Revascularització coronària en la SCASEST: A qui? Quan? Com?

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Revascularització coronària en la SCASEST

- **A qui?**
- **Quan?**
- **Com?**

Ensayos clínicos estrategia invasiva vs. conservadora en SCASEST

MATE

VINO

Eisenberg

TIMI IIIB

FRISC-II

TRUCS

RITA-3

TACTICS

ICTUS

VANQWISH

Eterno debate en la pasada década

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FOCUS ISSUE: CARDIAC INTERVENTION

Intervention in Acute Coronary Syndromes

Benefit of Early Invasive Therapy in Acute Coronary Syndromes

A Meta-Analysis of Contemporary Randomized Clinical Trials

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Cleveland, Ohio; and Philadelphia, Pennsylvania

OBJECTIVES This study sought to systematically determine whether early invasive therapy improves survival and reduces adverse cardiovascular events in the management of non–ST-segment elevation acute coronary syndromes.

BACKGROUND Although early invasive therapy reduces recurrent unstable angina, the magnitude of benefit on other important adverse outcomes is unknown.

METHODS Clinical trials that randomized non–ST-segment elevation acute coronary syndrome patients to early invasive therapy versus a more conservative approach were included for analysis.

RESULTS In all there were 7 trials with 8,375 patients available for analysis. At a mean follow-up of 2 years, the incidence of all-cause mortality was 4.9% in the early invasive group, compared with 6.5% in the conservative group (risk ratio [RR] = 0.75, 95% confidence interval [CI] 0.63 to 0.90, p = 0.001), and at 1 month (RR = 0.82, 95% CI 0.50 to 1.34, p = 0.43). At 2 years of follow-up, the incidence of nonfatal myocardial infarction was 7.6% in the invasive group, versus 9.1% in the conservative group (RR = 0.83, 95% CI 0.72 to 0.96, p = 0.012), and at 1 month (RR = 0.93, 95% CI 0.73 to 1.19, p = 0.57). At a mean of 13 months of follow-up, there was a reduction in rehospitalization for unstable angina (RR = 0.69, 95% CI 0.65 to 0.74, p < 0.0001).

CONCLUSIONS Managing non–ST-segment elevation acute coronary syndromes by early invasive therapy improves long-term survival and reduces late myocardial infarction and rehospitalization for unstable angina. (J Am Coll Cardiol 2006;48:1319–25) © 2006 by the American College of Cardiology Foundation

ARTICLE | Annals of Internal Medicine

Systematic Review: Comparing Routine and Selective Invasive Strategies for the Acute Coronary Syndrome

Rehan Qayyum, MD; M. Rizwan Khalid, MD; Jurga Adomaityte, MD; Stylianos P. Papadakos, MD; and Frank C. Messineo, MD

Background: Patients with non–ST-segment elevation acute coronary syndrome (ACS) are managed with either a routine invasive strategy, in which all patients receive coronary angiography, or a selective invasive strategy, in which only patients with refractory or inducible ischemia receive coronary angiography.

Purpose: To evaluate whether a routine invasive strategy improves cardiovascular outcomes more than a selective invasive strategy in patients with non–ST-segment elevation ACS.

Data Sources: English-language publications in PubMed, EMBASE, and the Cochrane Central Register of Controlled Trials from 1966 to 18 September 2007.

Study Selection: Two investigators independently reviewed searches and selected trials that compared death or myocardial infarction outcomes among adults with non–ST-segment elevation ACS by randomly assigning patients to either a routine invasive strategy or a selective invasive strategy.

Data Extraction: Three investigators independently abstracted data from trial reports by using standardized forms.

Data Synthesis: 10 trials with a total of 10 648 patients (mean age, 62 years; 71% male; median follow-up, 16.5 months) were found. Trial participants had typical symptoms of unstable angina and frequently had a positive electrocardiogram or marker evidence of myocardial ischemia. Of the 5330 participants assigned to the routine invasive strategy group, 847 had the composite outcome of death or nonfatal myocardial infarction, compared with 928 of 5318 participants assigned to the selective invasive strategy group (relative risk, 0.90 [95% CI, 0.74 to 1.08]). Four hundred thirty-eight patients in the routine invasive strategy group and 463 in the selective invasive strategy group died (relative risk, 0.95 [CI, 0.80 to 1.14]). Four hundred ninety and 569 nonfatal myocardial infarctions, respectively, occurred in the 2 groups (relative risk, 0.86 [CI, 0.68 to 1.08]).

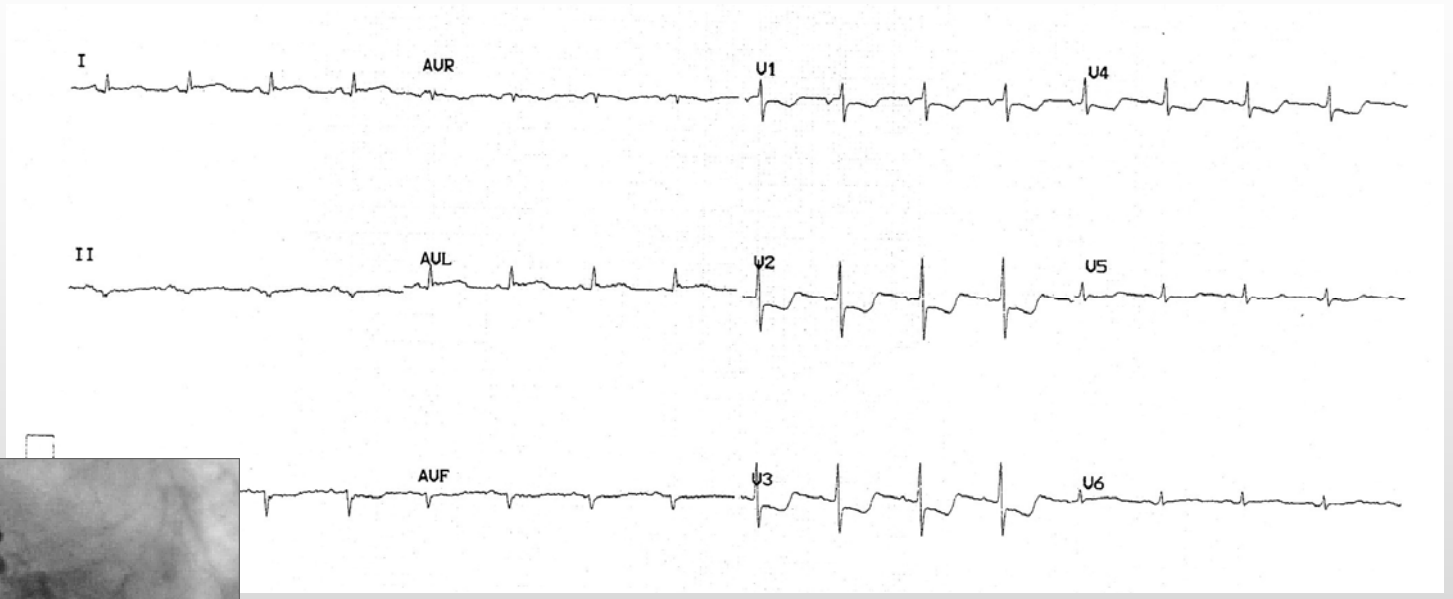
Limitations: Methodology, protocols, and outcome definitions differed substantially among the trials. The lower bound of the CI for the pooled results did not rule out the superiority of the routine invasive strategy.

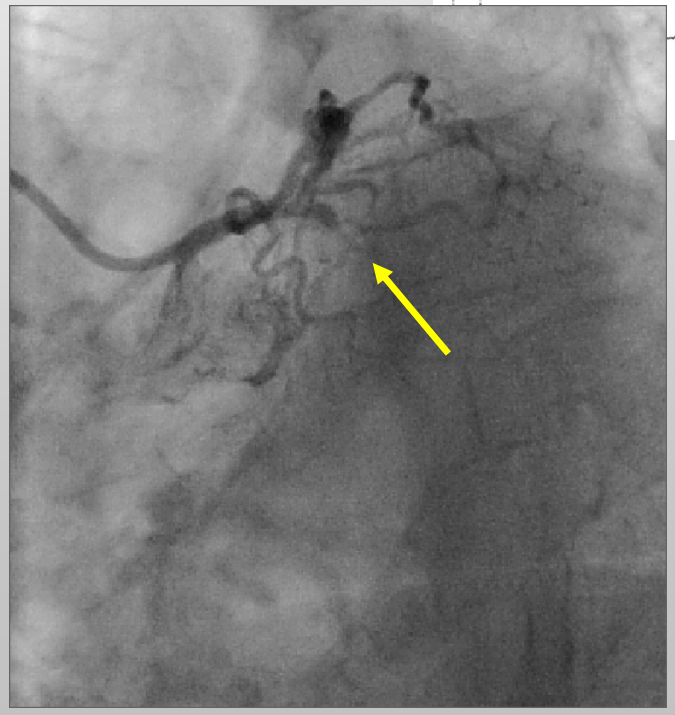
Conclusion: Available trial evidence is heterogeneous and insufficient for comparing routine and selective invasive strategies. Therefore, in patients with non–ST-segment elevation ACS a routine invasive strategy cannot be proven to reduce deaths or nonfatal myocardial infarction.

