



55°
CONGRESSO
NAZIONALE

Firenze
Palazzo dei Congressi

30 Novembre
4 Dicembre 2010

Quali novità terapeutiche per il paziente con cardiopatia ischemica cronica?

**IL TRATTAMENTO “APPROPRIATO” DELLA
CARDIOPATIA ISCHEMICA CRONICA:
QUANDO RIVASCOLARIZZAZIONE E QUANDO
TERAPIA MEDICA**

Francesco Fattirolli



Dipartimento di Area Critica Medico Chirurgica Università di Firenze

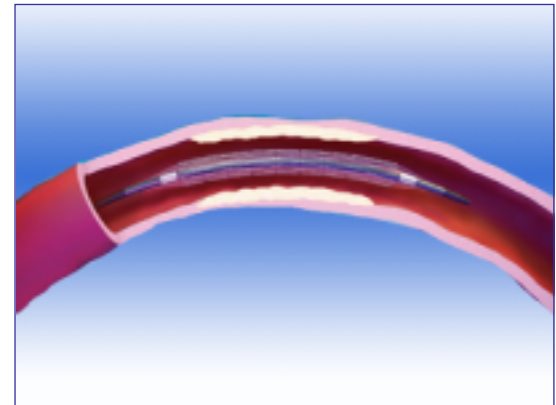
Azienda Ospedaliero Universitaria Careggi



Controversies in Cardiovascular Medicine

Eur Heart J 2010

o “palloncino”

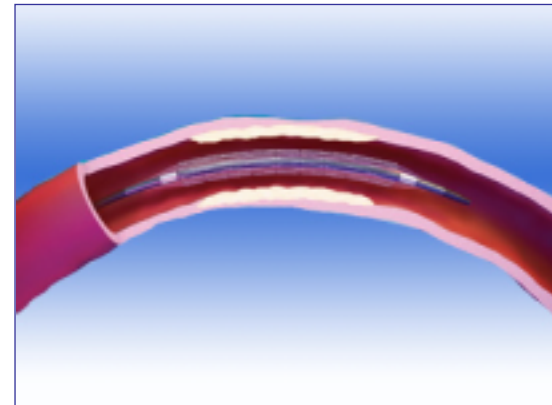


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Chronic stable coronary artery disease: drugs vs. revascularization

o “palloncino”





Controversies in Cardiovascular Medicine

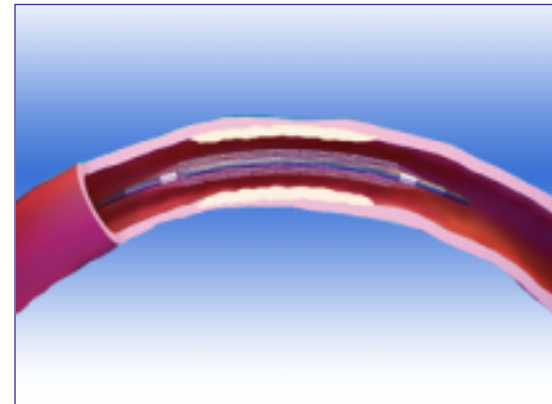
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pillole



o “palloncino”





Controversies in Cardiovascular Medicine

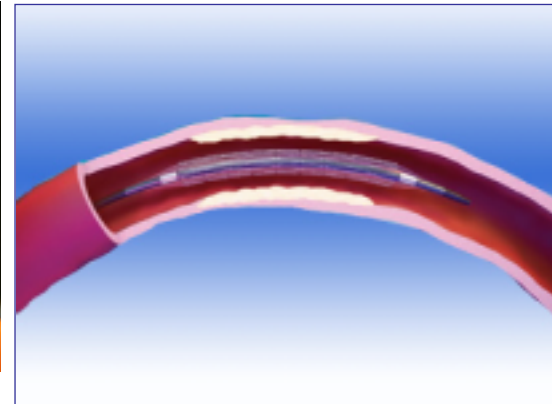
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Chronic stable coronary artery disease: drugs vs. revascularization

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Cardiologists' Use of Percutaneous Coronary Interventions for Stable Coronary Artery Disease

Grace A. Lin, MD; R. Adams Dudley, MD, MBA; Rita F. Redberg, MD, MSc

Physician Factors

Physicians have a firm belief in the benefits of PCI, despite acknowledgment of a lack of evidence of the benefit from the procedure for reduction in MI or death compared with medical therapy.

Personal experiences, such as young patients dying of coronary disease, and the fear of regret affect the decision to perform PCI.

Alleviating patient anxiety is one reason cardiologists order diagnostic tests and perform PCI for patients with stable coronary disease.

PCI is inevitable once a patient undergoes cardiac catheterization, particularly owing to an "oculostenotic reflex," in which cardiologists feel an irresistible urge to fix all significant lesions amenable to PCI.

Medicolegal Concerns

The fear of being sued if there is a bad outcome is a strong motivating factor for pursuing additional diagnostic testing and performing PCI.

