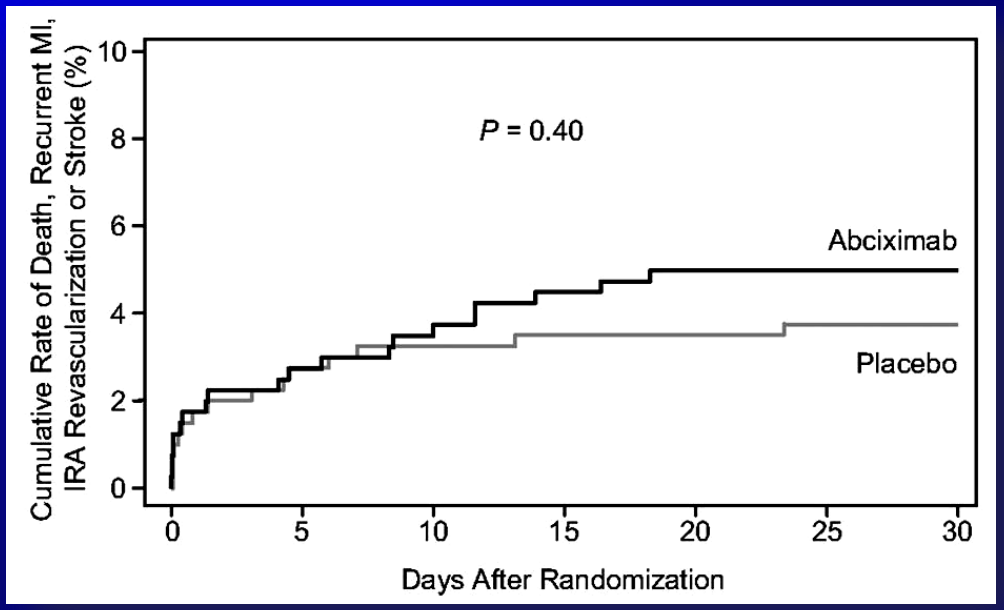
n = 800 **IAM < 24 h → ICP**

Clopidogrel 600mg + AAS 500mg + Heparina 5000u



Enpoint Primario

Extensión del Infarto (SPECT)



Mehilli J. Circulation 2009;119:1933-40

IMA con ST Elevado
Directrices ACCF/AHA

IV GP IIb/IIIa receptor antagonists in conjunction with UFH or bivalirudin in selected patients		
• Abciximab: 0.25-mg/kg IV bolus, then 0.125 mcg/kg/min (maximum 10 mcg/min)	IIa	A
• Tirofiban: (high-bolus dose): 25-mcg/kg IV bolus, then 0.15 mcg/kg/min • In patients with CrCl <30 mL/min, reduce infusion by 50%	IIa	B
• Eptifibatide: (double bolus): 180-mcg/kg IV bolus, then 2 mcg/kg/min; a second 180-mcg/kg bolus is administered 10 min after the first bolus • In patients with CrCl <50 mL/min, reduce infusion by 50% • Avoid in patients on hemodialysis	IIa	B
• Pre–catheterization laboratory administration of IV GP IIb/IIIa receptor antagonist	IIb	B
• Intracoronary abciximab 0.25-mg/kg bolus	IIb	B

O'Gara P.T. Circulation 2013;127:e362-425


Muchas Gracias!!!!