Ann Intern Med. 2008;148:186-196. www.annals.org

For author affiliations, see end of text.

Indicación emergente: IAM posterolateral





European Heart Journal (2007) 28, 1598–1660
doi:10.1093/eurheartj/ehm161

ESC Guidelines

Guidelines for the diagnosis and treatment of non-ST-segment elevation acute coronary syndromes

Urgent	▪ Persistent or recurrent angina with/without ST-changes (≥2mm) or deep neg. T resistant to anti-anginal treatment ▪ Clinical symptoms of heart failure or progressing haemodynamic instability ▪ Life-threatening arrhythmias (VF, VT)
Early (<72 h)	▪ Elevated troponin levels ▪ Dynamic ST- or T-wave changes (symptomatic or silent) ▪ Diabetes mellitus ▪ Renal dysfunction (GFR < 60 mL/min/1.73 m²) ▪ Reduced left ventricular function (EF < 40%) ▪ Early post-infarction angina ▪ Prior MI ▪ PCI within 6 months ▪ Prior CABG ▪ Intermediate to high GRACE risk score

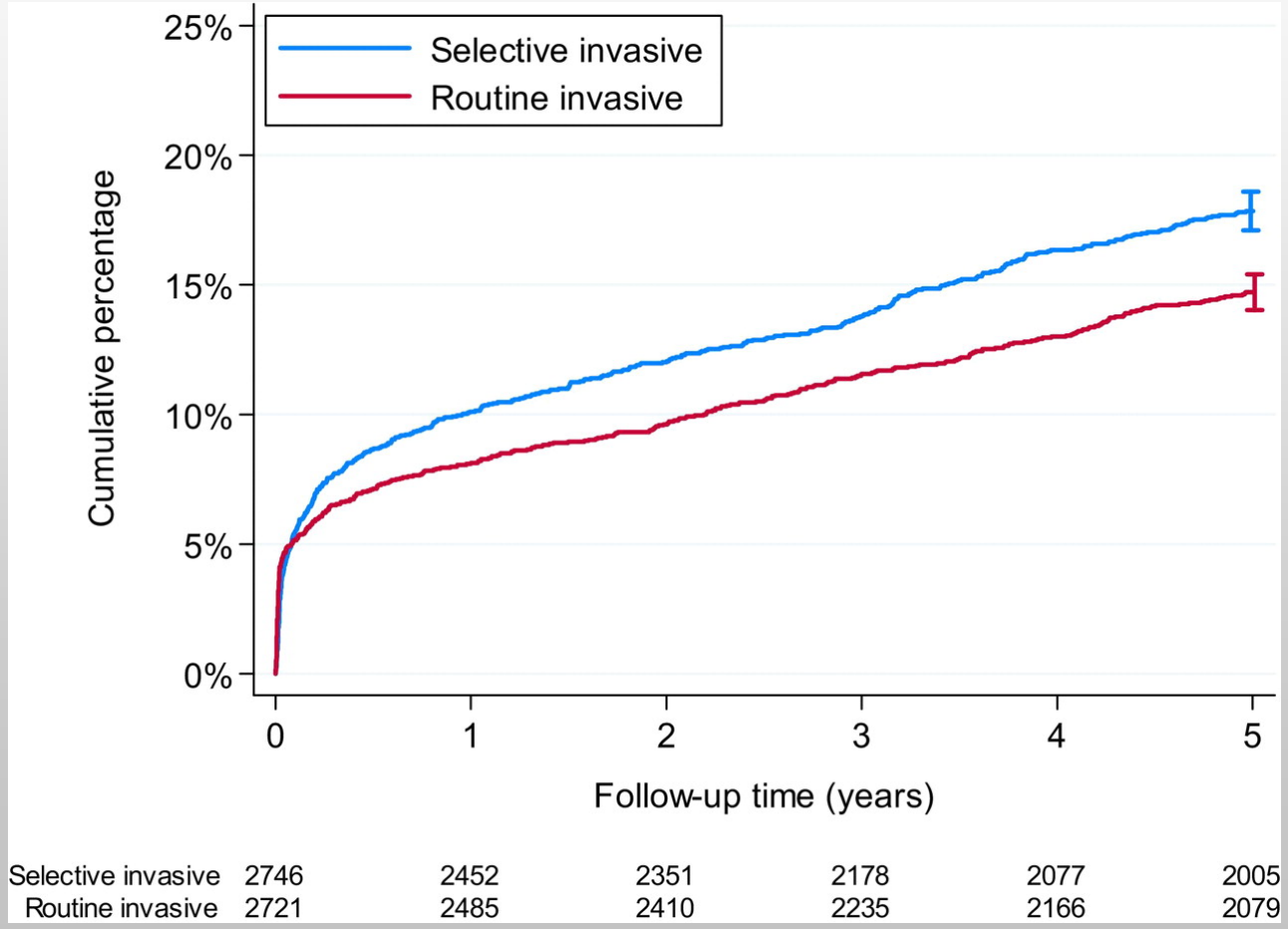
→ Dx. de SCASEST

→ Posible SCASEST con criterios de riesgo

Routine invasive vs. selective invasive strategy: metanalysis of 3 trials with 5-year follow-up

FRISC-II + RITA-3 + ICTUS

Cumulative Risk of CV Death or MI

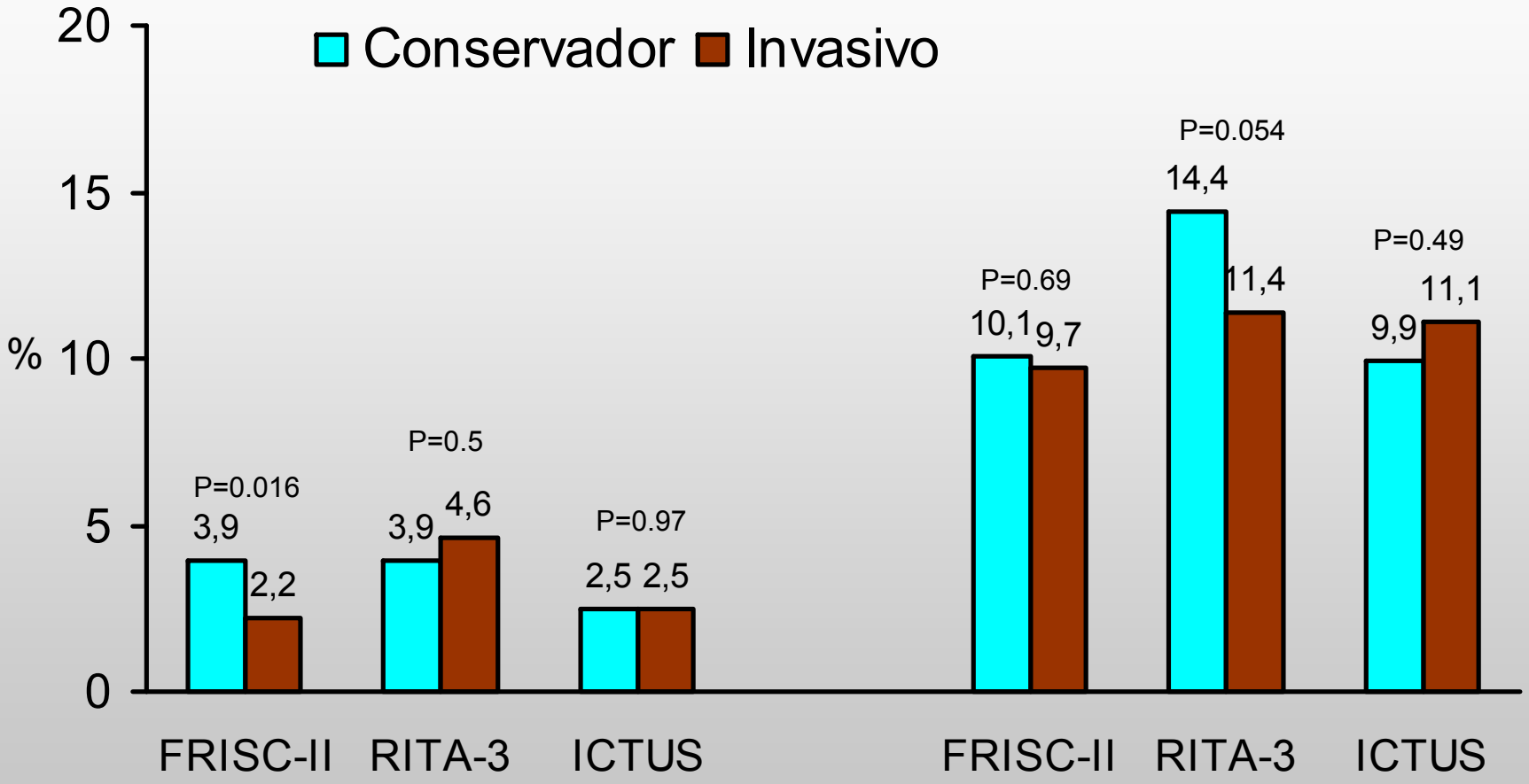


475/2746 (17.9%)
389/2721 (14.7%)