The community standard is that positive and/or equivocal test results, regardless of the clinical situation, require further testing or intervention.

Technological Advances

The availability of new technologies, such as electron-beam computed tomography and computed tomographic angiography, has led to increased diagnostic testing in asymptomatic patients.

DESs have lowered the threshold for PCI, although more recent data have made some cardiologists more careful about using DESs in PCI.

Lin GA, Arch Int Med 2007;167:1604

Cardiologists' Use of Percutaneous Coronary Interventions for Stable Coronary Artery Disease

”.....i cardiologi sono convinti dei benefici della angioplastica anche quando le evidenze sono scarse...

...togliere l'ansia ai pazienti e proteggersi da rischi legali sono ragioni per cui prescrivono test provocativi e coronarografie *nella malattia coronarica stabile...*

....la coronarografia inevitabilmente porta con irresistibile urgenza ad eseguire l'angioplastica coronarica...”

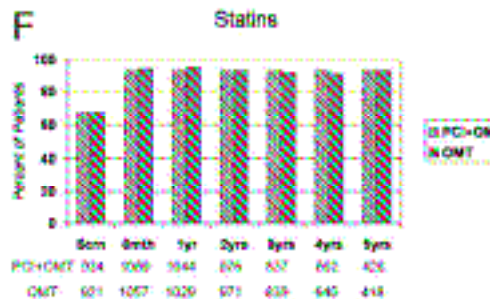
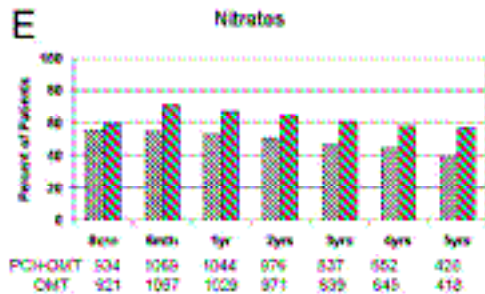
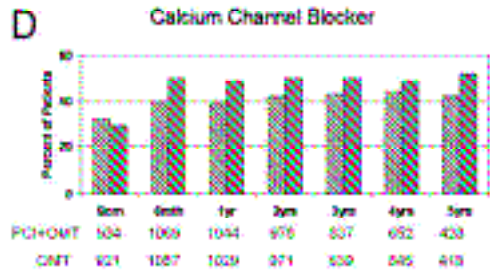
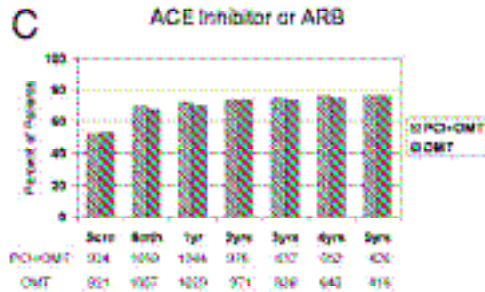
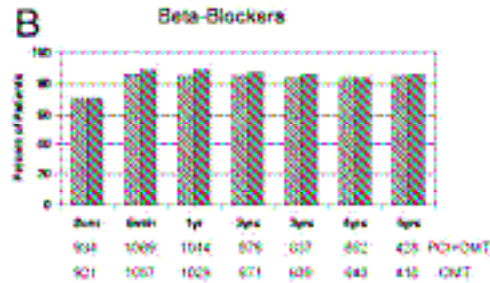
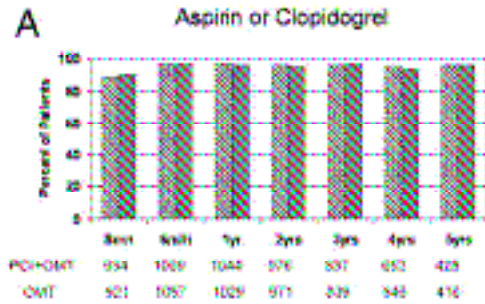
Optimal Medical Therapy with or without PCI
for Stable Coronary Disease

COURAGE Trial



Boden WE et al. NEJM 2007;356:1503-16

Optimal Medical Therapy in the COURAGE (Clinical Outcomes Utilizing Revascularization and Aggressive Drug Evaluation) Trial



The Truth and Consequences of the COURAGE Trial

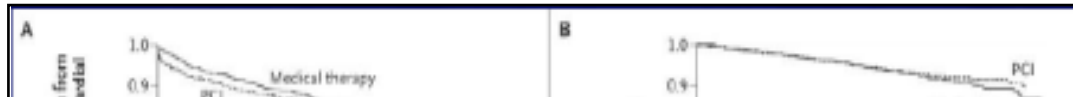
Dean J. Kereiakes, MD, FACC,* Paul S. Teinstein, MD, FACC,† Ian J. Sarembock, MB, ChB, MD,‡
David R. Holmes, Jr, MD,§ Mitchell W. Krucoff, MD, FACC,¶ William W. O'Neill, MD,||
Ron Waksman, MD, FACC,# David O. Williams, MD,** Jeffrey J. Popma, MD, FACC,††
Maurice Buchbinder, MD, FACC,‡ Roxana Mehran, MD,†† Ian T. Meredith, MBBS, PhD, FACC,‡‡
Jeffrey W. Moses, MD, FACC,†† Gregg W. Stone, MD, FACC††

