Nuevas Estrategias de Reperfusión Miocárdica en el IAM con Elevación del Segmento ST. Consenso e Interrogantes

SOCIEDAD LATINOAMERICANA DE CARDIOLOGIA INTERVENCIONISTA

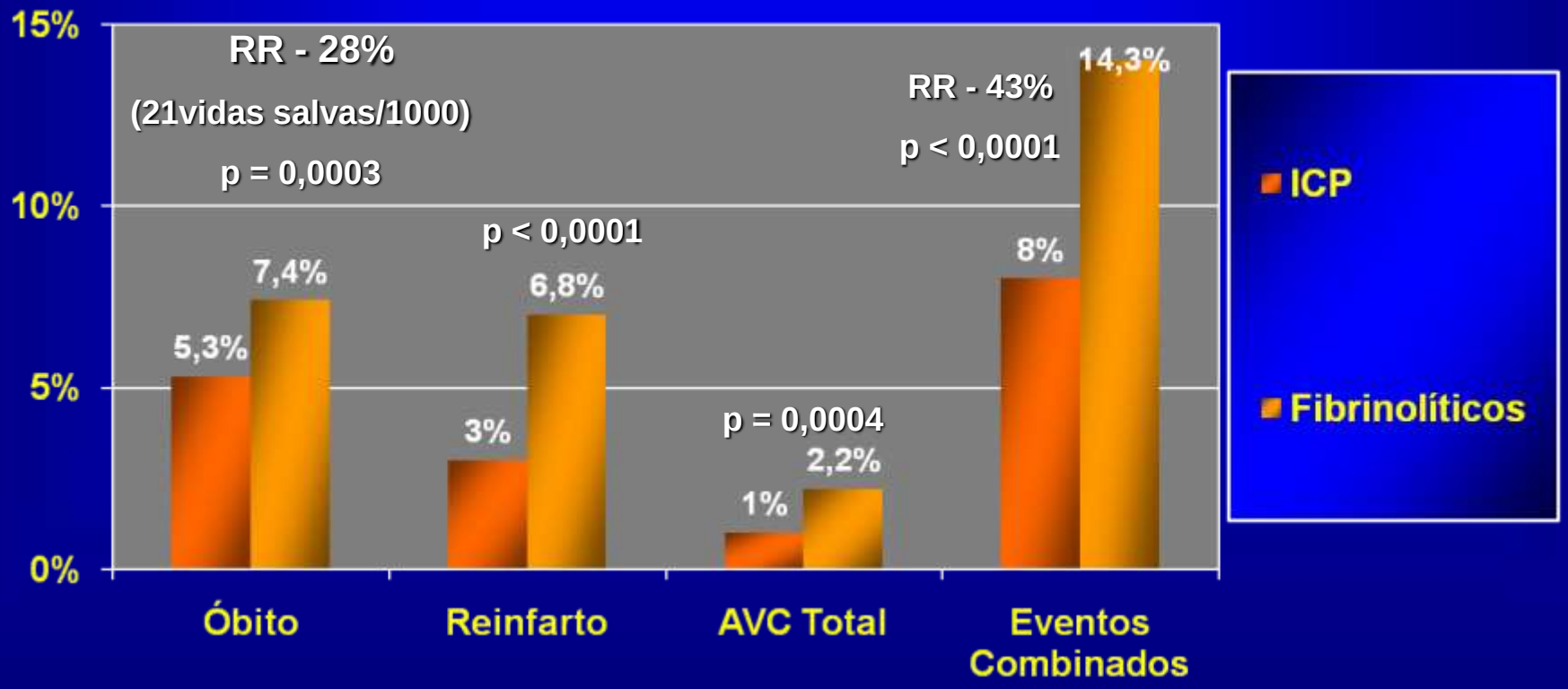
XXII Jornadas SOLACI

La Paz – Bolivia

Noviembre/2013

23 Estudios Randomizados
ICP Primaria vs Fibrinolíticos

n = 7.739 **Resultados 30 días**



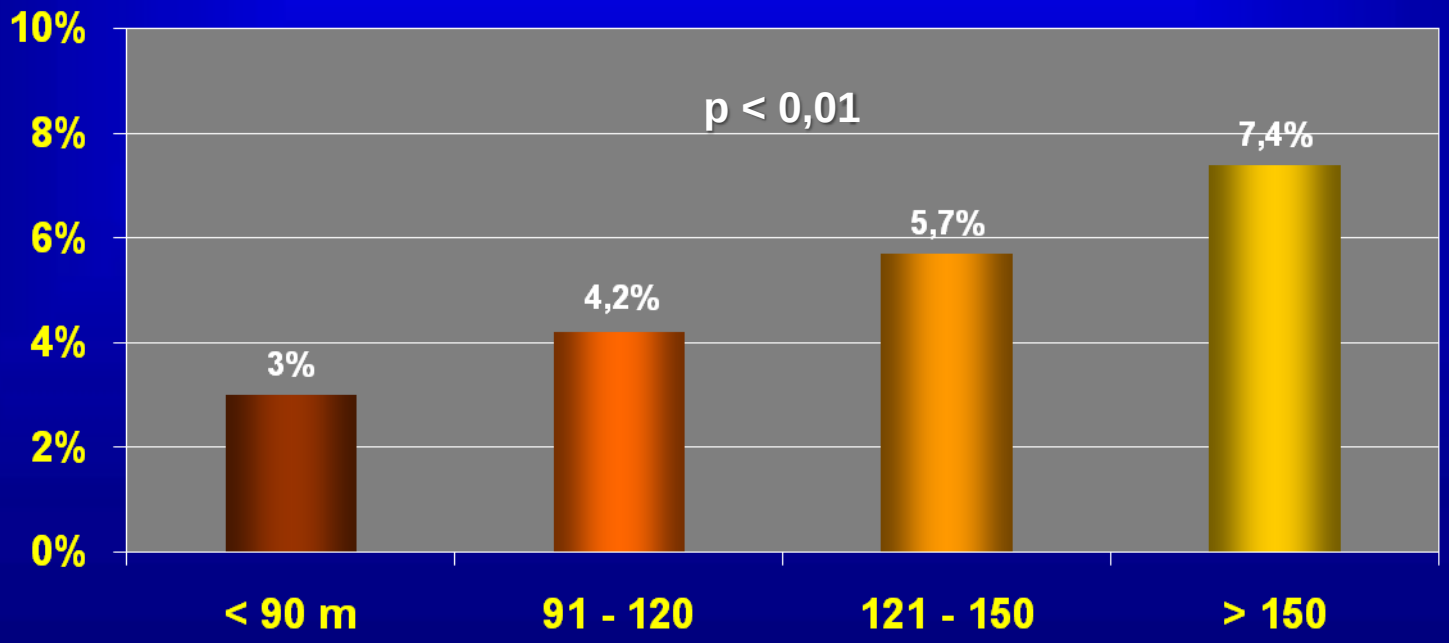
Keeley E.C., Grines C.L. Lancet 2003;361:13-20

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

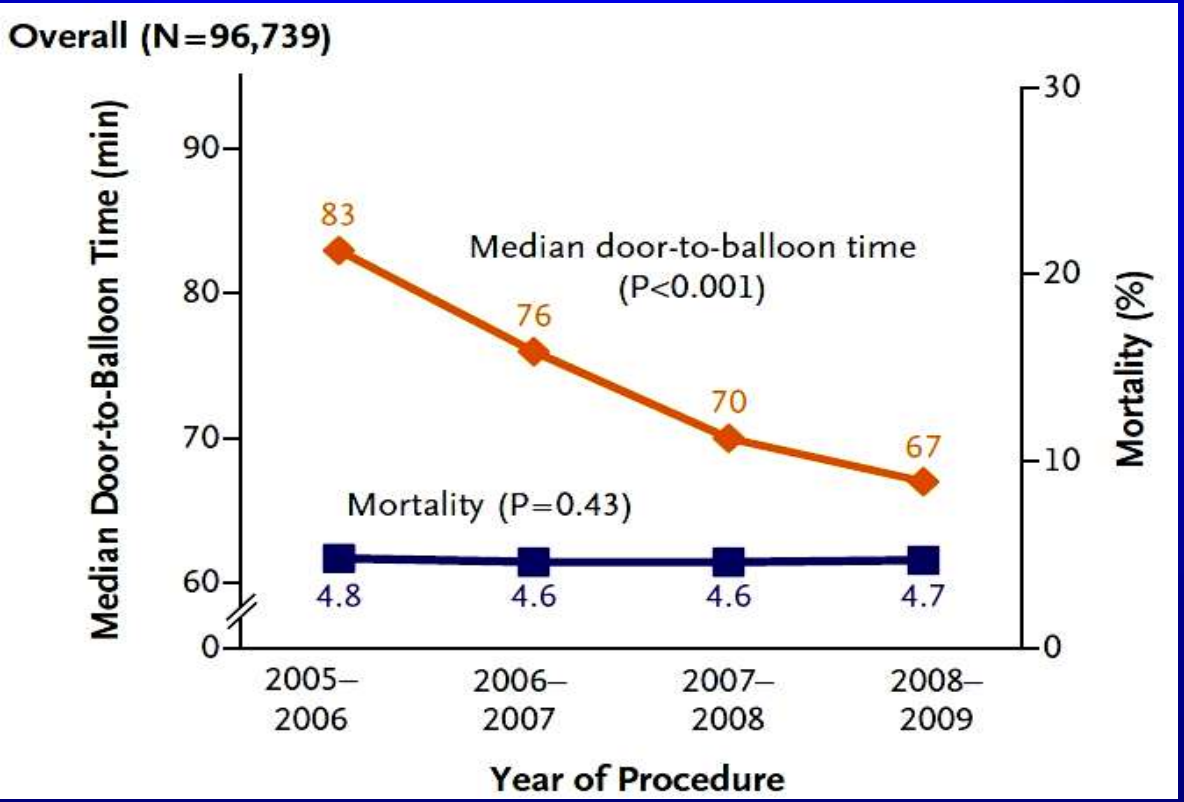
McNamara RL. J Am Coll Cardiol 2006;47:2180-86