HR 0.81 (0.71-0.93)
P=0.002

Fox, KAA et al, J Am Coll Cardiol 2010;55:2435-45

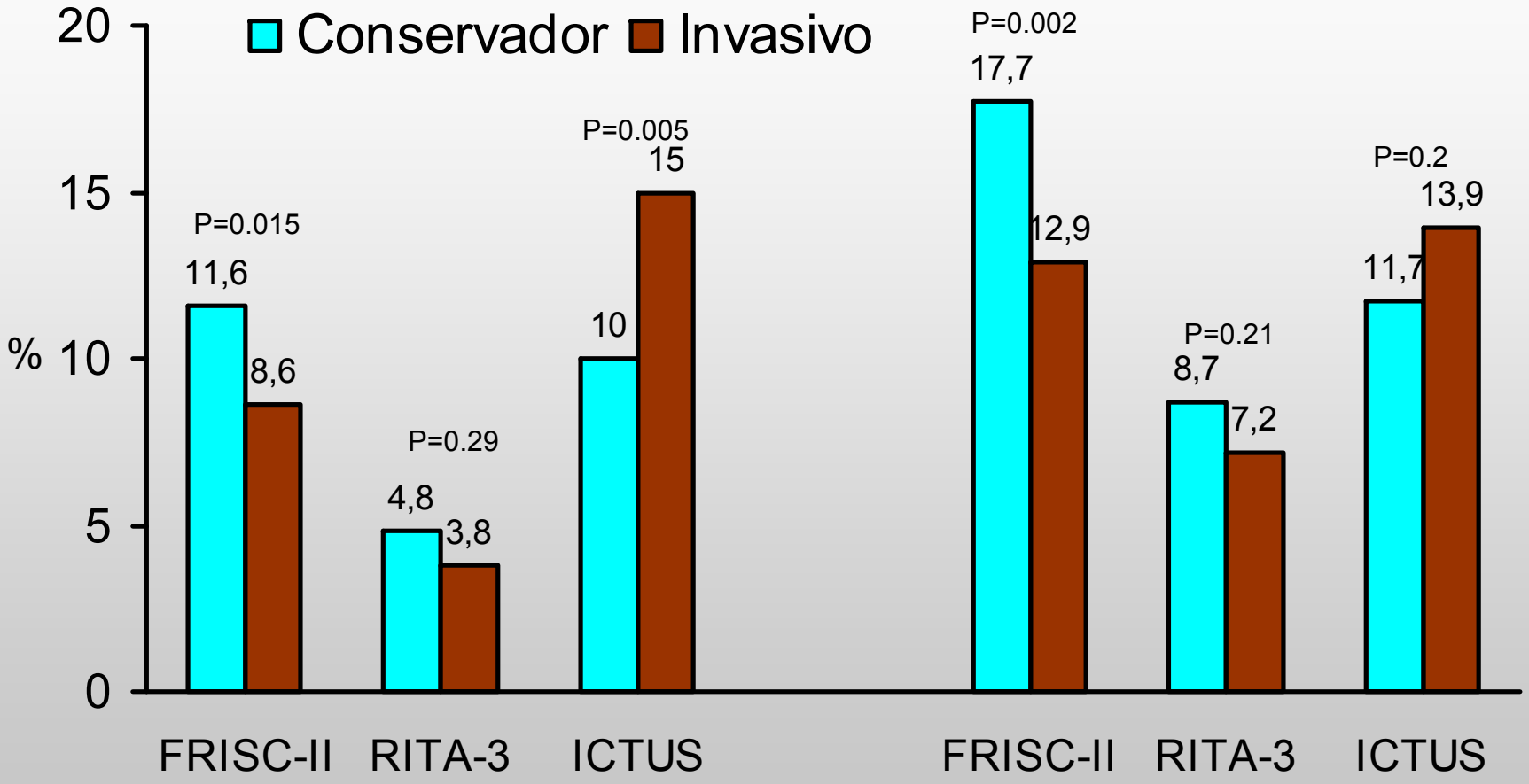
Resultados de los 3 estudios: mortalidad



Wallentin L Lancet 2000;356:9-16
Fox KA Lancet 2002;360:743-51
De Winter RJ NEJM 2005;1095-104

Lagerqvist B Lancet 2006;368:998-1004
Fox KA Lancet 2005;366:914-20
Damman P JACC 2010;55:858-64

Resultados de los 3 estudios: reinfarto



Wallentin L Lancet 2000;356:9-16
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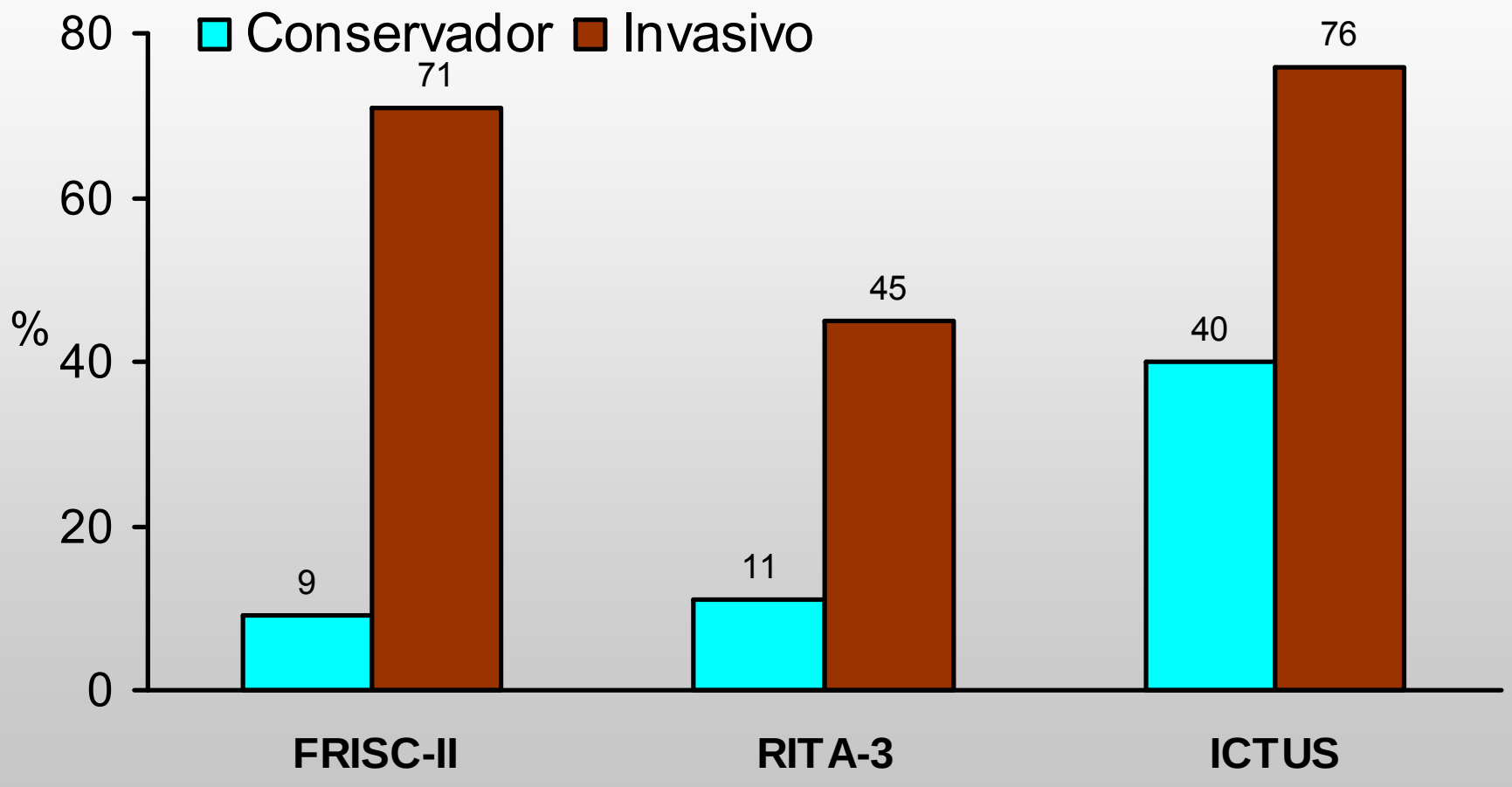
De Winter RJ NEJM 2005;1095-104

Lagerqvist B Lancet 2006;368:998-1004
Fox KA Lancet 2005;366:914-20
Damman P JACC 2010;55:858-64

Posibles razones de esta heterogeneidad: criterios de coronariografía en el grupo conservador

FRISC-II	RITA-3	ICTUS
• Angina recurrente • PE con DST >3 mm • PE con EST • PE+ a baja carga	• Angina recurrente en reposo o mínimo esfuerzo	• Angina recurrente • PE+
Coronariografía 10%	**Coronariografía 16%**	**Coronariografía 53%**

Posibles razones de esta heterogeneidad: frecuencia de revascularización en el ingreso



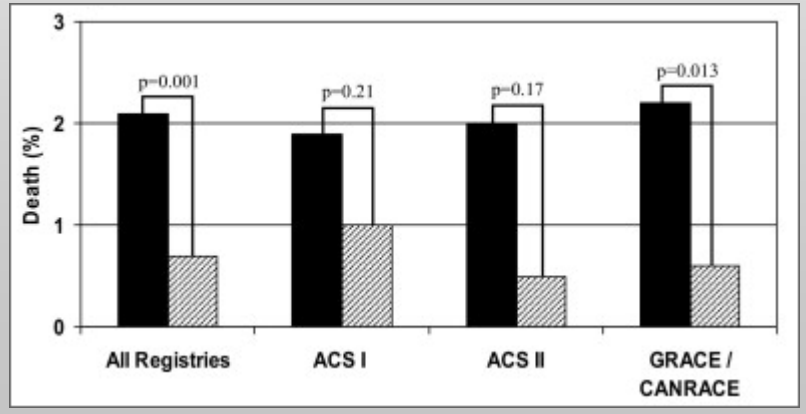
¿Son estos estudios representativos de los pacientes con SCASEST en la vida real?