*Cincinnati, Ohio; La Jolla, California; Rochester, Minnesota; Durham, North Carolina; Miami, Florida;
Washington, DC; Providence, Rhode Island; Boston, Massachusetts; New York, New York; and
Clayton, Australia*

Table 1
**Summaries of Trials Comparing Medical Therapy
Versus PCI for Stable Coronary Artery Disease Patients**

Trial (Ref. #)	Mortality and MI	Angina Relief	QOL	Repeat Revascularization
RITA-2 (7)	No difference	PCI	PCI	PCI
ACME (8)	No difference	PCI	PCI	PCI
ACME-2 (16)	No difference	PCI	PCI	NA
MASS (9)	No difference	PCI	NA	No difference
MASS-II (11)	No difference	PCI	PCI	No difference
AVERT (10)	No difference	PCI	PCI	No difference
TIME*	No difference	PCI	PCI	PCI
COURAGE (12)	No difference	No difference	PCI	PCI

Optimal Medical Therapy with or without PCI
for Stable Coronary Disease
COURAGE Trial



Criteri di esclusione:

Angina in Classe IV

Positività test sforzo bassa soglia

Scompenso cardiaco

Frazione eiezione < 30%

Precedente rivascularizzazione < 6 mesi

Stenosi IVA prox > 50%

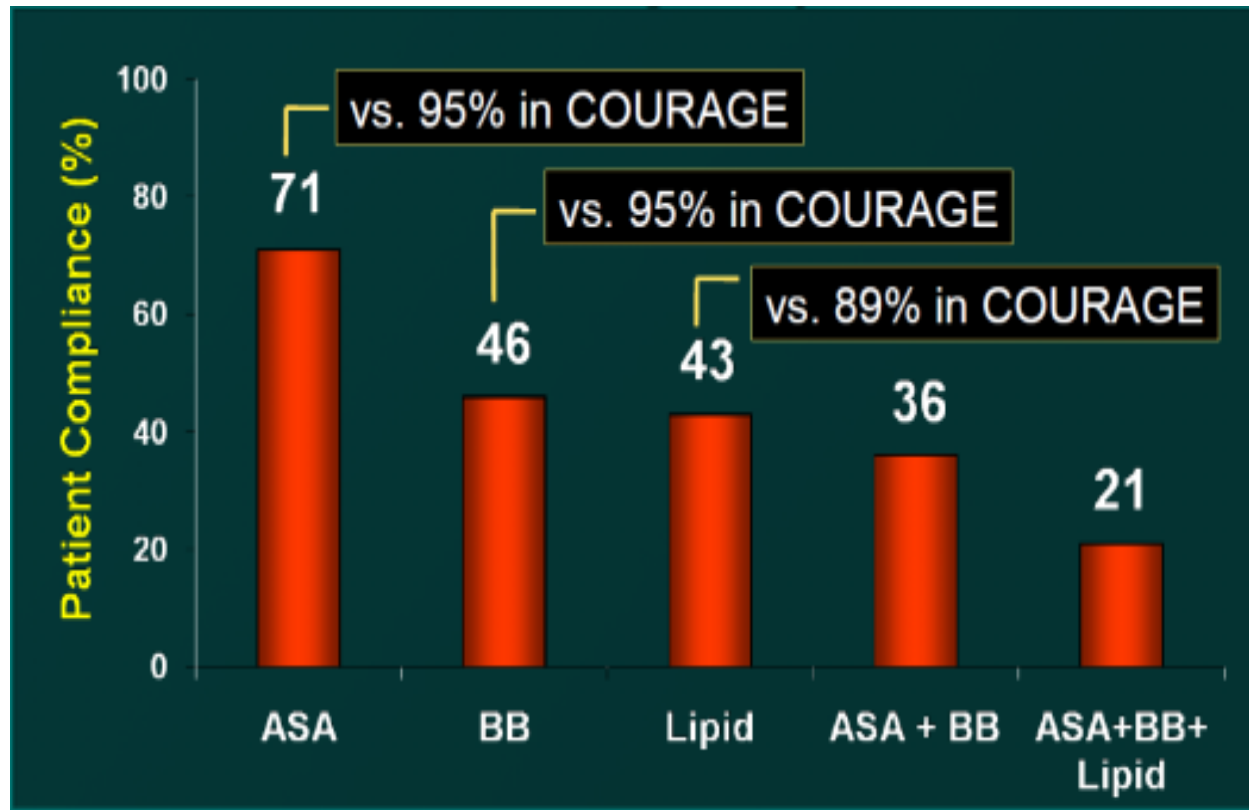
Precedente IM

Arruolati 2.287 su 32.468

		0	1	2	3	4	5	6	7			0	1	2	3	4	5	6	7		
		Years											Years								
No. at Risk											No. at Risk										
Medical therapy	1138	1025	956	833	662	418	236	127		Medical therapy	1138	1019	962	834	638	409	352	120			
PCI	1149	1027	957	835	667	431	246	134		PCI	1149	1015	954	833	637	418	200	134			

Boden WE et al. NEJM 2007;356:1503-16

ADERENZA ALLA TERAPIA FARMACOLOGICA *CRUSADE Registry (1-Year)*



Mehta HR et al. Circulation 2005;112:II-793.