Tiempo Puerta – Balón < 90 m

Mortalidad

Cathregistry (NRMI) – EUA Julio/2005 a Junio/2009

n = 96.739 ICP → STEMI 515 centros

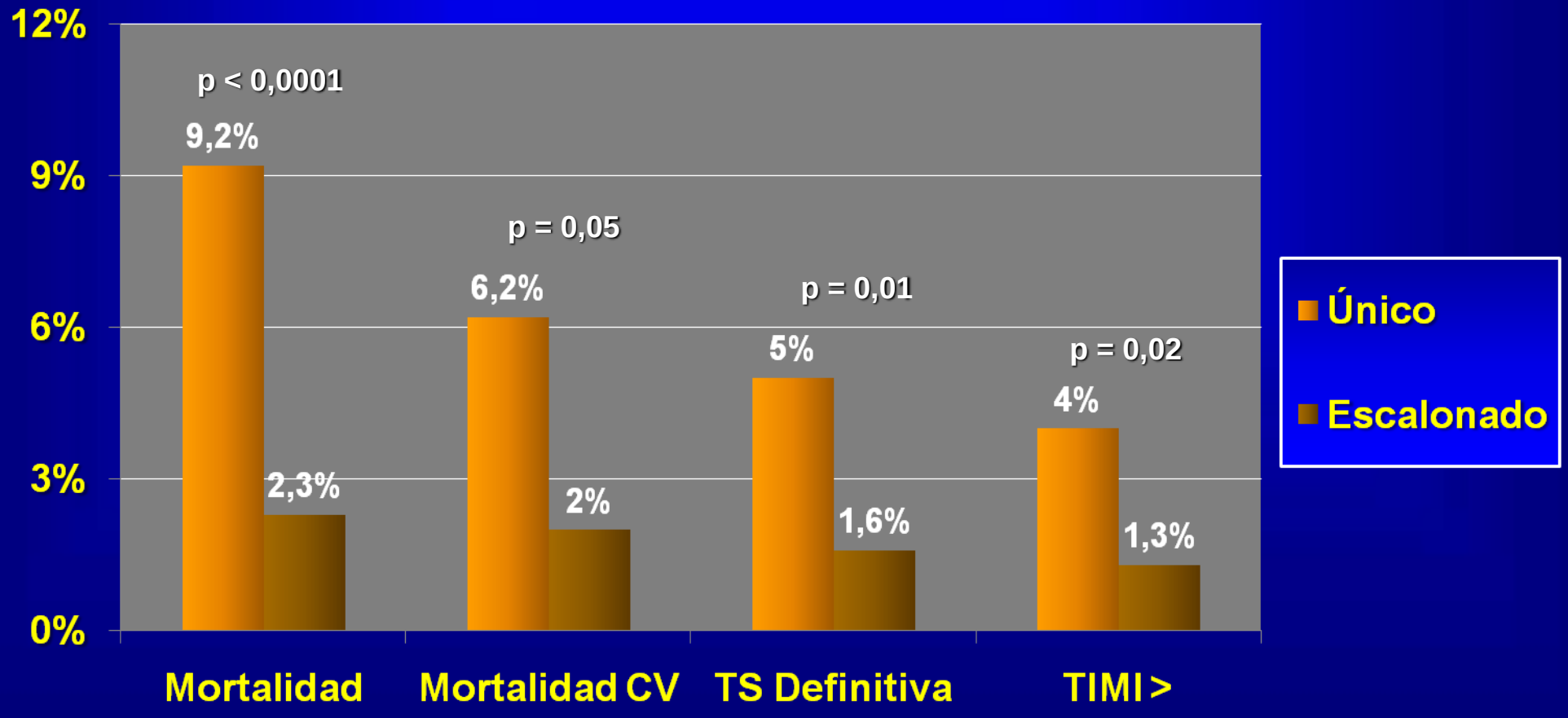


Menees D.S. N Engl J Med 2013;369:901-909

HORIZONS TRIAL

Procedimiento Único vs Escalonado

Multiarteriales n = 668 (18,5%) Resultados 1 año



Kornowski R. J Am Coll Cardiol 2011;58:704-711

Registro Estado de Nueva York
Mortalidad

n = 4.024 Enero/2003 a Junio/2006 ICP - IAM con ST Elevado ≤ 24 h

Amuestras con Propensión de Semejanza

Mortalidad Excepto: Inestabilidad Hemodinámica, FE < 20%, Arritmia Ventricular Grave	Vaso Culpable n = 458	Multiarterial n = 458	p
Hospitalaria	0,9%	2,4%	0,04
12 m	4,2%	5,8%	0,13
24 m	4,9%	7,2%	0,07
42 m	6,75	10,4%	0,08

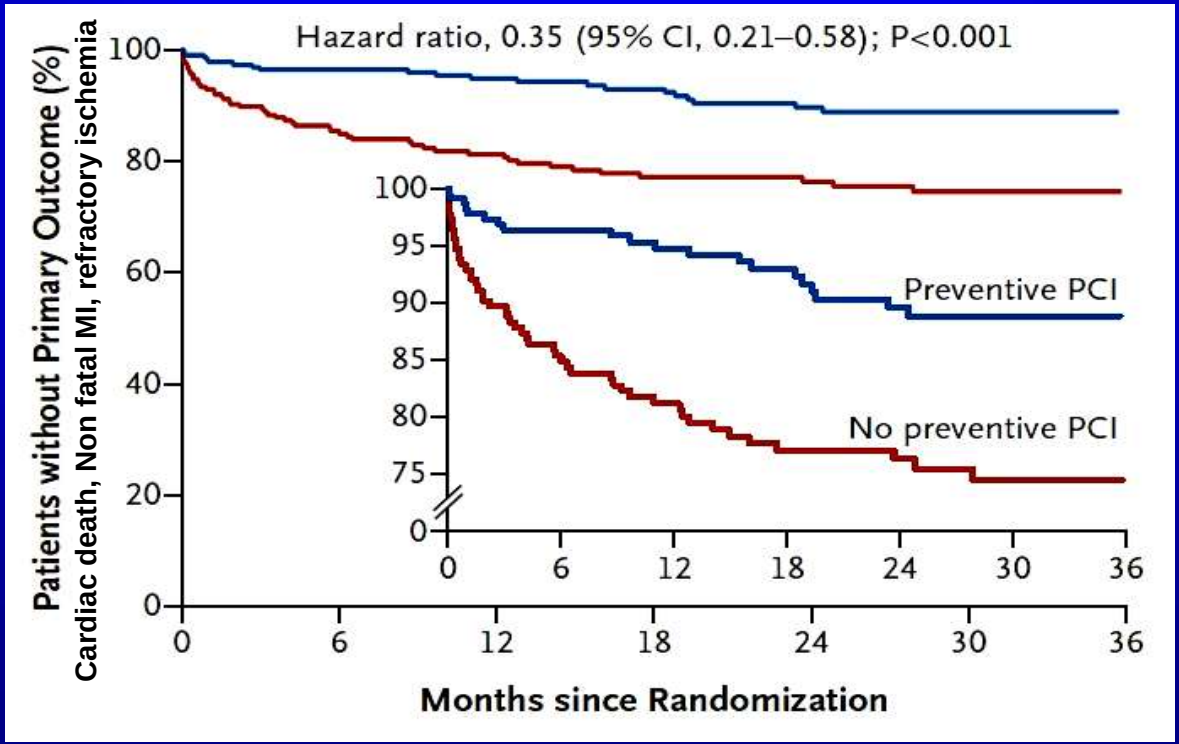
Hannan E. J A Coll Cardiol Intv 2010;3:22-31

PRAMI TRIAL

ICP Preventiva en el IAM

Estudio Randomizado 5 Centros Reino Unido 2008-2013

n = 465 → Multiarteriales (≥ 50% en otras arterias) Follow-up (medio) 23 sem



- **No preventiva – ICP → angina refractaria con evidencia objetiva de isquemia**
- **Interrupción precoz**

Wald D.S. N Engl J Med 2013;369:1115-1123

PRAMI TRIAL

ICP Preventiva en el IAM

Outcome	Preventive PCI (N=234)	No Preventive PCI (N=231)	Hazard Ratio (95% CI)	P Value
	no. of events			
Primary outcome				
Death from cardiac causes, nonfatal myocardial infarction, or refractory angina†	21	53	0.35 (0.21–0.58)	<0.001
Death from cardiac causes or nonfatal myocardial infarction†	11	27	0.36 (0.18–0.73)	0.004
Death from cardiac causes	4	10	0.34 (0.11–1.08)	0.07
Nonfatal myocardial infarction	7	20	0.32 (0.13–0.75)	0.009
Refractory angina	12	30	0.35 (0.18–0.69)	0.002
Secondary outcomes				
Death from noncardiac causes	8	6	1.10 (0.38–3.18)	0.86
Repeat revascularization	16	46	0.30 (0.17–0.56)	<0.001

Wald D.S. N Engl J Med 2013;369:1115-1123

IMA con ST Elevado
Directrices ACCF/AHA

Procedural aspects of primary PCI		
Primary PCI should be limited to the culprit vessel with the exception of cardiogenic shock and persistent ischaemia after PCI of the supposed culprit lesion.	IIa	B

	COR	LOE
Ischemic symptoms <12 h	I	A
Ischemic symptoms <12 h and contraindications to fibrinolytic therapy irrespective of time delay from FMC	I	B
Cardiogenic shock or acute severe HF irrespective of time delay from MI onset	I	B
Evidence of ongoing ischemia 12 to 24 h after symptom onset	IIa	B
PCI of a noninfarct artery at the time of primary PCI in patients without hemodynamic compromise	III: Harm	B

Steg P. Eur Heart J 2012;33:2569-2619

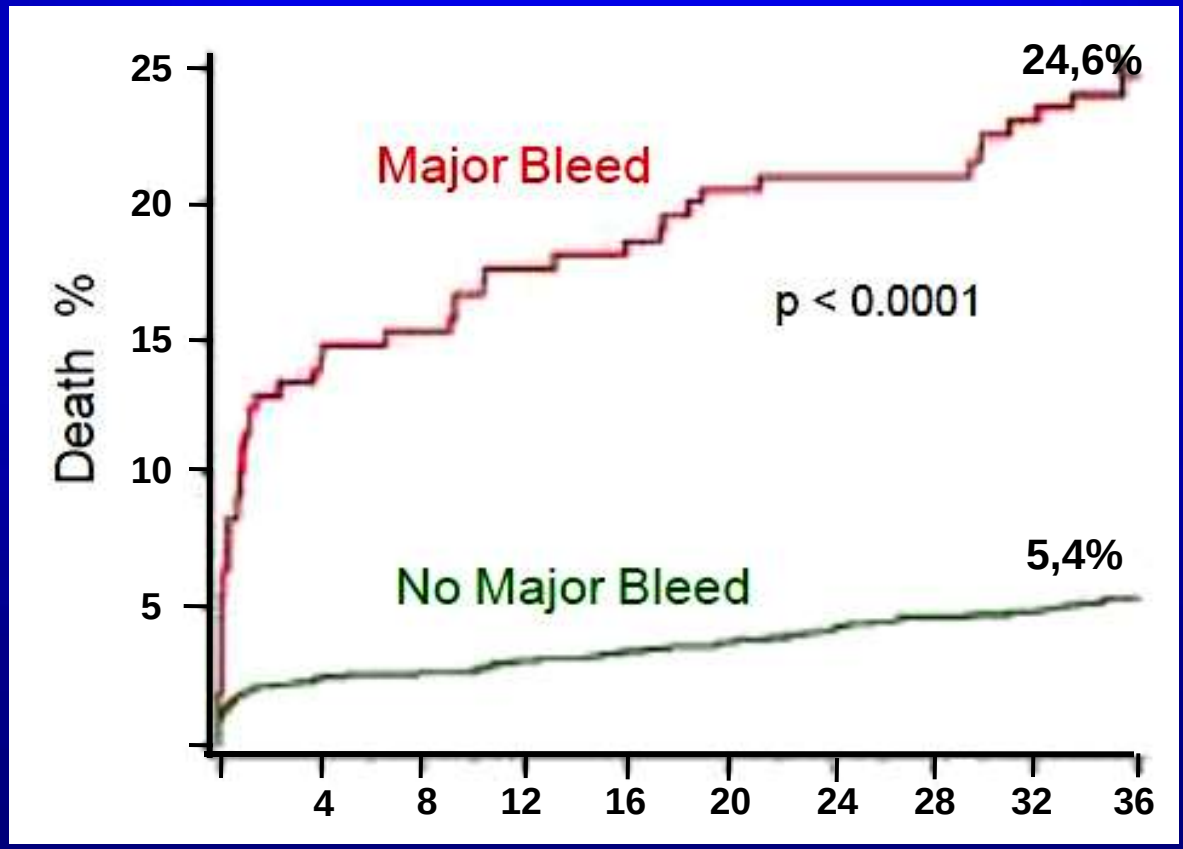
O'Gara P.T. Circulation 2013;127:e362-425