Criterios de exclusión

FRISC-II	RITA-3	ICTUS
• Edad >75 • CABG • Comorbilidades • Dificultad tratamiento	• CKmb x 2 • Tto médico no ético	• Edad >80 • ICC • HTA mal controlada

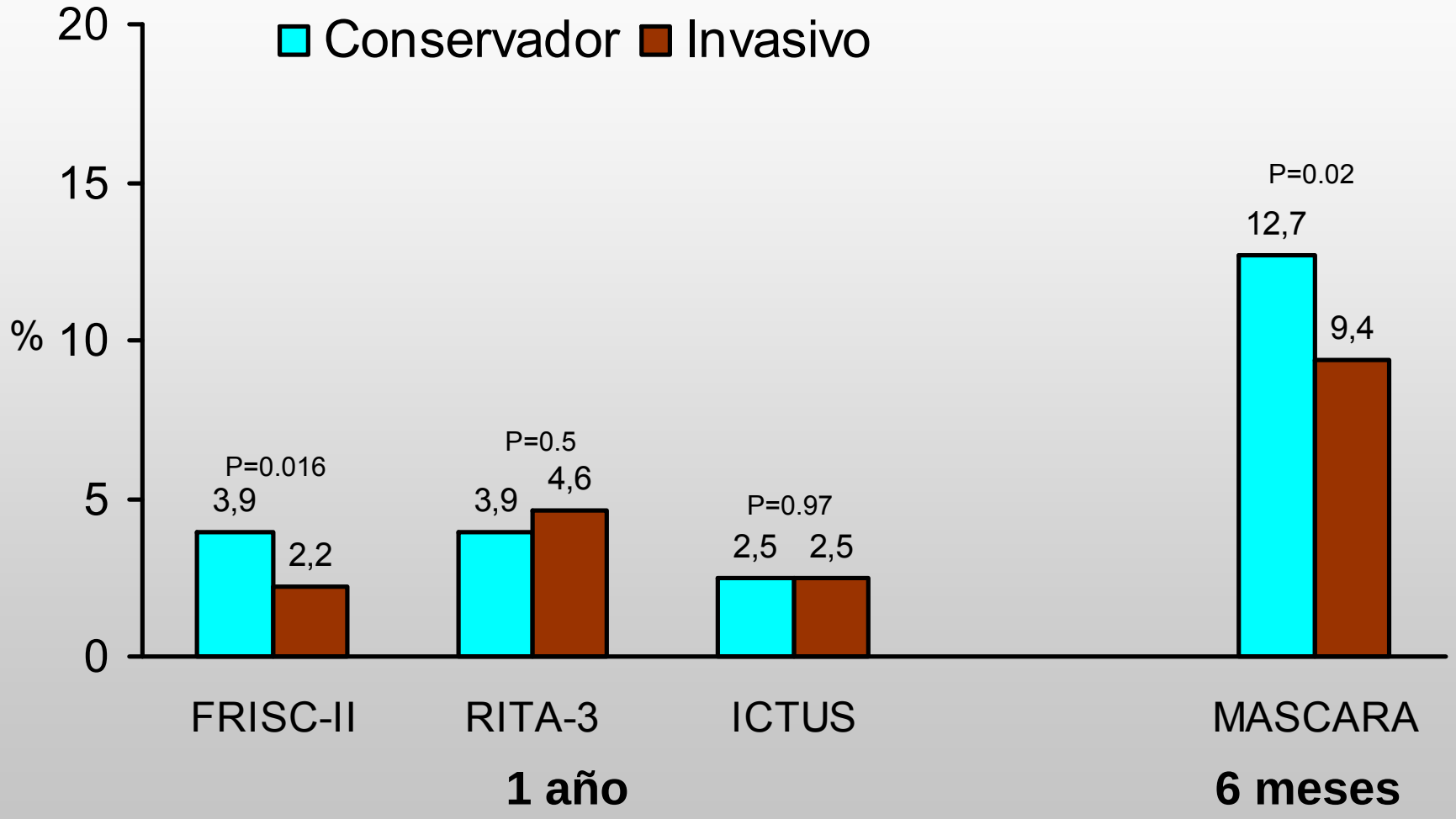
Pacientes con SCASEST no incluidos en ensayos clínicos:

- > edad
- > comorbilidades
- < tratamientos
- > complicaciones



Hutchinson-Jaffe AB, Am J Cardiol 2010;106:1389-96

Resultados de los 3 estudios: mortalidad

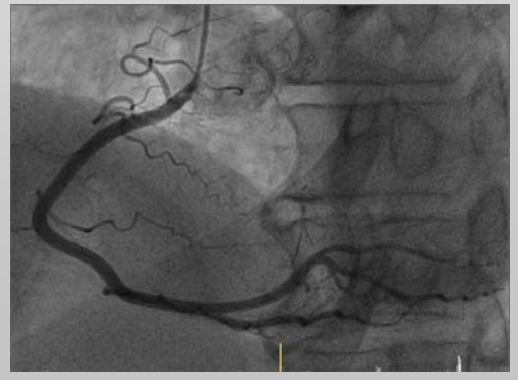


Wallentin L Lancet 2000;356:9-16
Fox KA Lancet 2002;360:743-51
De Winter RJ NEJM 2005;1095-104

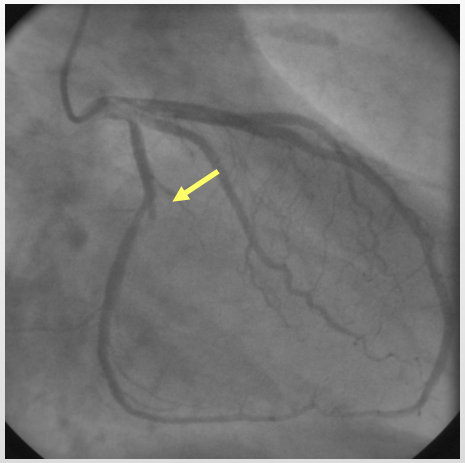
Ferreira-González I Rev Esp Cardiol 2009;62:1012-21

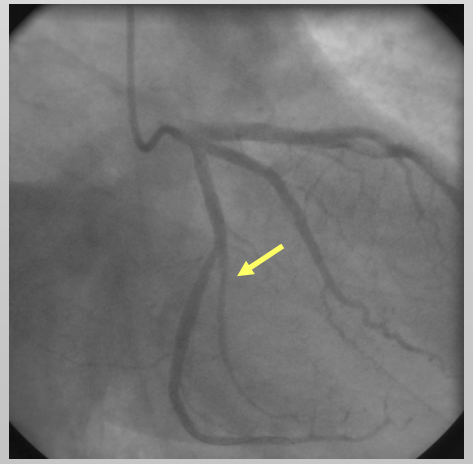
Heterogeneidad anatomía coronaria y riesgo en el SCASEST