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812

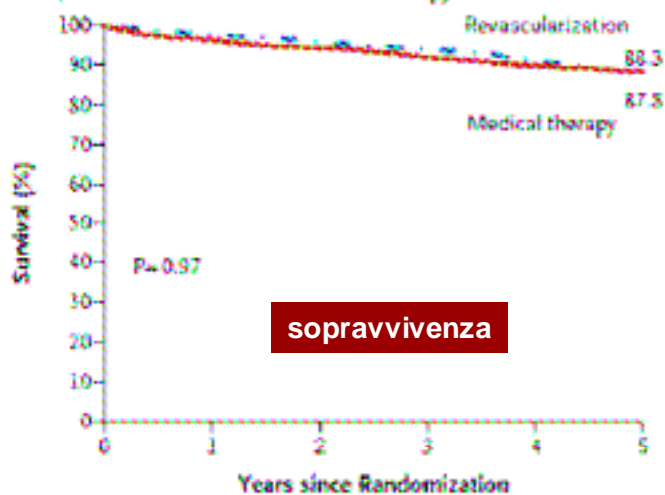
JUNE 11, 2009

VOL. 360 NO. 24

A Randomized Trial of Therapies for Type 2 Diabetes and Coronary Artery Disease

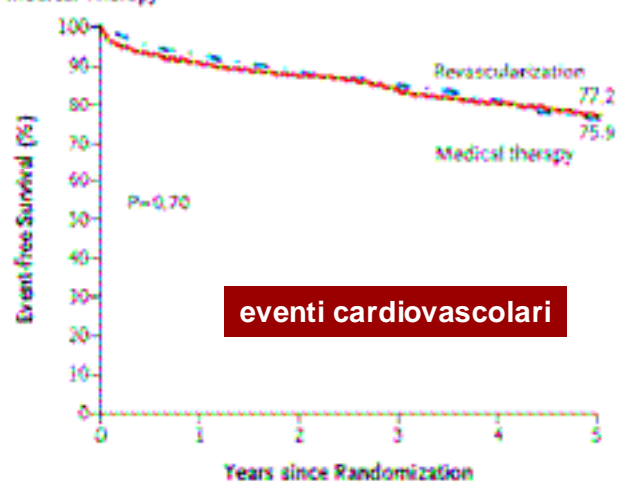
The BARI 2D Study Group⁹

A Survival, Revascularization vs. Medical Therapy



No. at Risk 2368 2206 2247 2197 1892 1106

C Freedom from Major Cardiovascular Events, Revascularization vs. Medical Therapy



No. at Risk 2368 2094 1964 1807 1459 823

The NEW ENGLAND JOURNAL of MEDICINE

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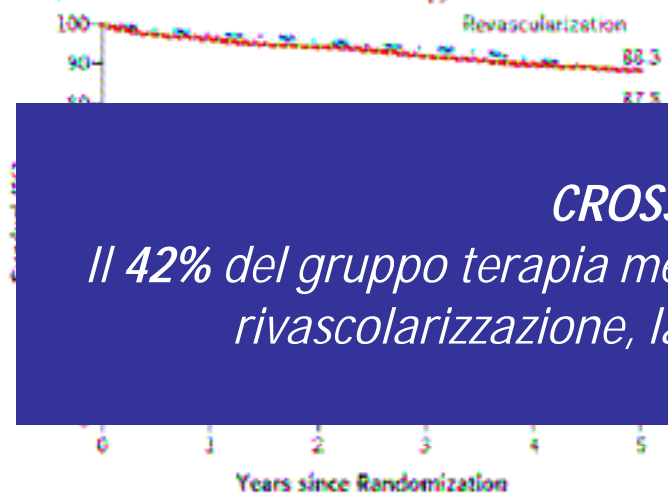
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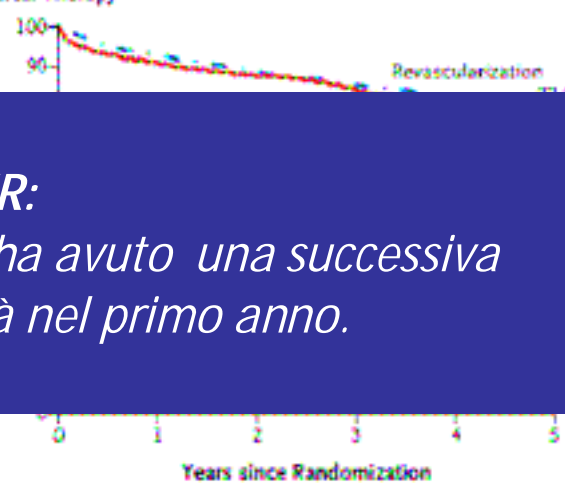
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CROSS OVER:

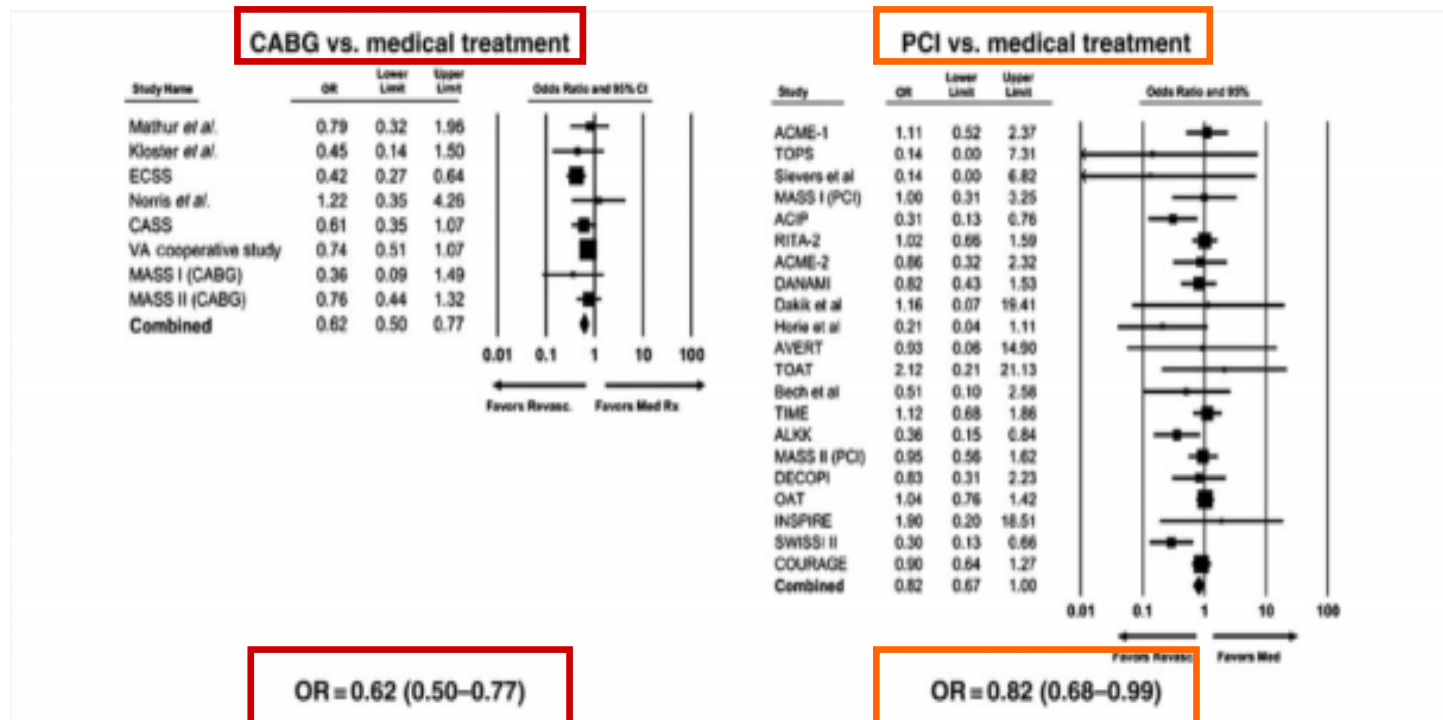
Il 42% del gruppo terapia medica ha avuto una successiva rivascolarizzazione, la metà nel primo anno.

No. at Risk 2368 2206 2247 2197 1892 1106

No. at Risk 2368 2094 1964 1807 1459 823

The Impact of Revascularization on Mortality in Patients with Nonacute Coronary Artery Disease