Sangrados > Hospitalización

Mortalidad

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

n = 3.602 STEMI ≤ 12 h ICP Primária



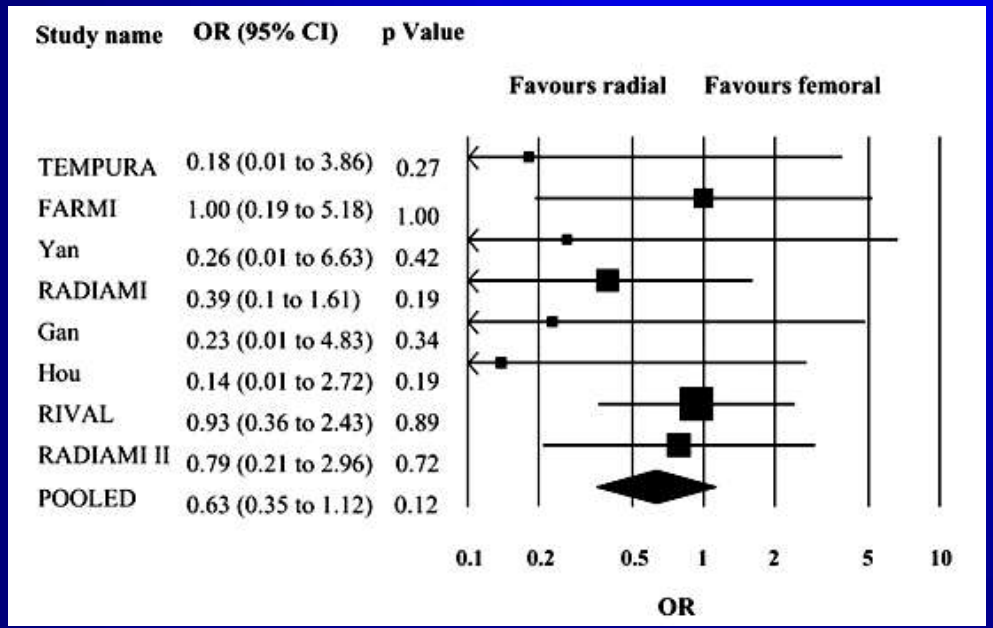
Suh JW. J Am Coll Cardiol 2011;58:1750

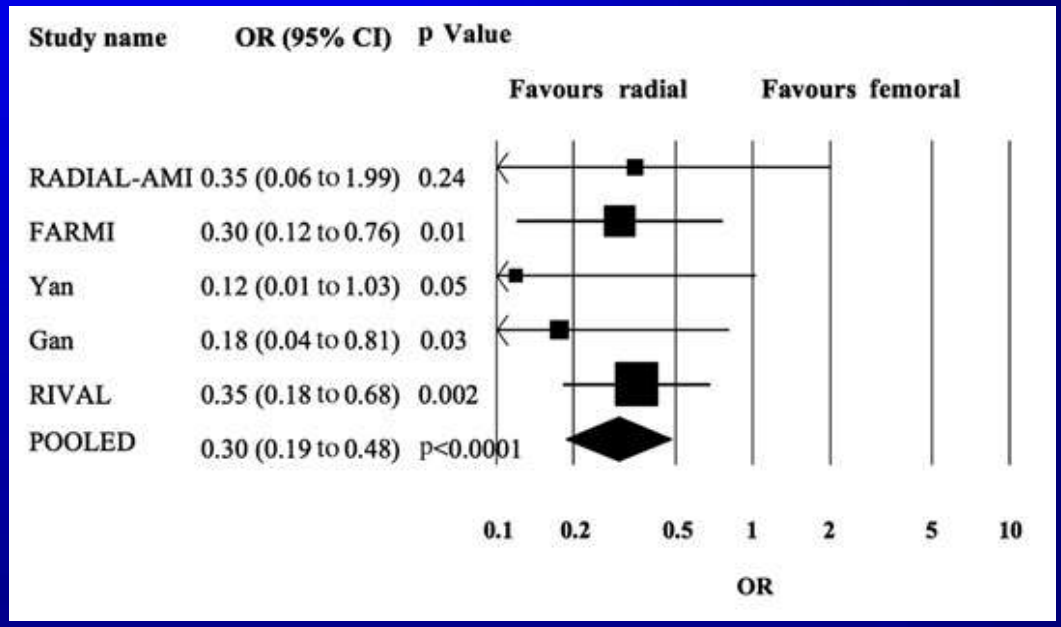
Radial vs Femoral

Complicaciones Vasculares/Sangrados >

8 Estudios Randomizados
2003 a 2011

ICP IAM con ST Elevado
n = 2.977





Sangrados >

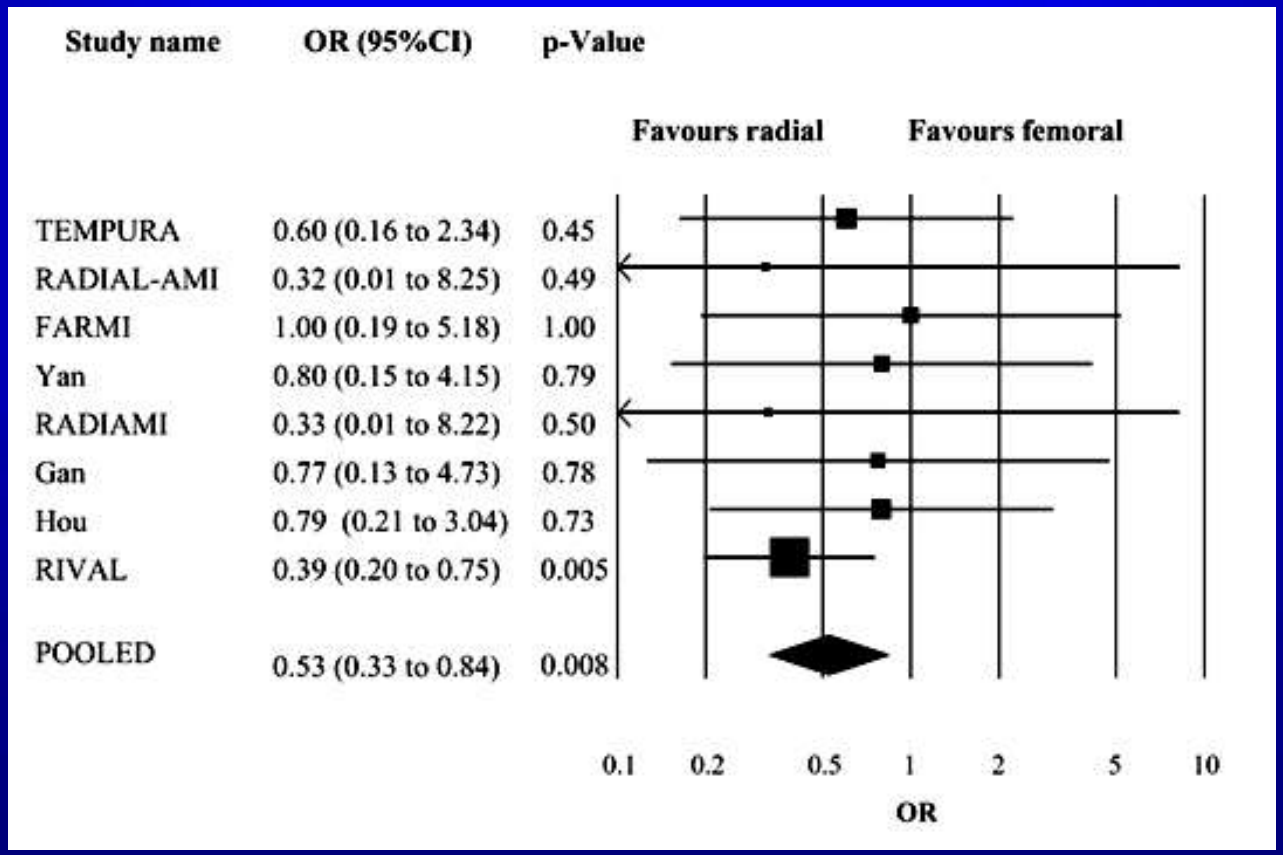
Complicaciones Vasculares

Mamas MA. Heart 2012;98:303-311

Mortalidad
Radial vs Femoral

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

2003 a 2011 **n = 2.977**

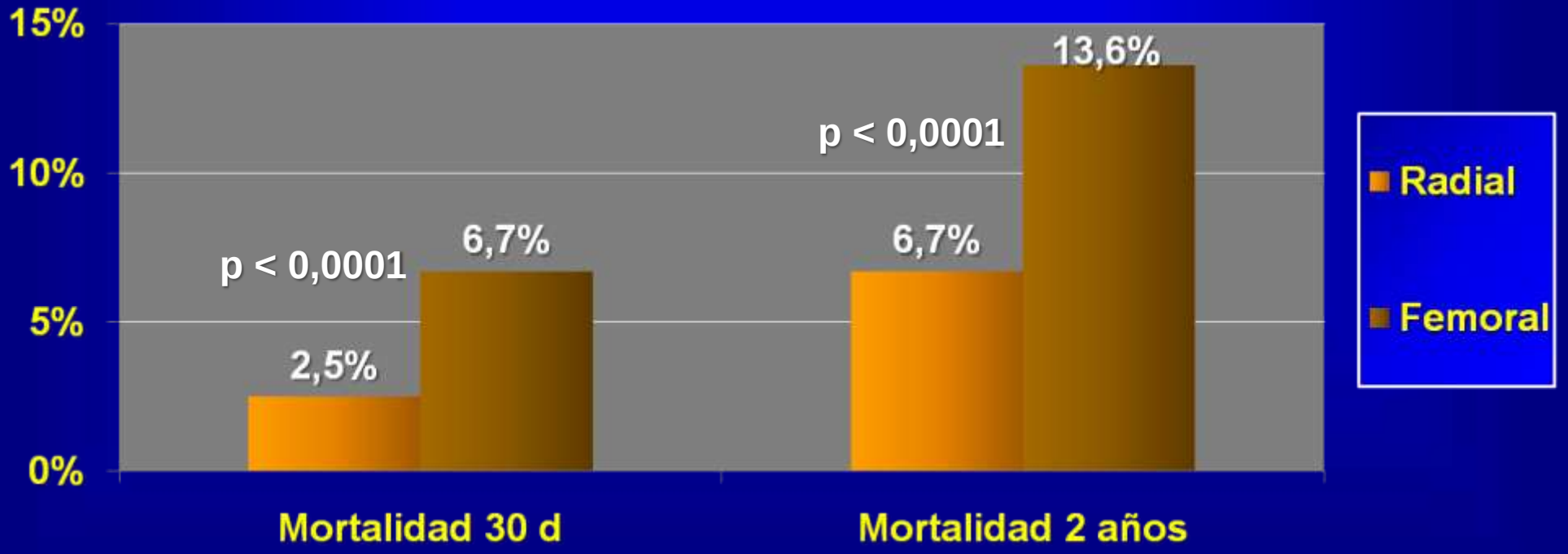


Mamas MA. Heart 2012;98:303-311

Radial vs Femoral
Práctica Clínica

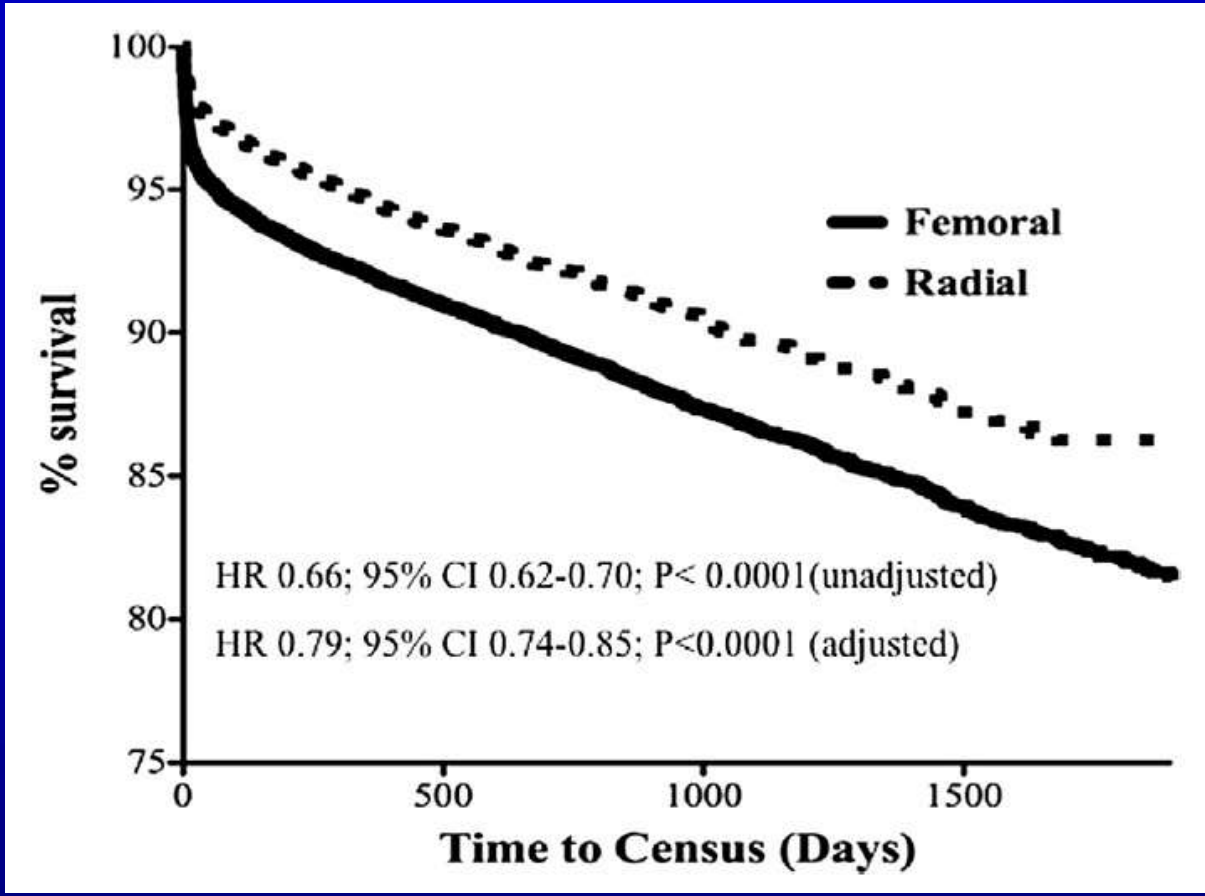
2006 a 2010 Reino Unido n = 46.128 ICP IAM