CASE 1

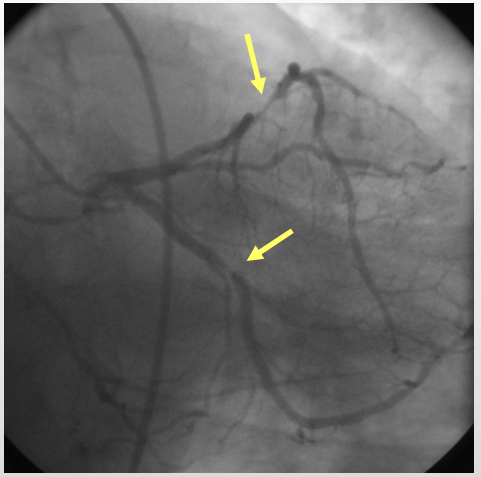


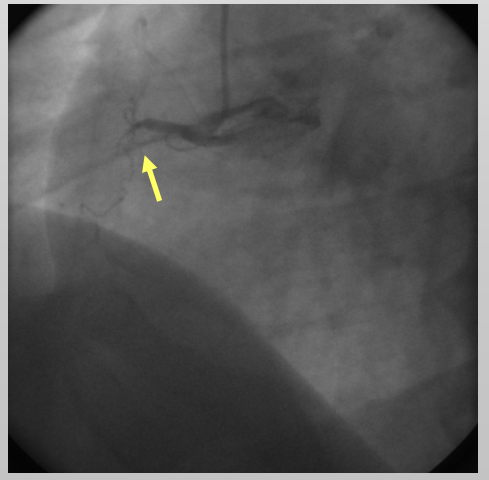
CASE 2



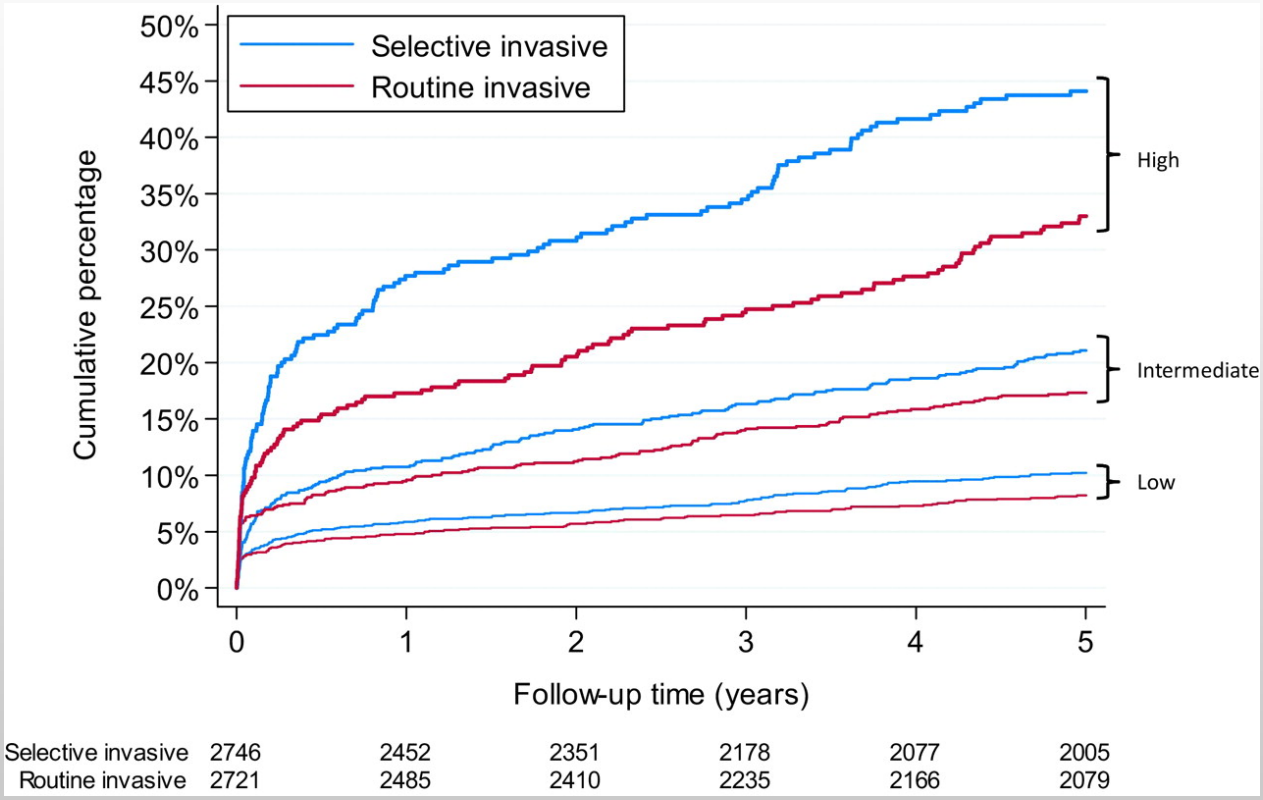


CASE 3





Efecto de la estrategia invasiva a los 5 años en función del riesgo basal



Score riesgo:

- **Edad** (0-5)
- **diabetes** (0-4)
- **HTA** (0-1)
- **depresión ST** (0-2)
- **IMC** (0-2)

Riesgo:

- Bajo 0-4
- Intermedio 5-8
- Alto ≥9

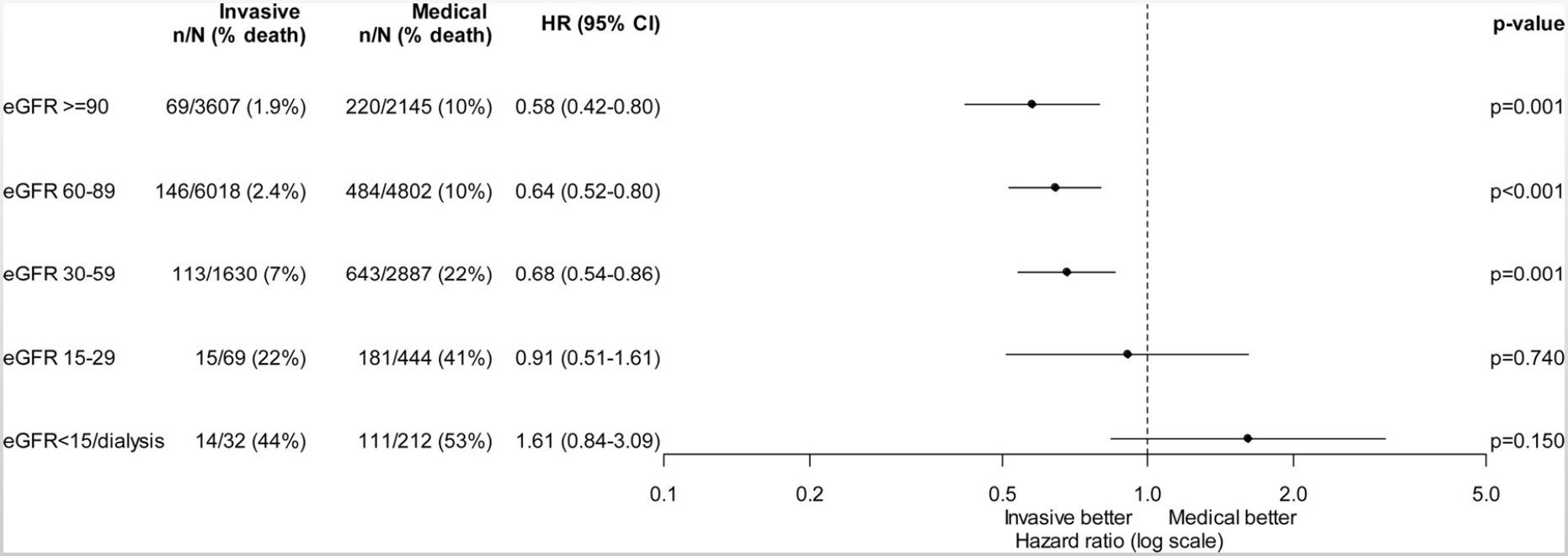
Fox, KAA et al, J Am Coll Cardiol 2010;55:2435-45

Indicaciones de estrategia invasiva en el SCASEST en las Guías Europeas sobre revascularización 2010

Specification	Class[a]	Level[b]	Ref.[c]
An invasive strategy is indicated in patients with: • GRACE score >140 or at least one high-risk criterion. • recurrent symptoms. • inducible ischaemia at stress test.	I	A	64, 68–70
An early invasive strategy (<24 h) is indicated in patients with GRACE score >140 or multiple other high-risk criteria.	I	A	63, 64, 66, 70–72
A late invasive strategy (within 72 h) is indicated in patients with GRACE score <140 or absence of multiple other high-risk criteria but with recurrent symptoms or stress-inducible ischaemia.	I	A	59, 66, 68
Patients at very high ischaemic risk (refractory angina, with associated heart failure, arrhythmias or haemodynamic instability) should be considered for emergent coronary angiography (<2 h).	IIa	C	—
An invasive strategy should not be performed in patients: • at low overall risk. • at a particular high-risk for invasive diagnosis or intervention.	III	A	59, 68