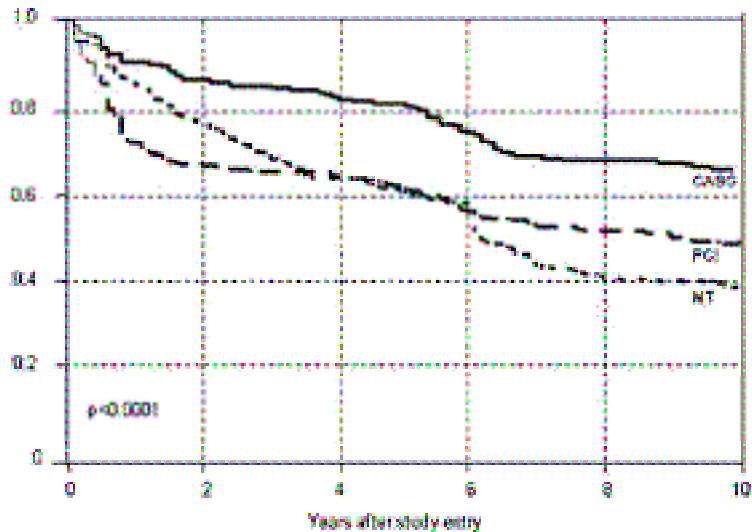
BACKGROUND: Although early revascularization improves outcomes for patients with acute coronary syndromes, the role of revascularization for patients with nonacute coronary artery disease is controversial.



Ten-Year Follow-Up Survival of the Medicine, Angioplasty, or Surgery Study (MASS II)

A Randomized Controlled Clinical Trial of 3 Therapeutic Strategies for Multivessel Coronary Artery Disease

Assenza di angina instabile, rivascularizzazione, infarto



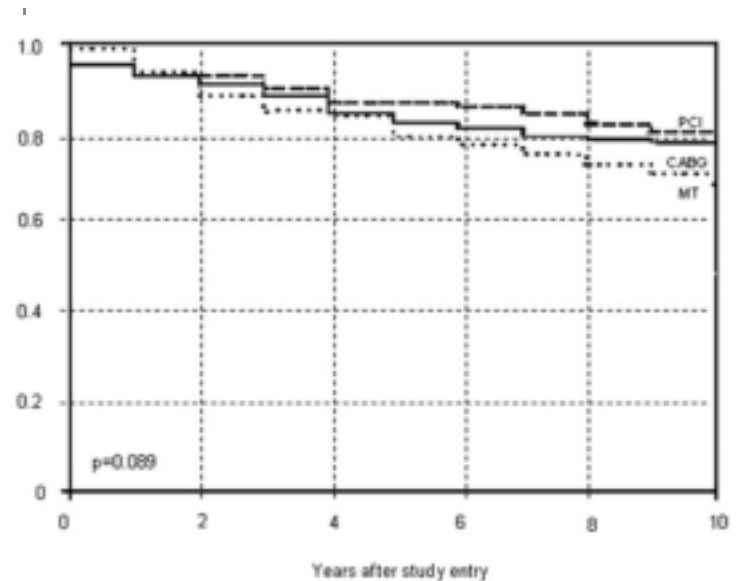
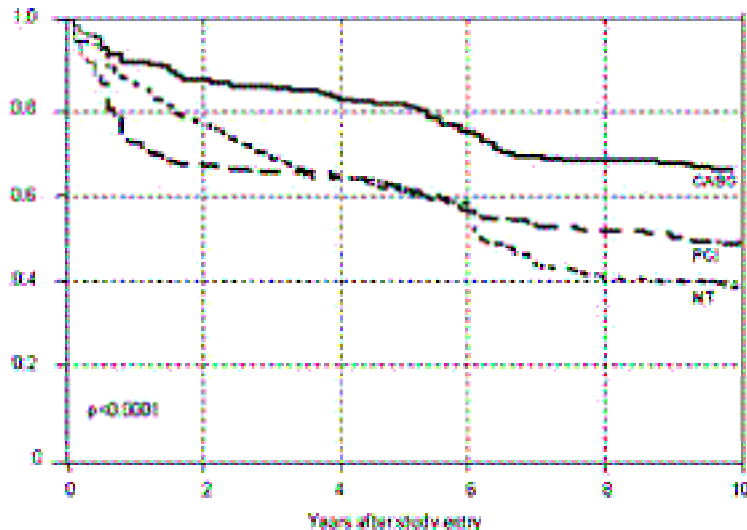
Hueb W, Circulation September 2010