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



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

Radial vs Femoral
Supervivencia



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

Técnica Radial
Directrices Europea

Recommendations	Class	Level
Indications for primary PCI		
Primary PCI is the recommended reperfusion therapy over fibrinolysis if performed by an experienced team within 120 min of FMC.	I	A
Primary PCI is indicated for patients with severe acute heart failure or cardiogenic shock, unless the expected PCI related delay is excessive and the patient presents early after symptom onset.	I	B
Procedural aspects of primary PCI		
Stenting is recommended (over balloon angioplasty alone) for primary PCI.	I	A
Primary PCI should be limited to the culprit vessel with the exception of cardiogenic shock and persistent ischaemia after PCI of the supposed culprit lesion.	IIa	B
If performed by an experienced radial operator, radial access should be preferred over femoral access.	IIa	B
If the patient has no contraindications to prolonged DAPT (indication for oral anticoagulation, or estimated high long-term bleeding risk) and is likely to be compliant, DES should be preferred over BMS.	IIa	A
Routine thrombus aspiration should be considered.	IIa	B
Routine use of distal protection devices is not recommended.	III	C
Routine use of IABP (in patients without shock) is not recommended.	III	A

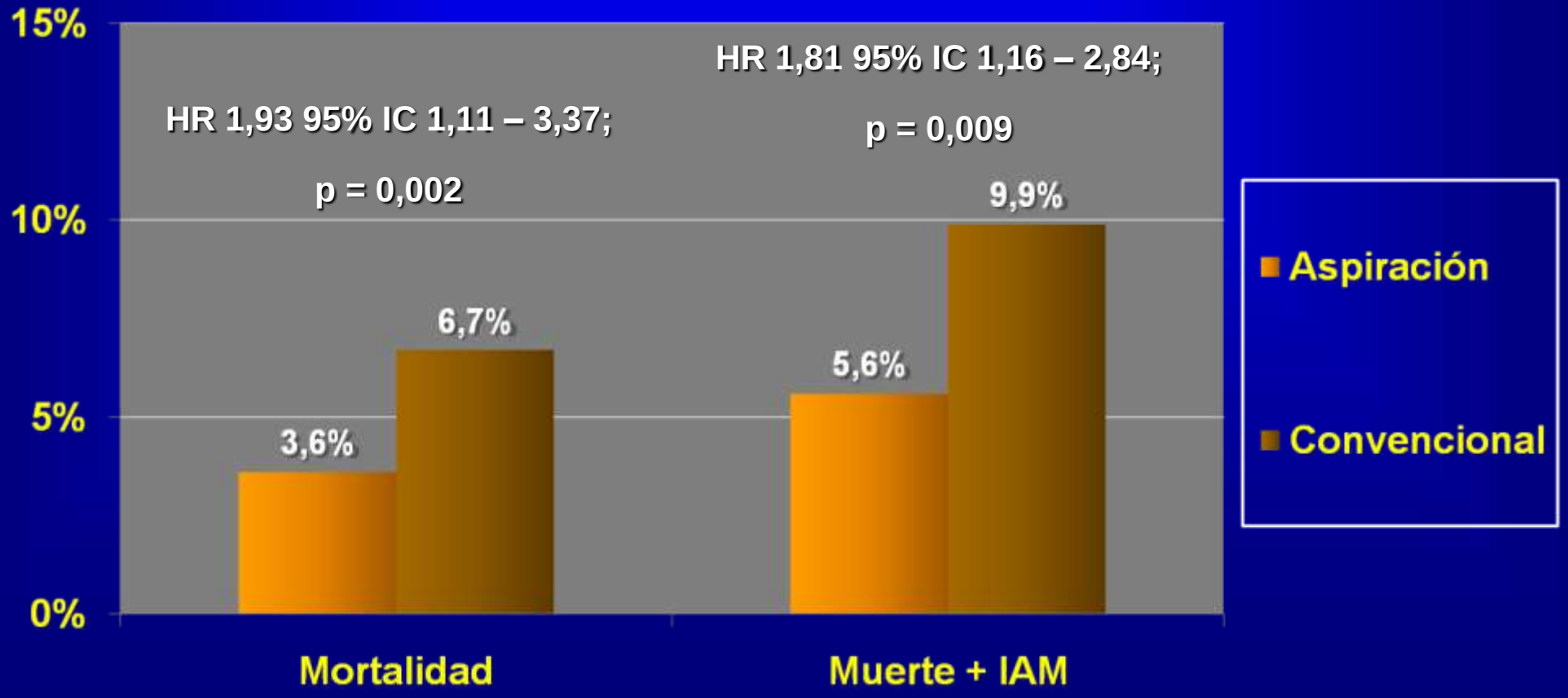
Steg P. Eur Heart J 2012;33:2569-2619

TAPAS TRIAL

Resultados 1 año

n = 1.701 IAM c/ Supra ST

Enero/2005 a Diciembre/2006 Universidad Groningen/Holanda

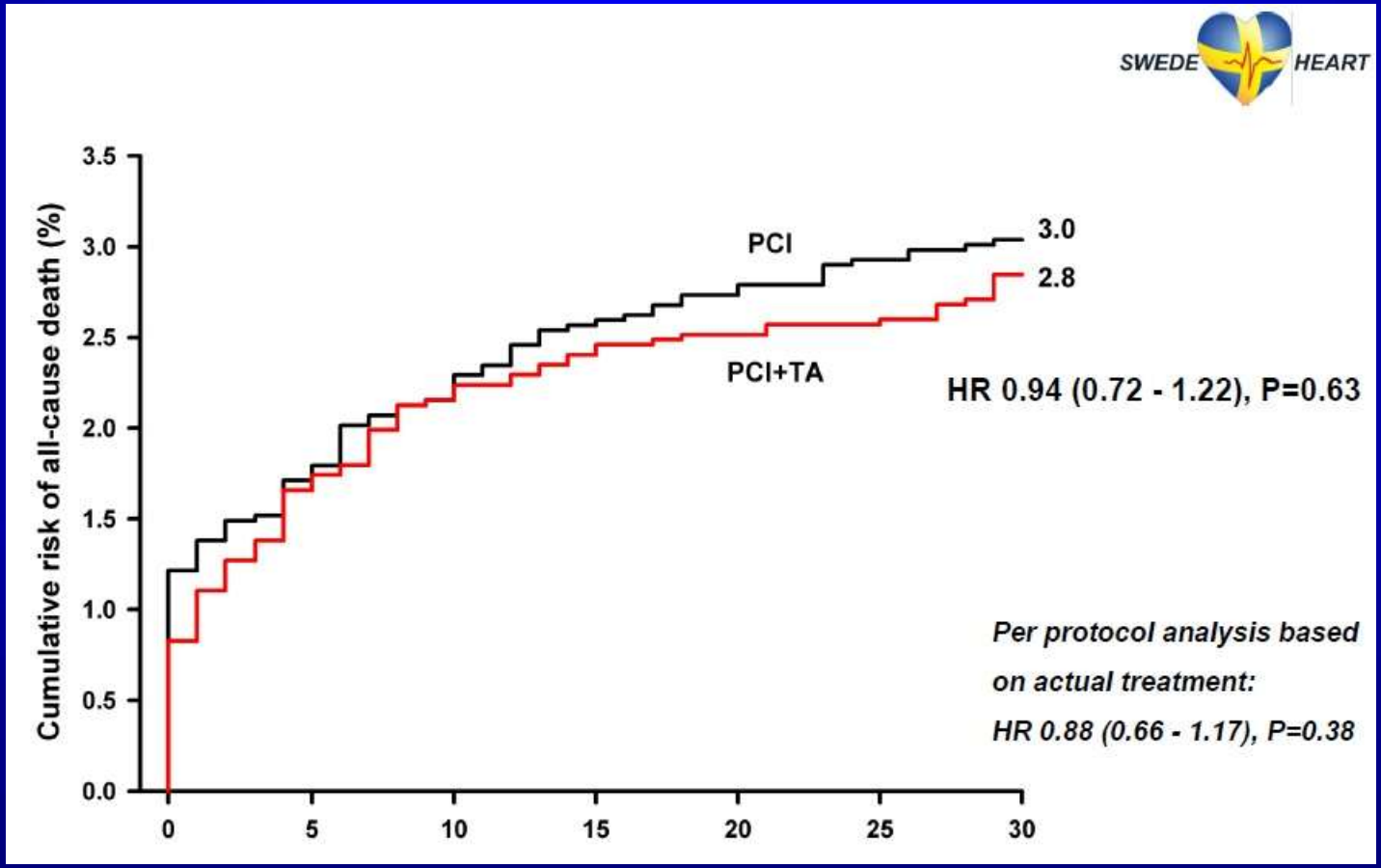


Vlaaar P.J. Lancet 2008;371:1915-20

TASTE TRIAL

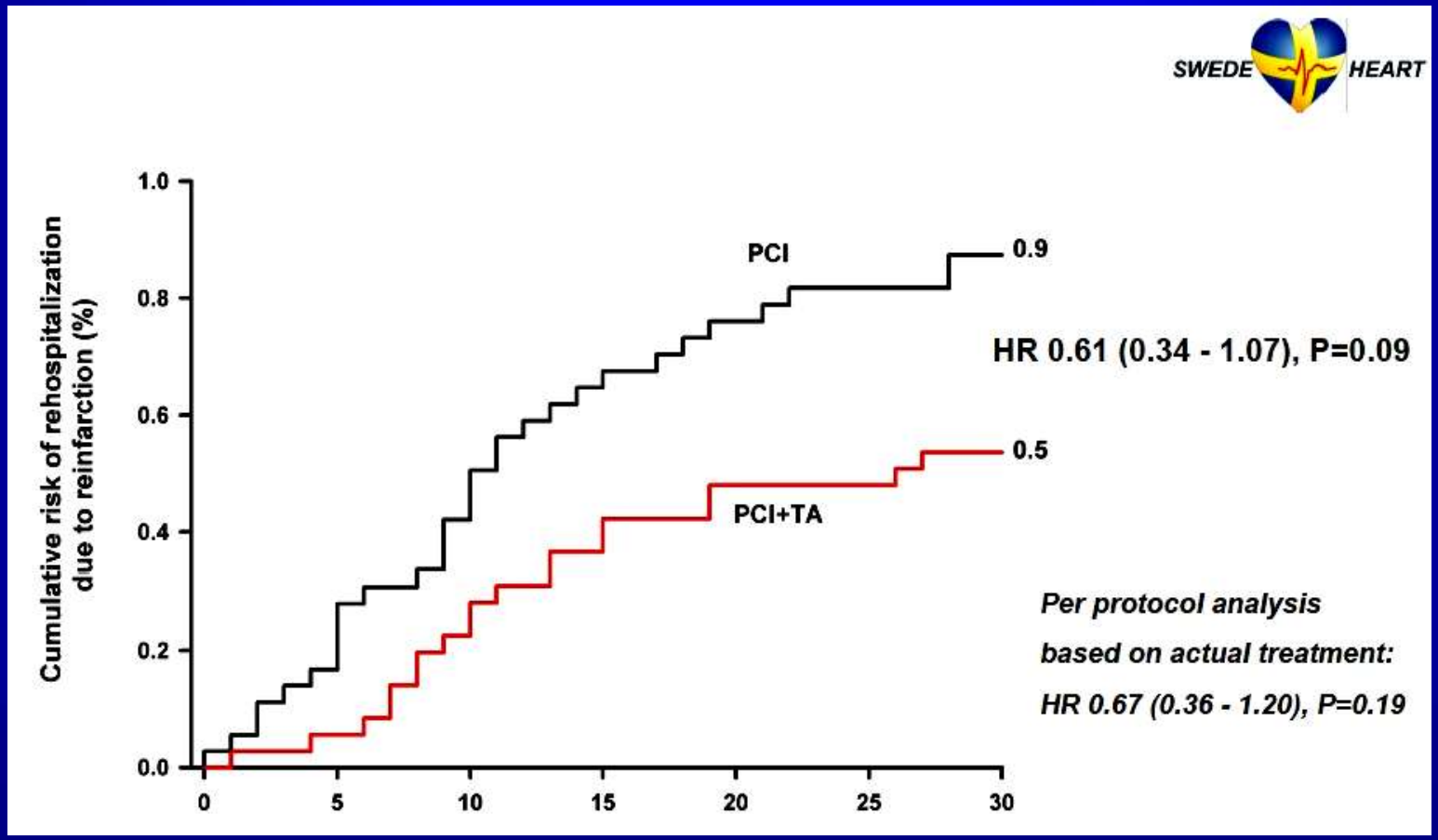
Mortalidad – 30 días

n = 7.244 STEMI < 24 h 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

Aspiración en la ICP Primaria
Directrices

Procedural aspects of primary PCI		
Routine thrombus aspiration should be considered.	IIa	B
Routine use of distal protection devices is not recommended.	III	C
Routine use of IABP (in patients without shock) is not recommended.	III	A