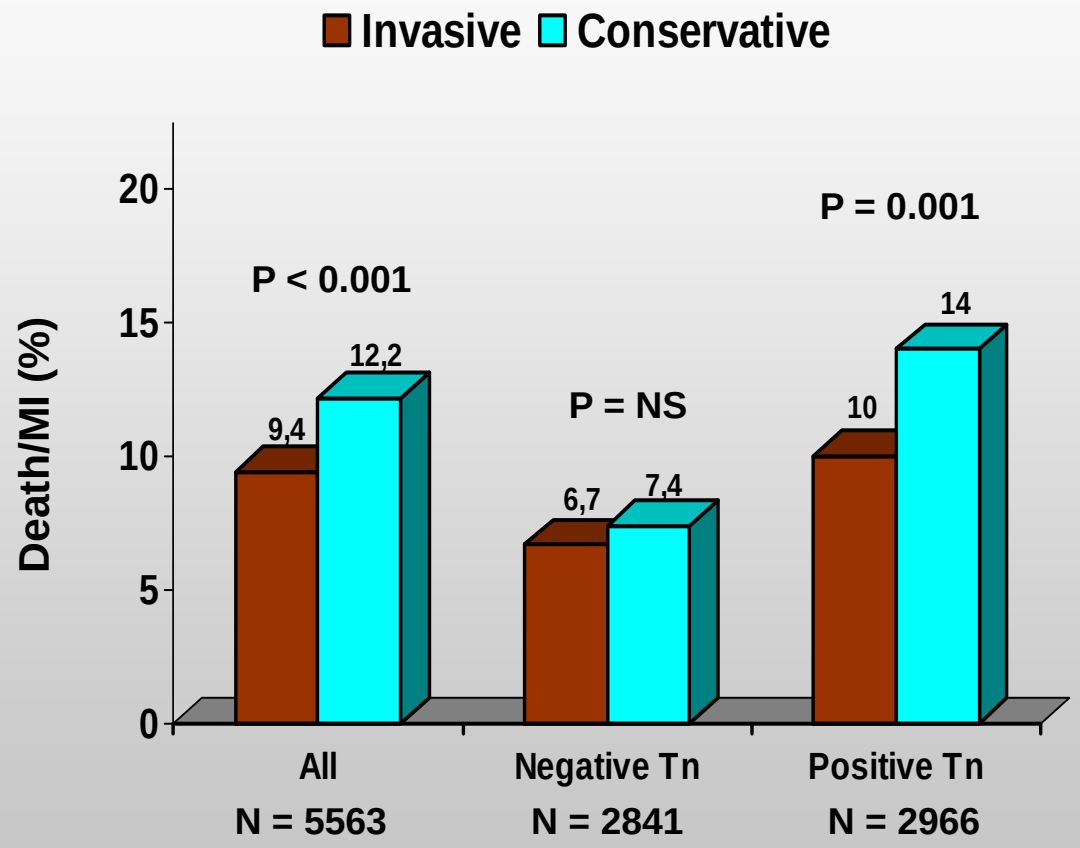
Wijns W et al, Eur Heart J 2010;31:2501-55

Mortalidad al año en 23.262 pacientes con SCASEST revascularizados o tratados médicamente según la función renal: SWEDEHEART Study



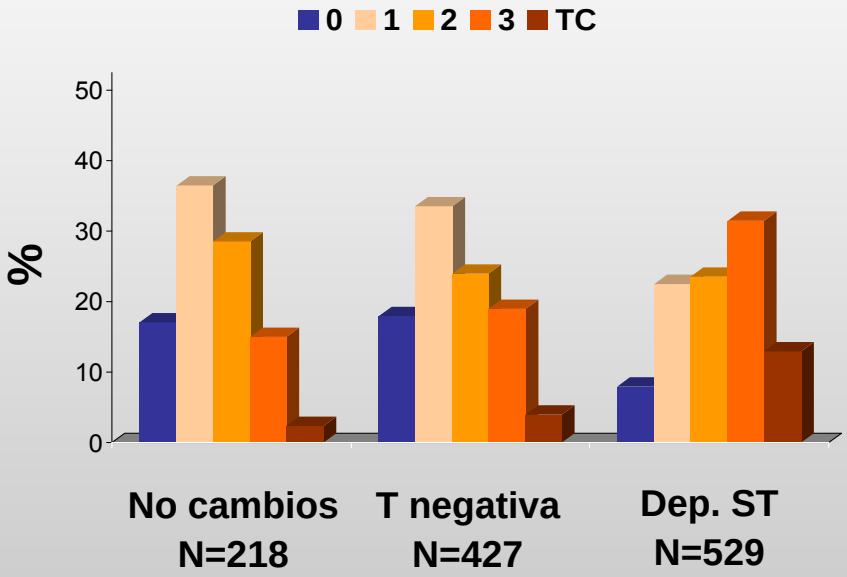
Szummer K et al. Circulation 2009;120:851-858

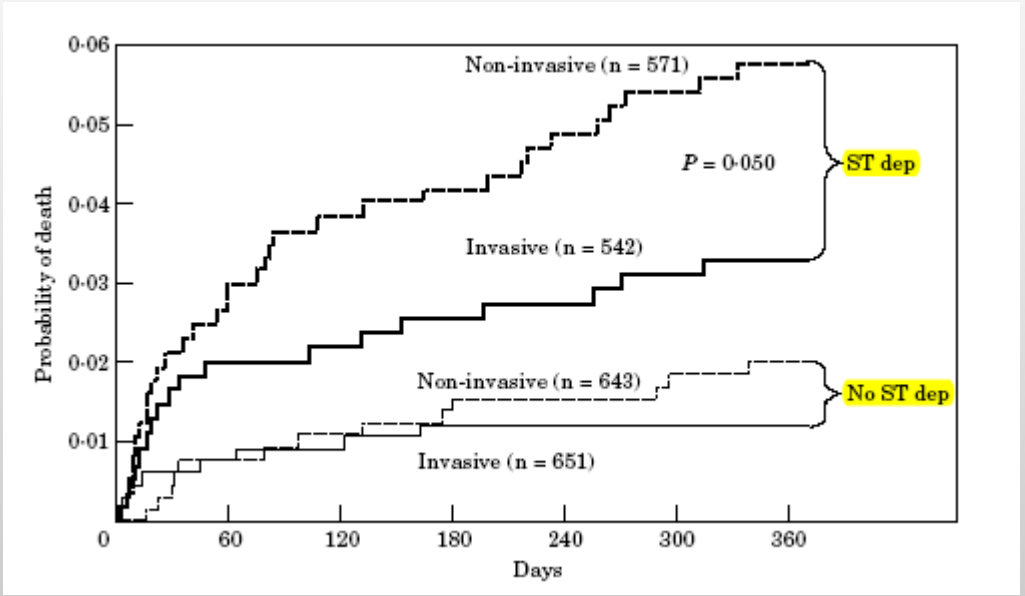
Elevación de troponina y utilidad de una estrategia invasiva en el SCASEST: metanálisis de FRISC II, TACTICS-TIMI 18 y RITA-3



Mehta et al, JAMA 2005

La depresión de ST se asocia con enfermedad coronaria más extensa y con un mayor beneficio de la revascularización: FRISC II





N = 2457

Diderholm E et al, Eur Heart J 2002;23:41-9

Depresión de ST lateral y elevación en aVR: subgrupo de muy alto riesgo de complicaciones y potencial beneficio de revascularización (TC/3 vasos)