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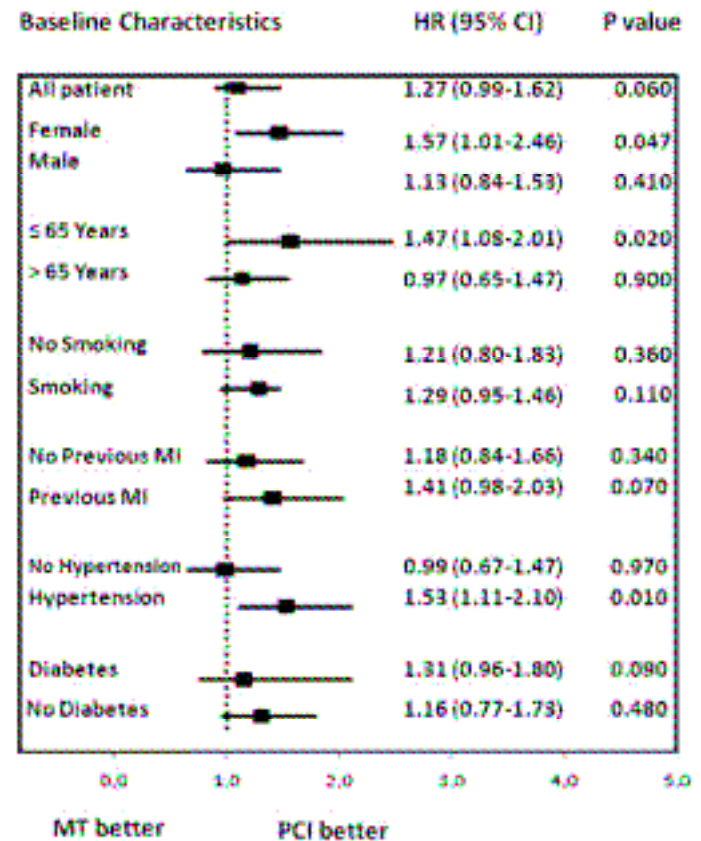
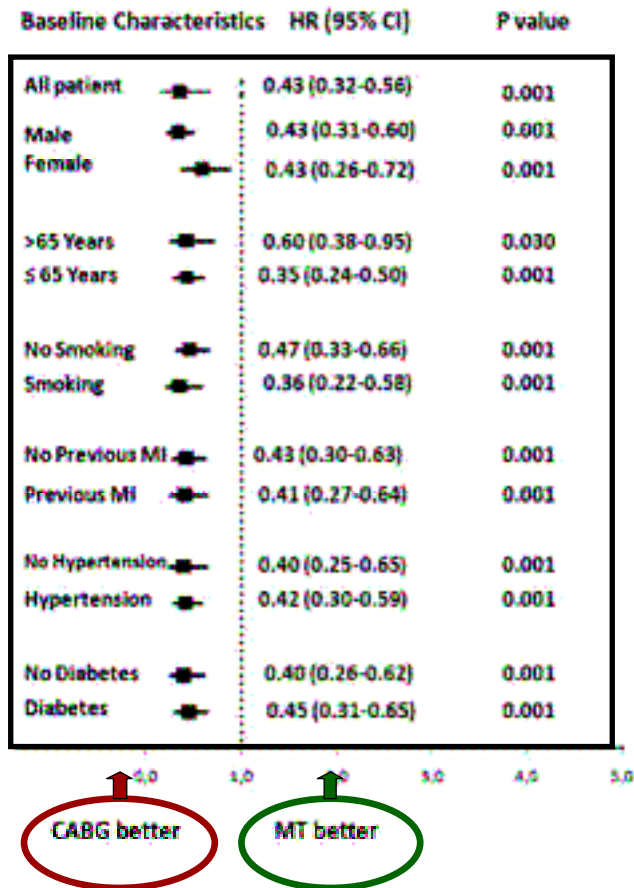
Sopravvivenza