3.2. Aspiration Thrombectomy

Class IIa

1. Manual aspiration thrombectomy is reasonable for patients undergoing primary PCI.[61–64] (*Level of Evidence: B*)

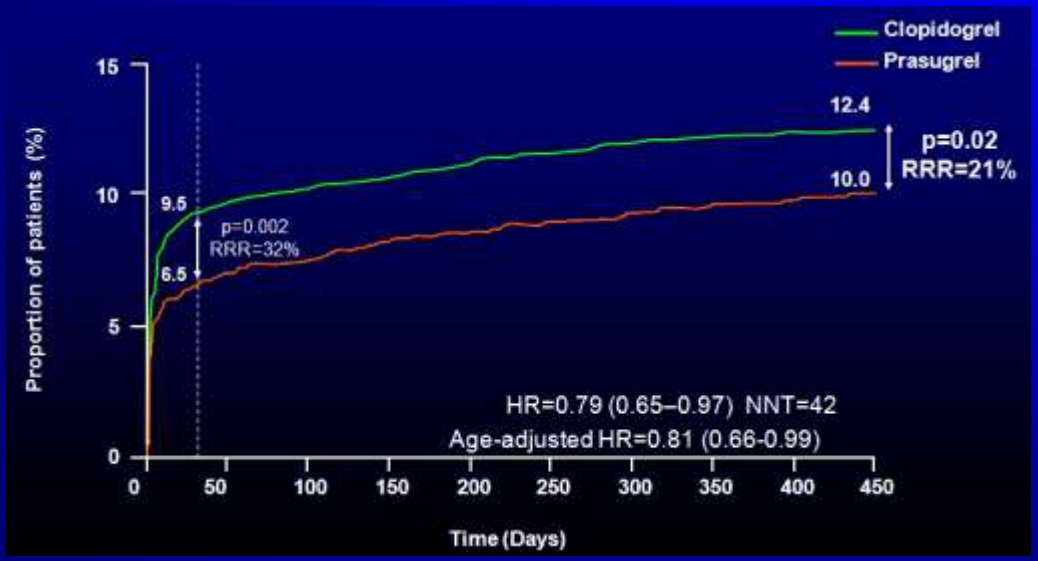
Steg P. Eur Heart J 2012;33:2569-2619

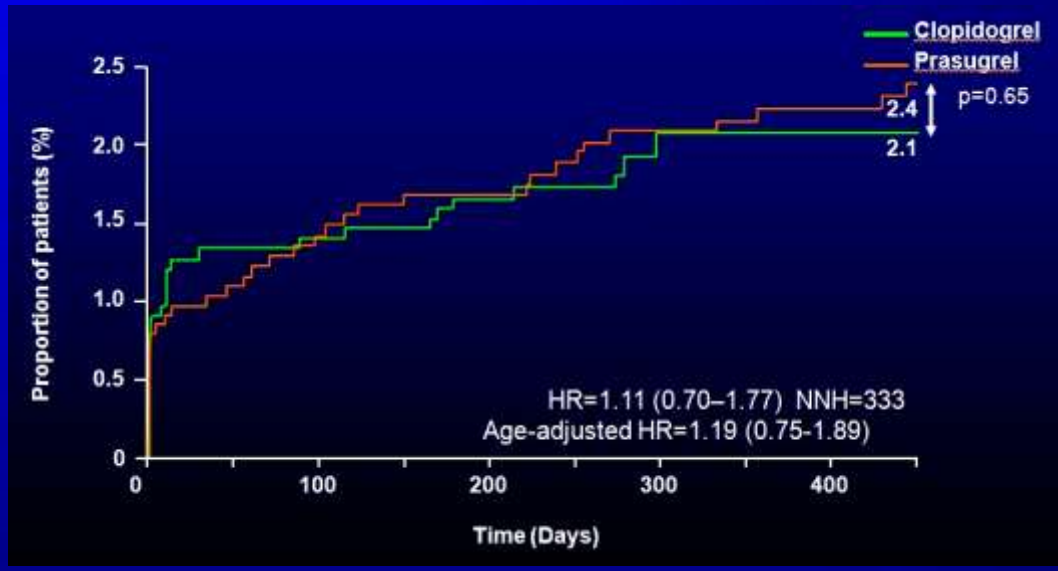
O'Gara P.T. Circulation 2013;127:e362-425

TRITON – TIMI 38

Prasugrel - Resultados

IAM com Supra ST **n = 3.534**





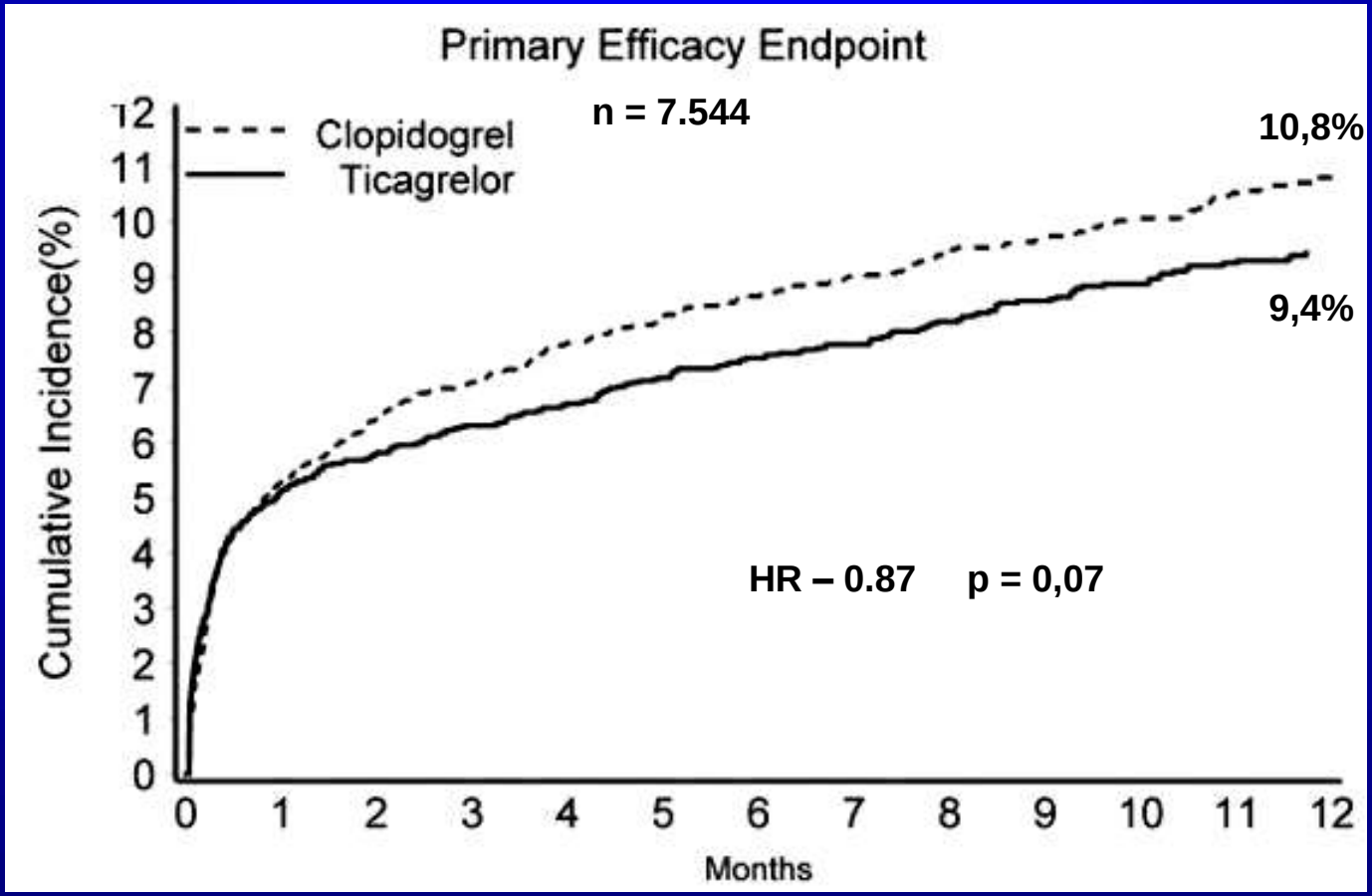
Muerte CV, IAM, AVC

Sangrado >

Montalescot G. Lancet 2009;373:723-31

PLATO Trial

IAM com Supra de ST



Steg PG. Circulation 2010;122:2131-41

IMA con ST Elevado

Directrices $P2Y_{12}$

$P2Y_{12}$ inhibitors

Loading doses

• Clopidogrel: 600 mg as early as possible or at time of PCI	I	B
• Prasugrel: 60 mg as early as possible or at time of PCI	I	B
• Ticagrelor: 180 mg as early as possible or at time of PCI	I	B

Recommendations	Class	Level
Antiplatelet therapy		
Aspirin oral or i.v. (if unable to swallow) is recommended	I	B
An ADP-receptor blocker is recommended in addition to aspirin. Options are:	I	A
• Prasugrel in clopidogrel-naive patients, if no history of prior stroke/TIA, age < 75 years.	I	B
• Ticagrelor.	I	B
• Clopidogrel, preferably when prasugrel or ticagrelor are either not available or contraindicated.	I	C

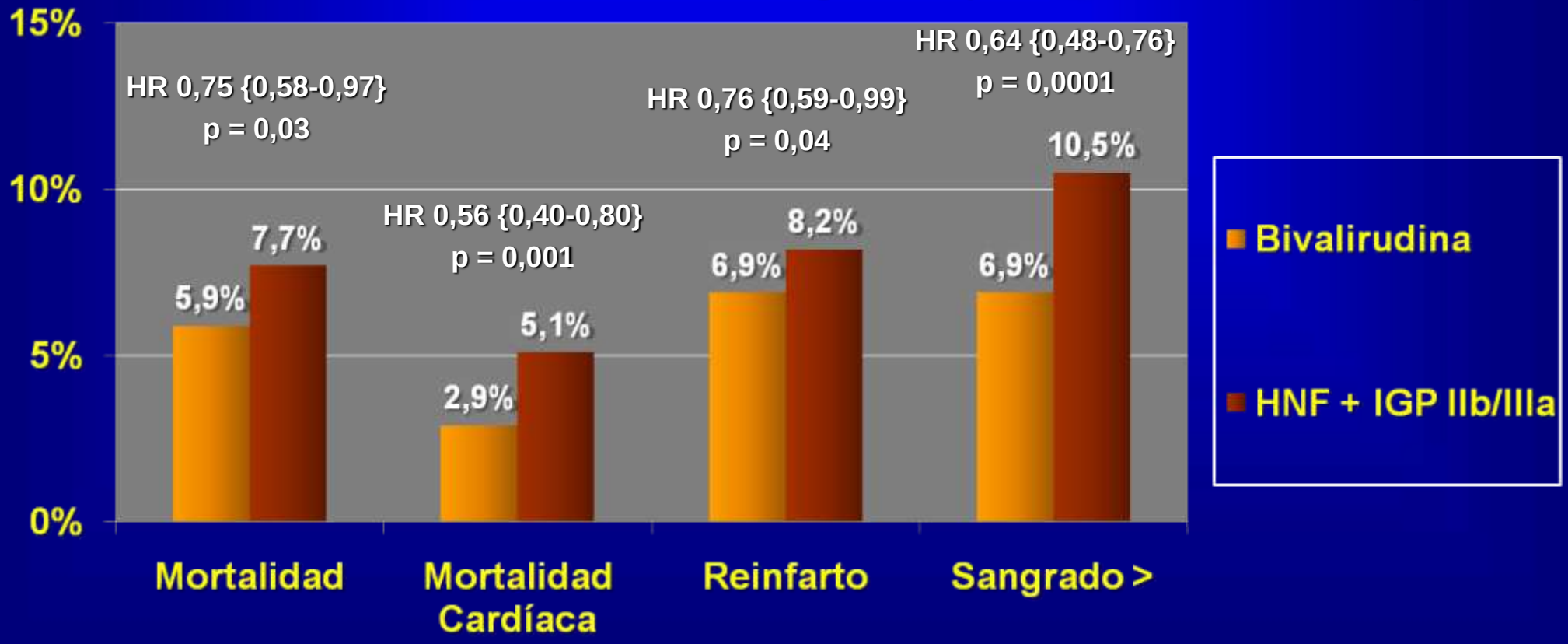
Steg P. Eur Heart J 2012;33:2569-2619

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

HORIZONS TRIAL
Resultados 3 años

n = 3.602 123 centros

IAM c/ ST ≤ 12h → Coronariografia (83% ICP con Stent)