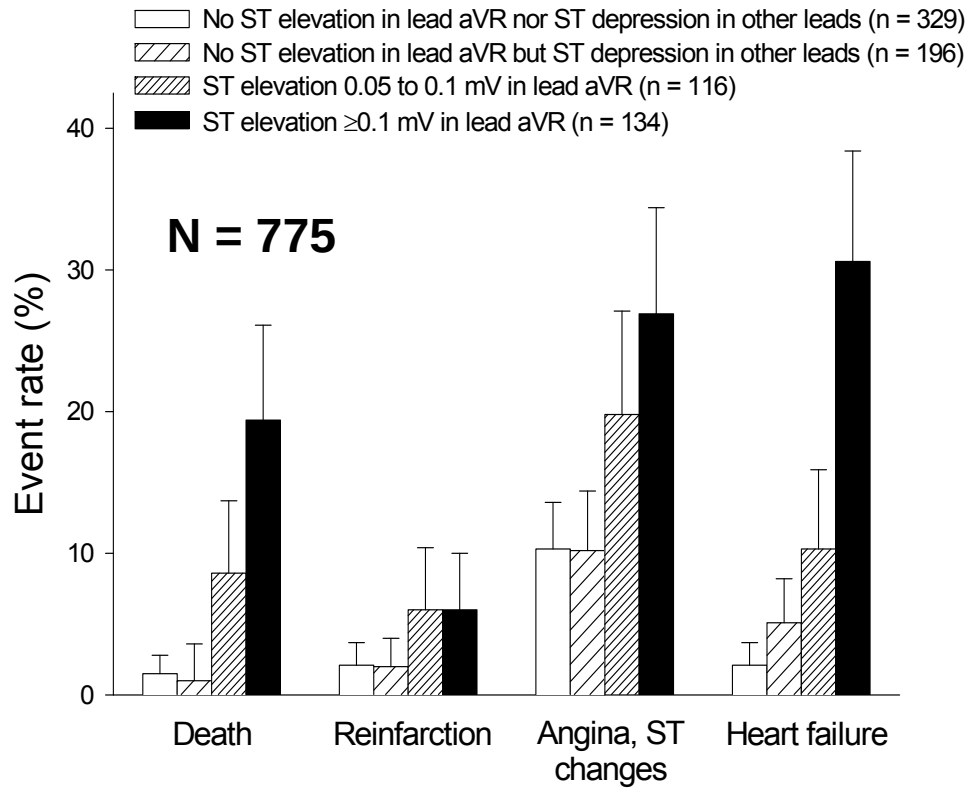


TABLE 4. Multivariate Predictors of In-Hospital Death

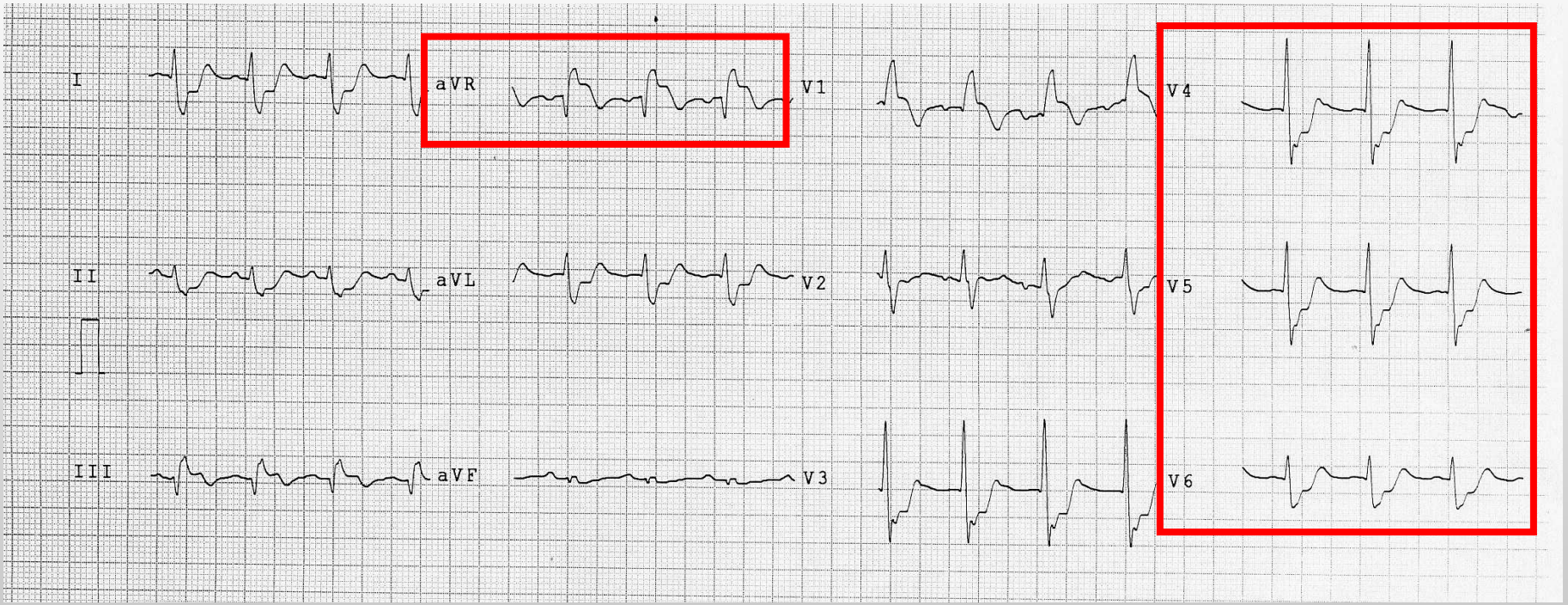
Variable	Odds Ratio	95% CI	*P* Value
Killip class ≥2	6.11	2.73 to 13.67	<0.001
ST-segment elevation in lead aVR			<0.001
0.05 to 0.1 mV	4.24	1.47 to 12.25	
≥0.1 mV	6.61	2.49 to 17.56	
Systolic arterial pressure, 10-mm Hg decrease	1.16	1.04 to 1.30	0.006
Peripheral artery disease	2.76	1.29 to 5.91	0.010
Age, 1-year increment	1.04	1.00 to 1.09	0.045

Neither the presence nor the location of ST-segment depression retained an independent association with death. The fit of the model was good (Hosmer-Lemeshow test $P=0.90$).

Barrabés JA et al, JACC 2000;35:1813-9

Barrabés JA et al, Circulation 2003;108:814-9

Depresión de ST lateral y elevación en aVR: subgrupo de muy alto riesgo de complicaciones y potencial beneficio de revascularización (TC/3 vasos)



Revascularització coronària en la SCASEST

- A qui?
- **Quan?**
- Com?

Argumentos a favor y en contra de una estrategia invasiva urgente en el SCASEST

A favor

- Acelerar el beneficio, prevenir el (re)infarto precoz

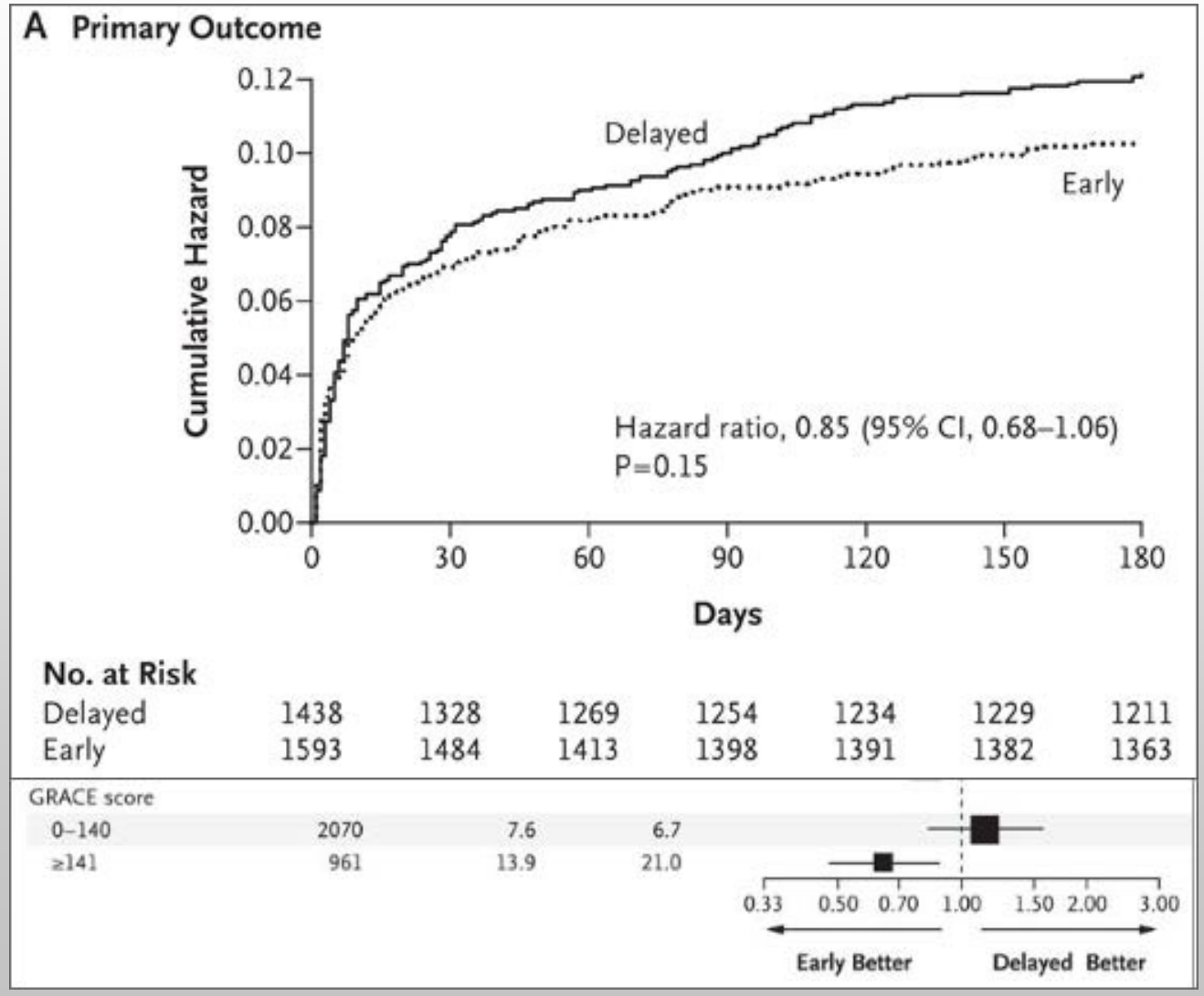
En contra

- Posibilidad de optimizar beneficio y reducir riesgos estabilizando la lesión con tratamiento médico

Estudios aleatorizados que han comparado estrategia invasiva precoz y tardía en SCASEST

Estudio	N	Tiempo hasta KT (horas, mediana)	Objetivo primario
ISAR-COOL (JAMA 2003)	410	2 vs. 86	Muerte o IAM 'grande' a 30 d
ELISA (Eur Heart J 2003)	220	6 vs. 50	Liberación CKmb
ABOARD (JAMA 2009)	352	1 vs. 21	Pico troponina I
TIMACS (NEJM 2009)	3.031	14 vs. 50	Muerte, IAM o ictus a 6 meses