Stone G.W. Lancet 2011;377:2193-2204

EUROMAX Trial Design

2218 patients with STEMI with symptom onset >20 min and ≤12h
Randomized in ambulance or non-PCI hospital
Intent for primary PCI

Aspirin + $P2Y_{12}$ inhibitor (any) as soon as possible

R
1:1

UFH/LMWH ± GPI
Per standard practice

Bivalirudin
(0.75 mg/kg bolus, 1.75 mg/kg/h infusion)
+ prolonged optional infusion
(PCI dose or 0.25 mg/kg/h)
(provisional GPI only)

Primary endpoint: 30-day death or non-CABG related major bleeding

Key Secondary endpoint: Death, Re-infarction or non-CABG major bleeding at 30 days

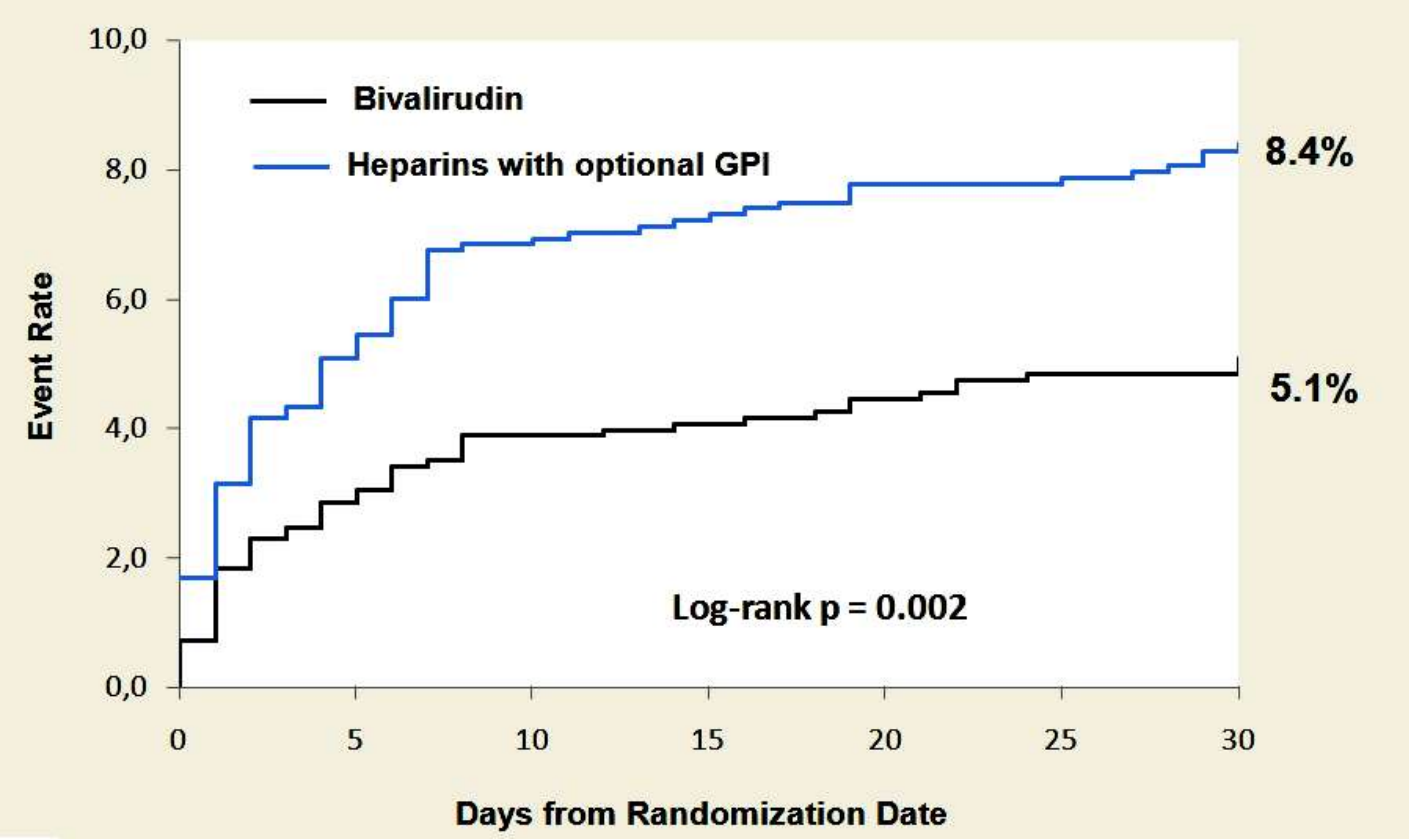
Clinical FU at 30 days and 1 year

Steg P. G. TCT/2013; N Engl J Med 2013 Ahead of Print

Euromax Trial

Muerte o Sangrado > - 30 días

Endpoint Primario



Steg P. G. TCT/2013; N Engl J Med 2013 Ahead of Print

Euromax Trial

Evolución Clínica - 30 d

	Bivalirudin (N=1089)	Heparins with optional GPI (N=1109)	Relative risk [95% CI]	P Value
Death or major bleeding (non-CABG) (primary outcome)	**55 (5.1)**	**94 (8.5)**	**0.60 (0.43–0.82)**	**0.001**
Death, reinfarction, or major bleeding (non-CABG) (key secondary outcome)	72 (6.6)	102 (9.2)	0.72 (0.54–0.96)	0.02
Death	32 (2.9)	34 (3.1)	0.96 (0.60–1.54)	0.86
Cardiac causes	27 (2.5)	33 (3.0)	0.83 (0.50–1.38)	0.48
Noncardiac causes	5 (0.5)	1 (0.1)	5.09 (0.60–43.51)	0.12
Major bleeding (non-CABG)	28 (2.6)	67 (6.0)	0.43 (0.28–0.66)	<0.001
Major adverse cardiovascular events*	65 (6.0)	61 (5.5)	1.09 (0.77–1.52)	0.64
Net adverse clinical events *	85 (7.8)	118 (10.6)	0.73 (0.56–0.96)	0.02

Steg P. G. TCT/2013; N Engl J Med 2013 Ahead of Print

Euromax Trial

Evolución Clínica - 30 d

	Bivalirudin (N=1089)	Heparins with optional GPI (N=1109)	Relative risk [95% CI]	P Value
Reinfarction	19 (1.7)	10 (0.9)	1.93 (0.90–4.14)	0.08
Q-wave	3 (0.3)	2 (0.2)	1.53 (0.26–9.12)	0.68
Non-Q-wave	16 (1.5)	8 (0.7)	2.04 (0.88–4.74)	0.09
Stent thrombosis (ARC definition)	17 (1.6)	6 (0.5)	2.89 (1.14–7.29)	0.02
Definite	17 (1.6)	6 (0.5)	2.89 (1.14–7.29)	0.02
Probable	0 (0)	0 (0)	–	n/a
Acute (≤24 hours)	12 (1.1)	2 (0.2)	6.11 (1.37–27.24)	0.007
Subacute (>24 hours to 30 days)	5 (0.5)	4 (0.4)	1.27 (0.34–4.73)	0.75
Ischemia-driven revascularization	24 (2.2)	17 (1.5)	1.44 (0.78–2.66)	0.25
Reinfarction, ischemia-driven revascularization or stent thrombosis	29 (2.7)	21 (1.9)	1.41 (0.81–2.45)	0.23
Any stroke	6 (0.6)	11 (1.0)	0.56 (0.21–1.50)	0.24
Ischemic	6 (0.6)	9 (0.8)	0.68 (0.24–1.9)	0.46
Hemorrhagic	0	2 (0.2)	Not applicable	0.50
Acquired thrombocytopenia	7 (0.7)	14 (1.4)	0.50 (0.20–1.24)	0.13

Steg P. G. TCT/2013; N Engl J Med 2013 Ahead of Print

Recomendaciones Bivalirudina

Directrices

Anticoagulant therapy

• UFH:	I	C
• With GP IIb/IIIa receptor antagonist planned: 50- to 70-U/kg IV bolus to achieve therapeutic ACT‡	I	C
• With no GP IIb/IIIa receptor antagonist planned: 70- to 100-U/kg bolus to achieve therapeutic ACT§	I	B
• Bivalirudin: 0.75-mg/kg IV bolus, then 1.75-mg/kg/h infusion with or without prior treatment with UFH. An additional bolus of 0.3 mg/kg can be given if needed.		
• Reduce infusion to 1 mg/kg/h with estimated CrCl <30 mL/min		
• Preferred over UFH with GP IIb/IIIa receptor antagonist in patients at high risk of bleeding	IIa	B
• Fondaparinux: Not recommended as sole anticoagulant for primary PCI	III: Harm	B

Recommendations	Class	Level
Anticoagulants		
An injectable anticoagulant must be used in primary PCI.	I	C
Bivalirudin (with use of GP IIb/IIIa blocker restricted to bailout) is recommended over unfractionated heparin and a GP IIb/IIIa blocker.	I	B
Enoxaparin (with or without routine GP IIb/IIIa blocker) may be preferred over unfractionated heparin.	IIb	B
Unfractionated heparin with or without routine GP IIb/IIIa blocker must be used in patients not receiving bivalirudin or enoxaparin.	I	C
Fondaparinux is not recommended for primary PCI.	III	B
The use of fibrinolysis before planned primary PCI is not recommended.	III	A

Steg P. Eur Heart J 2012;33:2569-2619

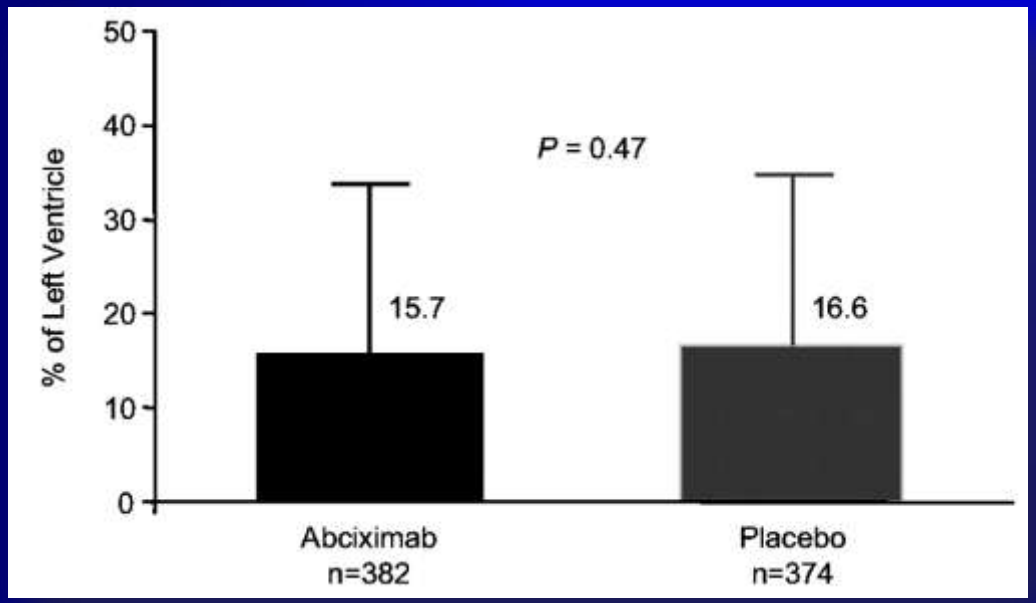
O'Gara P.T. Circulation 2013;127:e362-425

BRAVE 3 TRIAL

Endpoint Primario

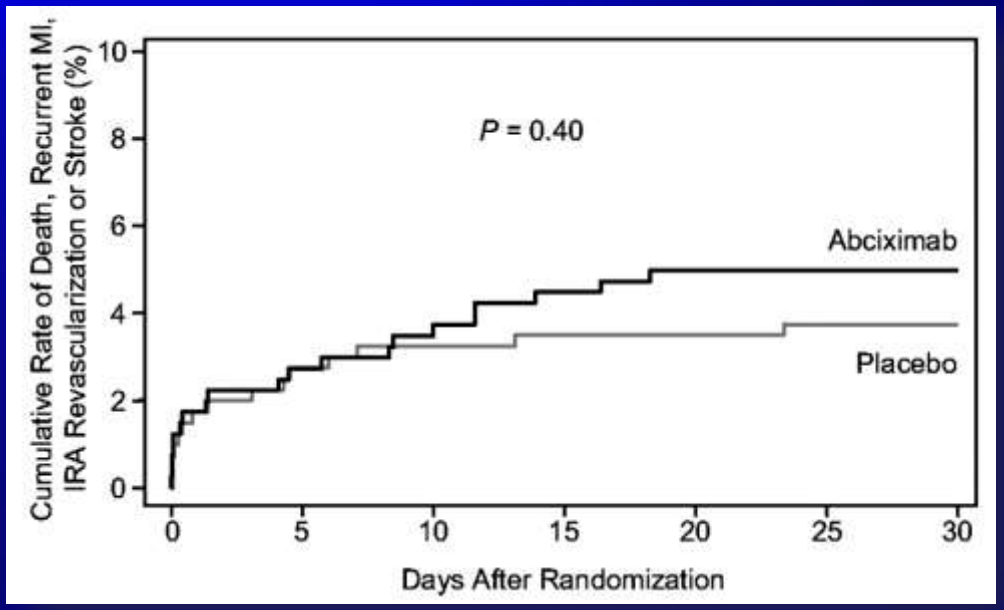
n = 800 **IAM < 24 h → ICP**

Clopidogrel 600mg + AAS 500mg + Heparina 5000u



Enpoint Primario

Extensión del Infarto (SPECT)



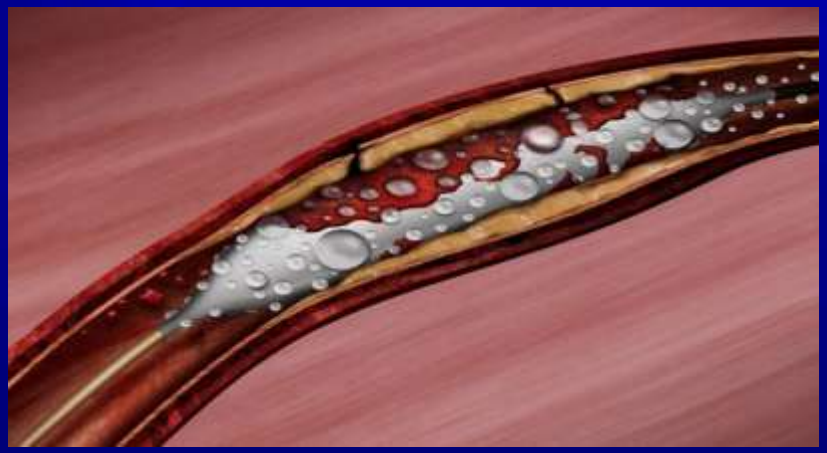
Mehilli J. Circulation 2009;119:1933-40

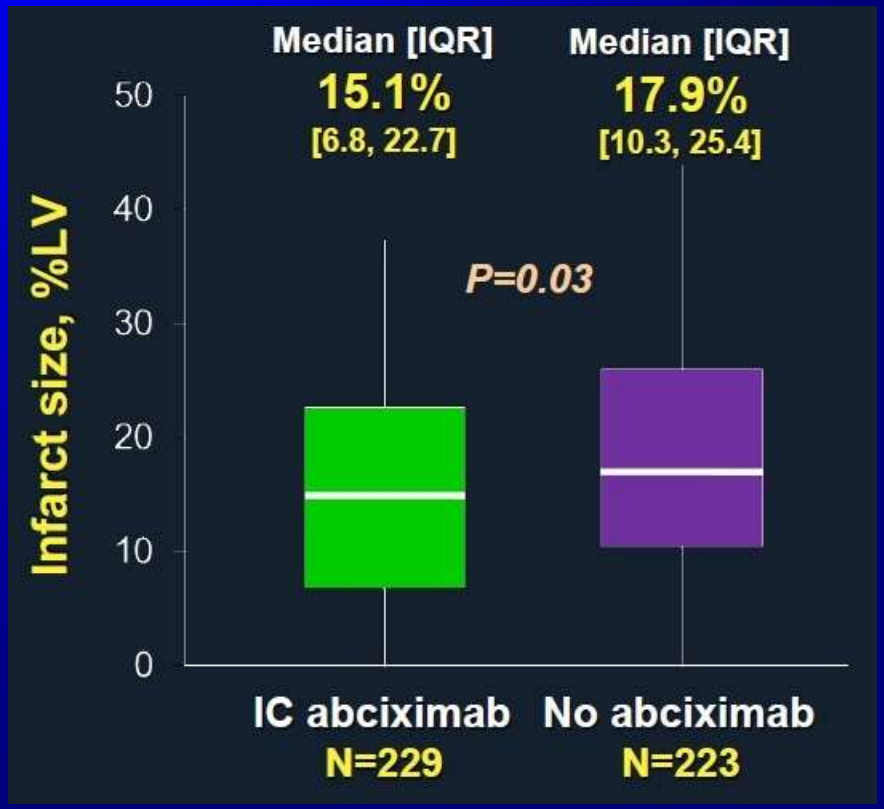
INFUSE – AMI

Abciximab Intracoronario

ICP Primaria Bivalirudina n = 452

STEMI Anterior < 5 h

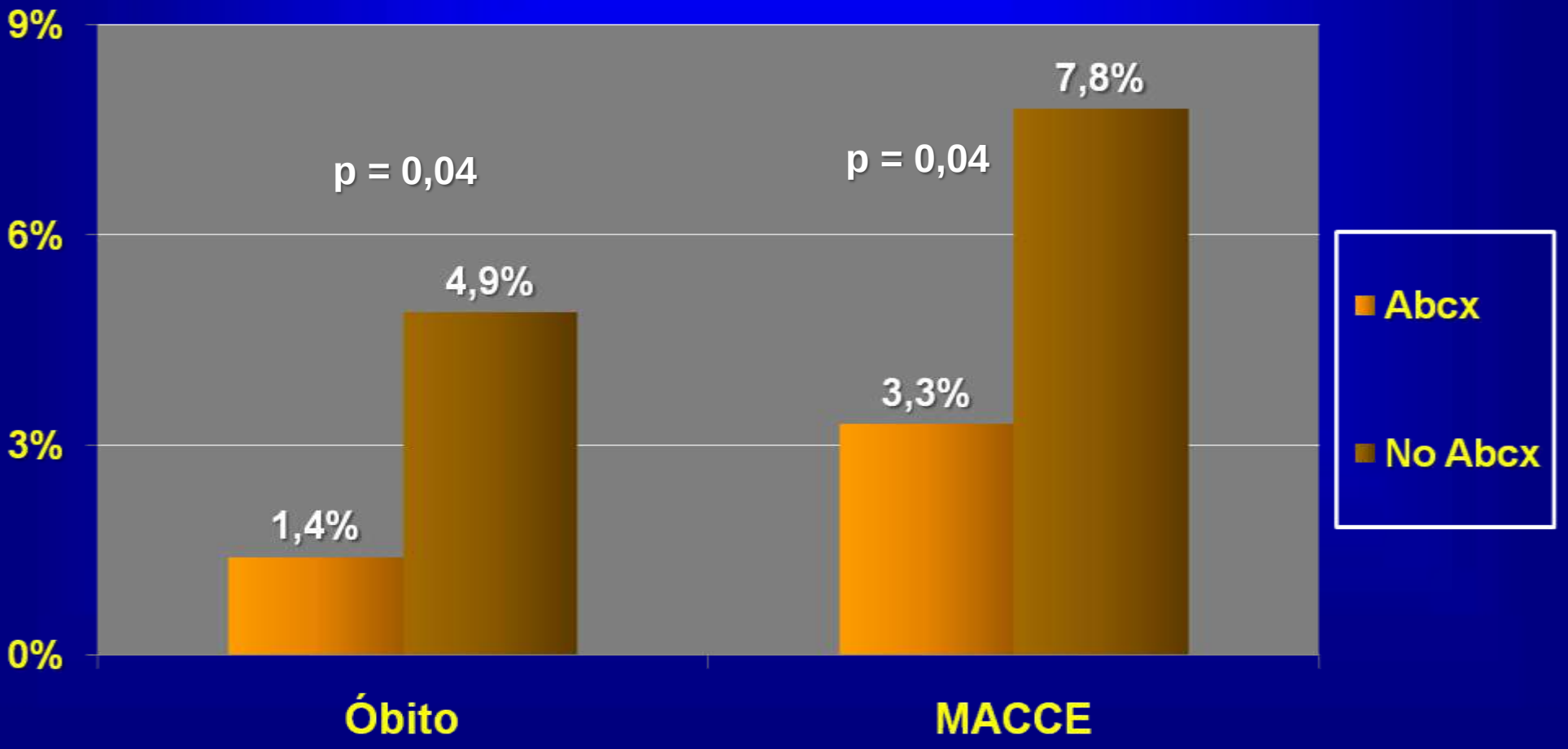




Stone G.W. JAMA 2012;307:1817-1826

INFUSE – AMI

Resultados – 30 dias a 1 ano



Stone G.W. Circulation Cardiovasc Interv 2013;Ahead of Print

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

CARESS-IN-AMI
Diseño del Estudio

n = 600 3 Países (Francia, Italia e Polonia)

Centros s/ Laboratorio de Hemodinámica

IAMCEST ≤ 12 h Alto Risco:

≤ 75 anos com ≥ 1 criterio: Elevación ST Extensa, BRE nuevo, IAM previo, Killip ≥ 2, FEVE ≤ 35%

Reteplase ½ doses + AAS + Heparina + Abciximab

n = 1593

ICP Precoz ≤ 6 h

n = 1438

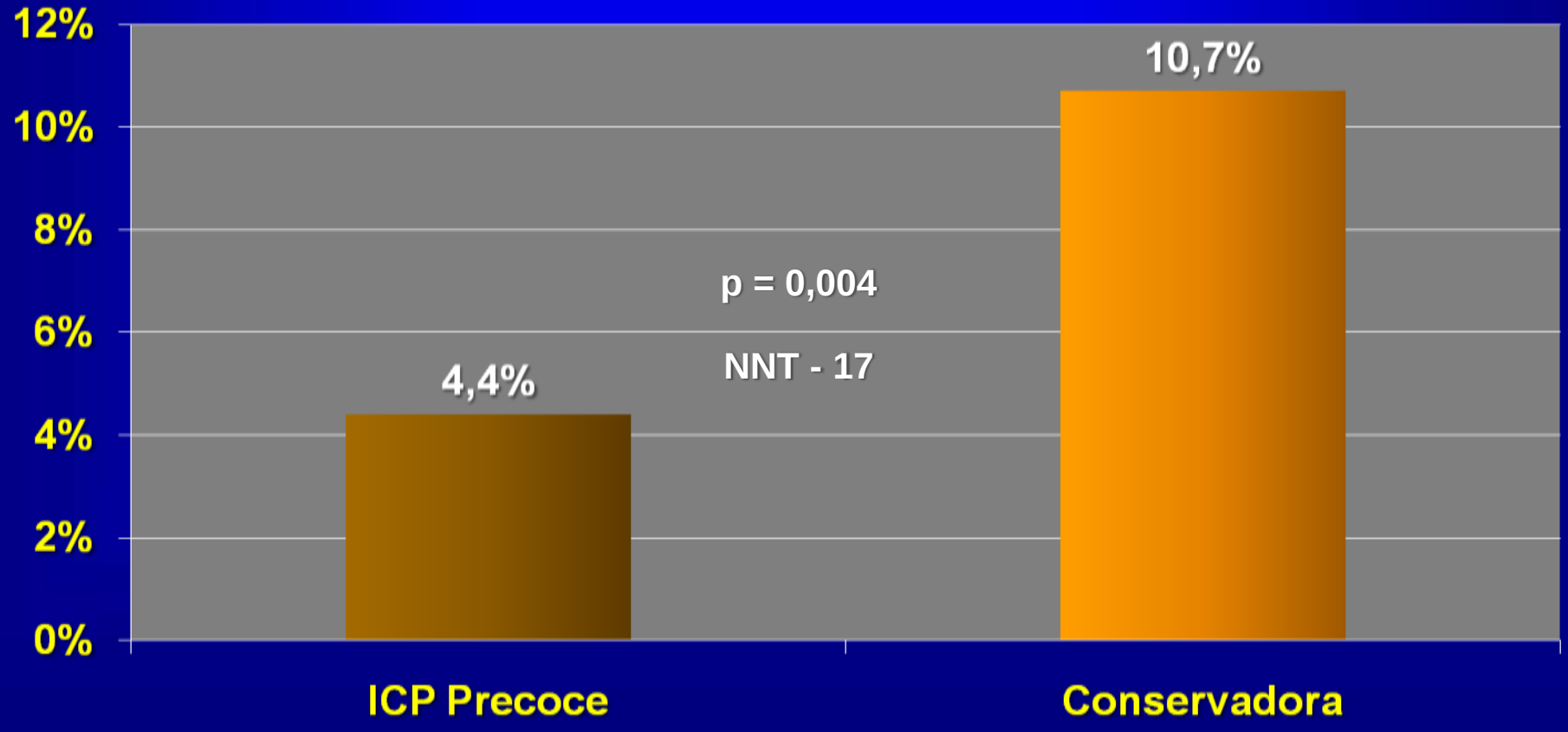
Conservadora

Transferencia ICP Rescate

Di Mario C. Lancet 2008;371:559-68

CARESSS-IN-AMI
Objetivo Primario

Muerte, Reinfarto, Isquemia Recurrente – 30 días



Sangrado > - Precoz 3,4% vs Conservadora 2,3% (p = 0,47)