TIMACS Study: angiography <24 h vs. > 36 h



11.3%
9.6%

HR 0.85 (0.68-1.06)
P=0.15

N= 3031

Mehta SR et al, NEJM 2009;360:2165-75

Revascularització coronària en la SCASEST

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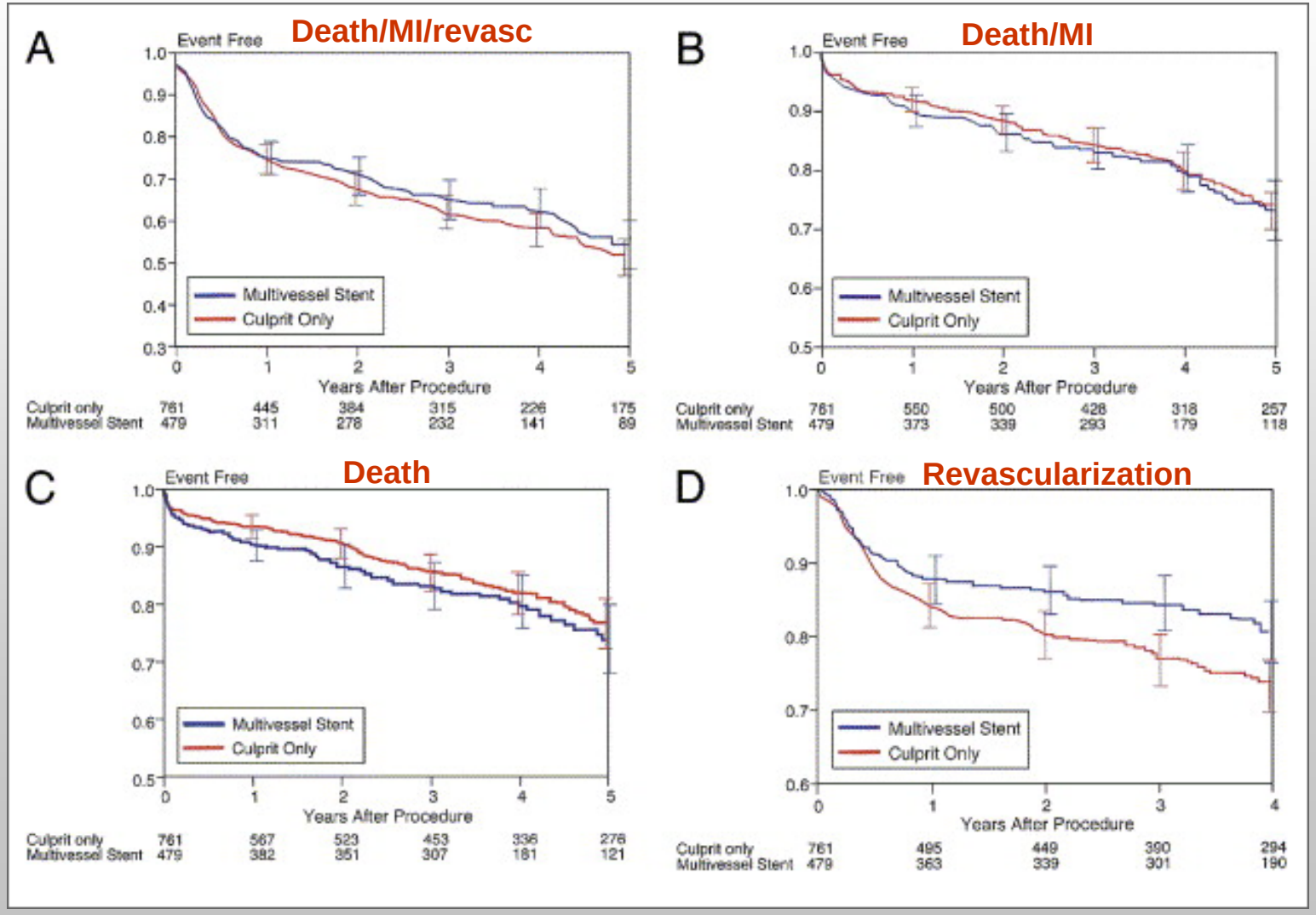
- **Com?**

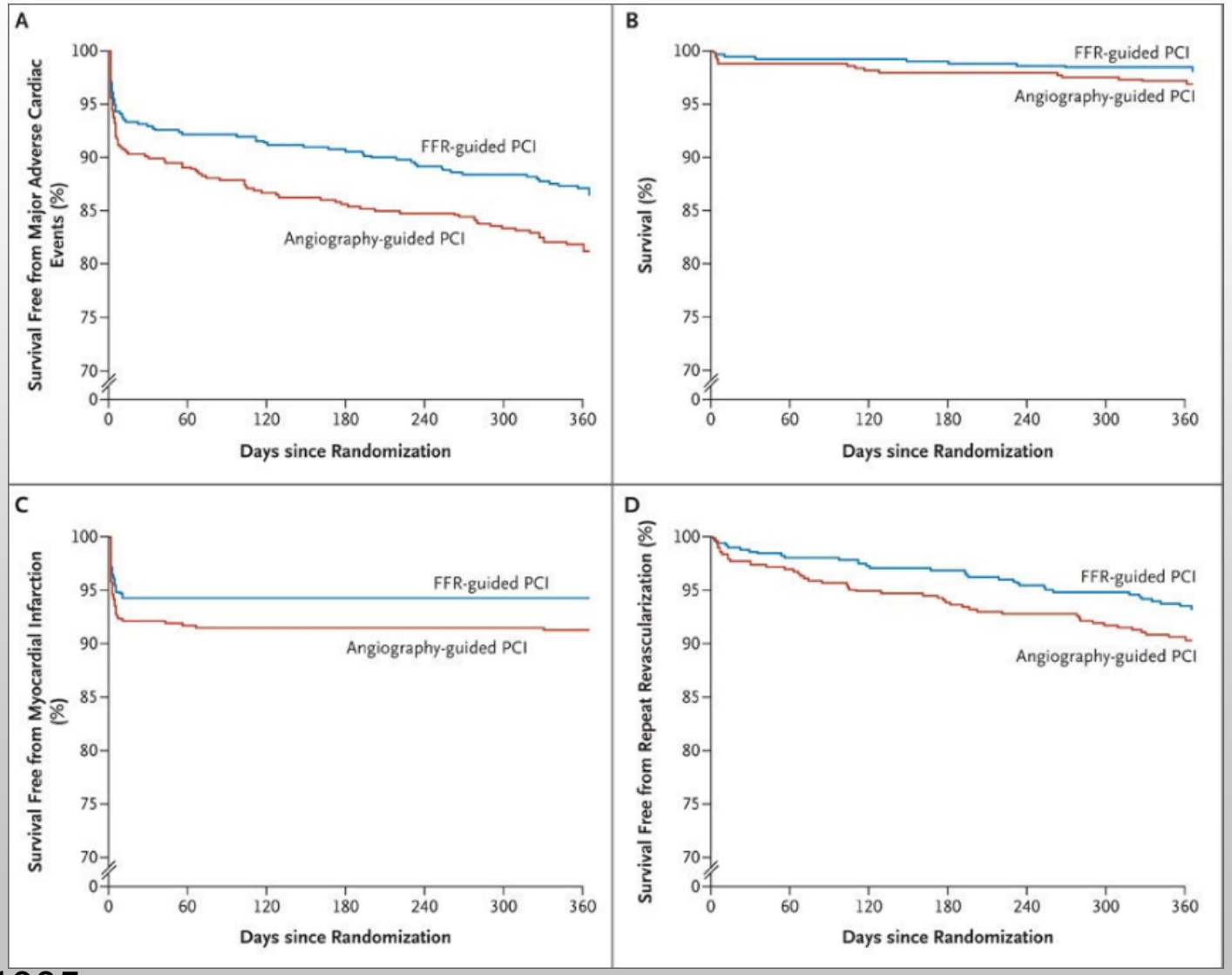
Revascularización de la lesión culpable vs. multivaso en el SCASEST



N=1240

Shishehbor MH et al, JACC 2007;49:849-54

Revascularización multivaso guiada por la medición de la RFF: FAME trial



N=1005

Tonino PA et al, NEJM 2009;360:213-24

Indicaciones de estrategia invasiva en el SCASEST en las Guías ACC/AHA 2011

I	• Angina refractaria o inestabilidad hemodinámica o eléctrica • Riesgo elevado de complicaciones (angina recurrente, Tn+, depresión ST, insuficiencia cardiaca, isquemia inducible, revascularización previa, score de riesgo alto, FE deprimida)
IIa	• Estrategia invasiva precoz (12-24 h) es razonable en pacientes de alto riesgo
IIb	• En pacientes estabilizados es razonable una estrategia inicial conservadora (invasiva selectiva) incluso en pacientes de alto riesgo incluyendo aquellos con Tn+
III	• Pacientes con comorbilidades graves • Pacientes con baja probabilidad de SCA • Pacientes que rechazan la revascularización

Wright RS et al, JACC 2011;57:in press

Moltes gràcies