Di Mario C. Lancet 2008;371:1559-68

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

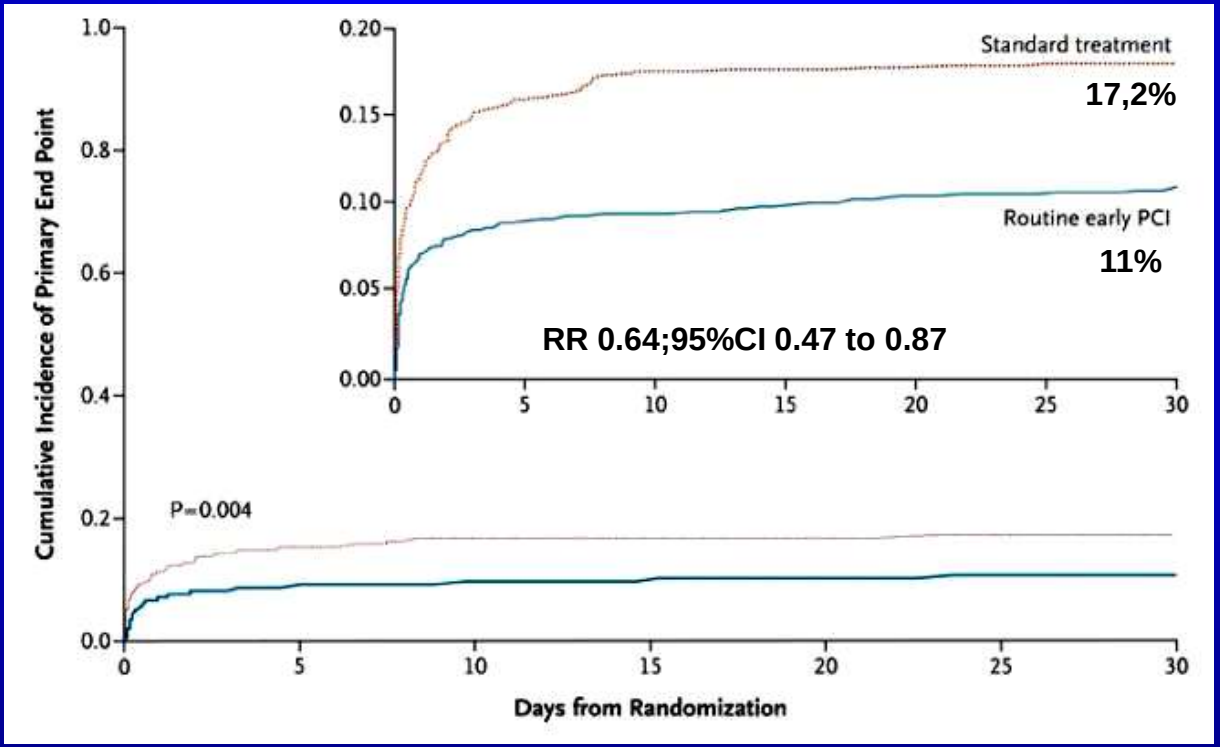
Conservadora (angiografía ≤ 2 sem)

ICP rescate/salvamento

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

TRANSFER - AMI

Desfecho Primário



Óbito, Reinfarto, Isq. Recorrente, IC nova ou piora, Choque Cardiogênico

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

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

Transferencia para ICP Pos Fibrinólisis
Directrices

Transfer to a PCI-capable centre following fibrinolysis		
Is indicated in all patients after fibrinolysis.	I	A
Interventions following fibrinolysis		
Rescue PCI is indicated immediately when fibrinolysis has failed (<50% ST-segment resolution at 60 min).	I	A
Emergency PCI is indicated in the case of recurrent ischaemia or evidence of reocclusion after initial successful fibrinolysis.	I	B
Emergency angiography with a view to revascularization is indicated in heart failure/shock patients.	I	A
Angiography with a view to revascularization (of the infarct-related artery) is indicated after successful fibrinolysis.	I	A
Optimal timing of angiography for stable patients after successful lysis: 3–24 h.	IIa	A

Class IIa

Transfer to a PCI-capable hospital for coronary angiography is reasonable for patients with STEMI who have received fibrinolytic therapy even when hemodynamically stable[§] and with clinical evidence of successful reperfusion. Angiography can be performed as soon as logistically feasible at the receiving hospital, and ideally within 24 hours, but should not be performed within the first 2 to 3 hours after administration of fibrinolytic therapy.[133–138] (*Level of Evidence: B*)

Steg P. Eur Heart J 2012;33:2569-2619

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

IAM com Supra de ST

Stents Farmacológicos vs No Farmacológicos

n = 6.026 **Seguimiento Clínico 3 a 5 anos**

DEATH	DES	BMS	OR [95%CI]	P
DEDICATION	10.5%	6.4%	1.73 [0.97, 3.08]	0.06
PASEO	8.3%	12.2%	0.65 [0.29, 1.49]	0.31
STRATEGY	18.4%	15.9%	1.19 [0.54, 2.62]	0.66
SESAMI	3.2%	5.0%	0.61 [0.20, 1.92]	0.40
MISSION	4.4%	6.6%	0.69 [0.25, 1.85]	0.46
TYPHOON	4.0%	6.6%	0.61 [0.27, 1.36]	0.23
PASSION	8.9%	11.5%	0.75 [0.45, 1.27]	0.29
HORIZONS-AMI	5.6%	6.6%	0.84 [0.60-1.17]	0.33
META-ANALYSIS			0.88 [0.68-1.11]	0.27

Stent thrombosis	DES	BMS	OR [95%CI]	P
DEDICATION	2.9%	3.2%	0.90 [0.36, 2.24]	0.82
PASEO	1.1%	2.2%	0.49 [0.07, 3.57]	0.48
STRATEGY	6.9%	7.9%	0.86 [0.28, 2.66]	0.79
SESAMI	5.1%	5.1%	1.00 [0.37, 2.73]	1.00
MISSION	3.1%	2.0%	1.69 [0.40, 7.20]	0.48
TYPHOON	5.3%	5.5%	0.90 [0.42, 2.00]	0.83
PASSION	4.2%	3.4%	1.19 [0.52, 2.69]	0.68
HORIZONS-AMI	5.1%	4.4%	1.15 [0.77-1.72]	0.50
META-ANALYSIS			1.06 [0.81-1.39]	0.67

Ziada KM. J Am Coll Cardiol Intv 2011;4:39-41

IAM com Supra de ST

Stents Farmacológicos vs No Farmacológicos

n = 6.026 **Seguimiento Clínico 3 a 5 años**

TVR	DES	BMS	OR [95%CI]	P
DEDICATION	8.9%	19.8%	0.40 [0.25, 0.64]	<0.01
PASEO	6.1%	21.1%	0.24 [0.11, 0.54]	<0.01
STRATEGY	10.3%	26.1%	0.33 [0.14, 0.75]	0.01
SESAMI	8.3%	16.0%	0.46 [0.23, 0.92]	0.03
MISSION	8.9%	15.8%	0.54 [0.27, 1.09	0.09
TYPHOON	11.9%	21.5%	0.49 [0.30, 0.80]	<0.01
PASSION	7.7%	10.5%	0.73 [0.42, 1.26]	0.26
HORIZONS-AMI	12.5%	17.7%	0.67 [0.53-0.84]	0.001
META-ANALYSIS			**0.50 [0.40-0.64]**	**<0.001**

Ziada KM. J Am Coll Cardiol Intv 2011;4:39-41

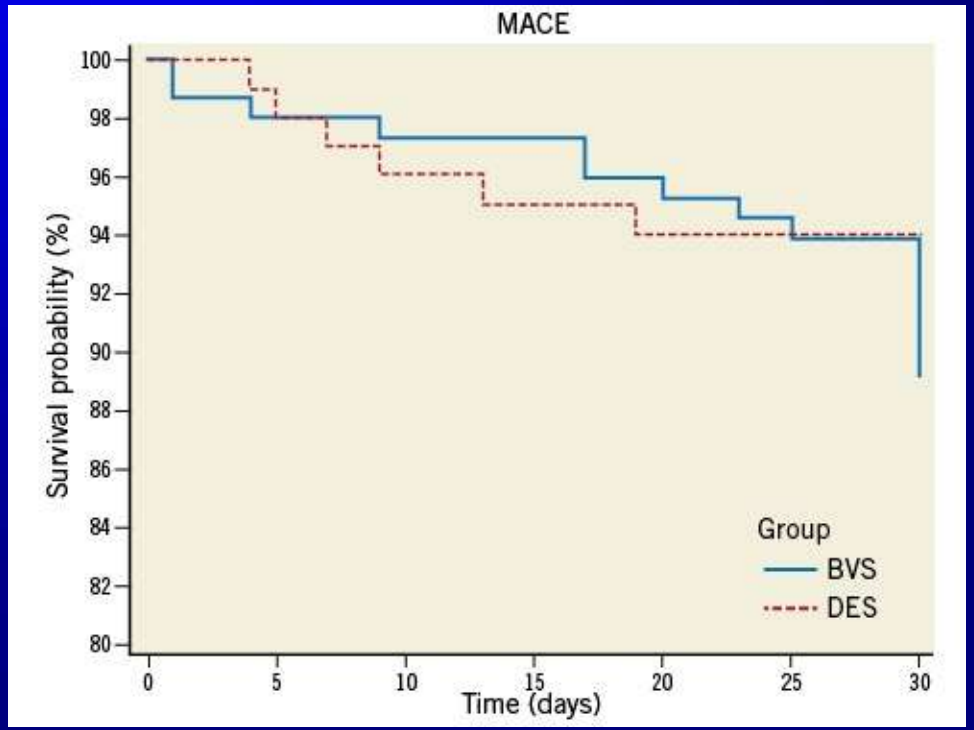
Síndrome Coronaria Aguda

Soporte Vascular Bioabsorbible (BVS)

Universidad de Mainz – Alemania Mayo/2012 a Junio/2013

n = 253 (STEMI 41%)

	BVS	DES *	*p*
In-hospital outcome	n = 150	n = 103	
Death	1 (0.7%)	1 (1%)	1
Non-fatal MI	3 (2.1%)	1 (1%)	0.63
Non-target lesion revascularisation	0	0	1
Definite in-stent/scaffold thrombosis	2 (1.4%)	1 (1%)	0.77
Hospital stay, days	4.9±2.7	4.7±2.6	0.8
One-month outcome			
Death	2 (1.4%)	3 (2.9%)	0.66
Non-fatal MI	6 (4.0%)	4 (3.9%)	1
Non-target lesion revascularisation	10 (6.6%)	7 (6.9%)	1
Definite in-stent/scaffold thrombosis	3 (2.0%)	2 (1.9%)	1
Probable in-stent/scaffold thrombosis	1 (0.7%)	1 (1%)	1



* Xience Prime

Gori T. EuroIntev 2013 Ahead of Print

Stents Farmacológicos no IAM
Directrices AHA/ACC

3.3. Use of Stents in Patients With STEMI

Class I

1. **Placement of a stent (bare-metal stent or drug-eluting stent) is useful in primary PCI for patients with STEMI.[65,66] *(Level of Evidence: A)***
2. **Bare-metal stents[†] should be used in patients with high bleeding risk, inability to comply with 1 year of dual antiplatelet therapy (DAPT), or anticipated invasive or surgical procedures in the next year. *(Level of Evidence: C)***

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

ICP no IAM
Conclusiones

- **Porque -** > Eficacia e Seguridad comparada a los fibrinolíticos
- **Cuando -** + precoz (< 90m)
- **Técnicas -** Acceso Radial Preferencial
- Tromboaspiración - > carga de trombos, choque cardiogénico
- Stents Farmacológicos – ↓ RVA; Seguridad ≈ BMS
- **Farmacología Adjunta**

Prasugrel, Ticagrelor – Mejores resultados

Bivalirudina - ↓ Sangrado (Pacientes de alto riesgo)

> Trombosis do Stent