Hueb W, *Circulation* September 2010

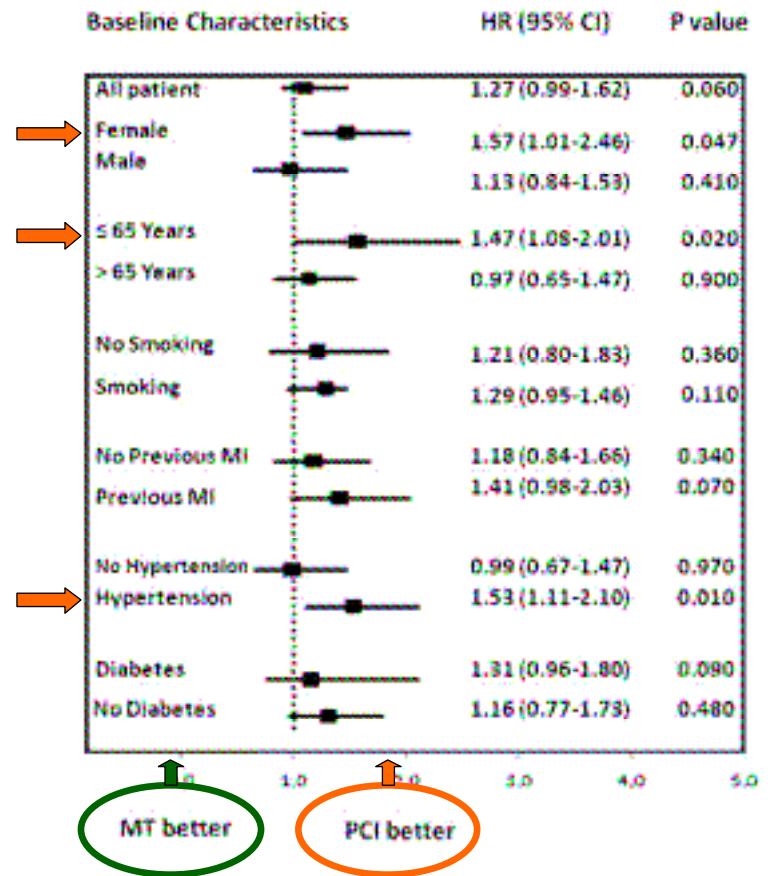
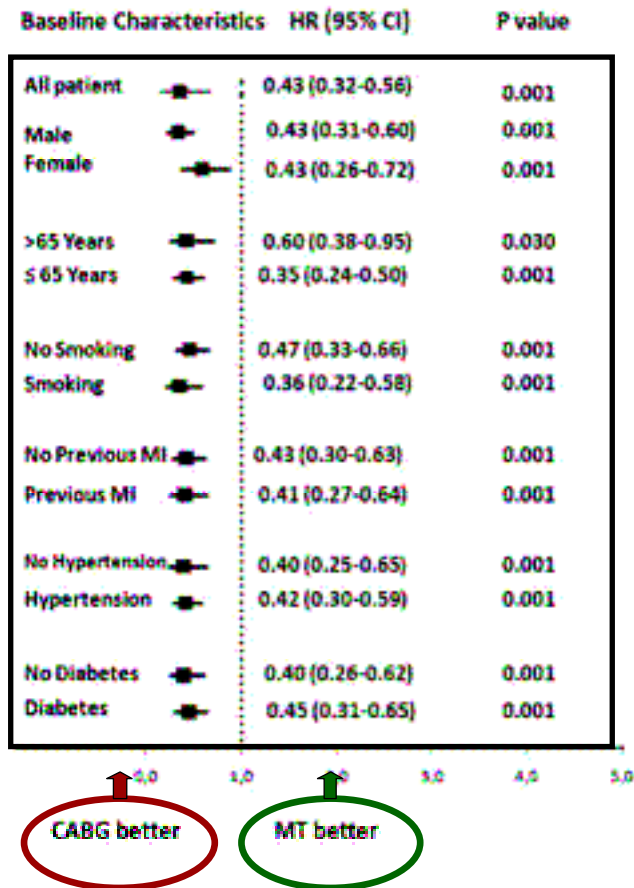
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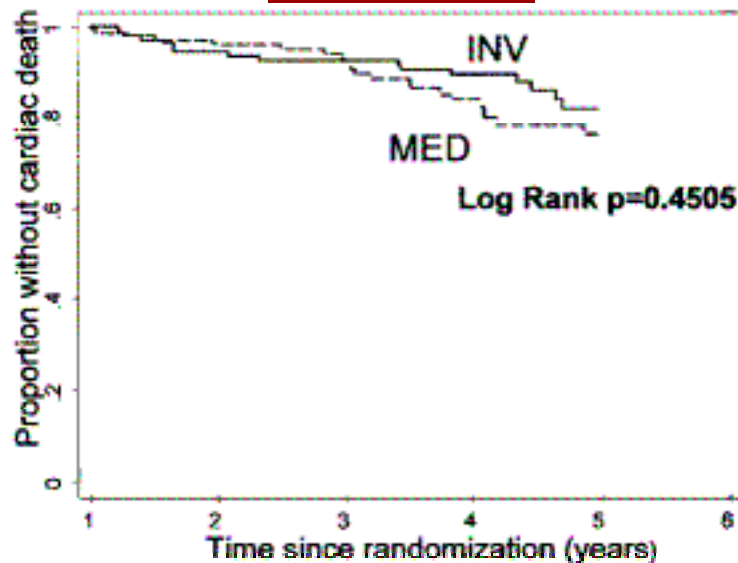
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Long-Term Outcome in Elderly Patients With Chronic Angina Managed Invasively Versus by Optimized Medical Therapy

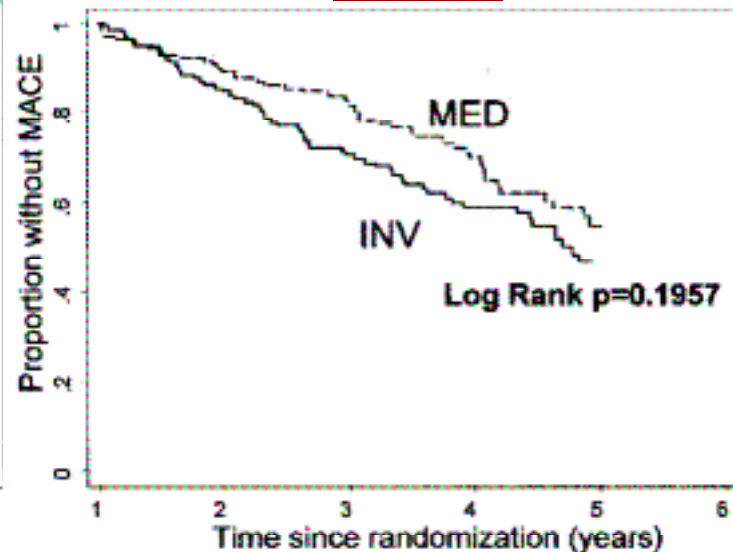
Four-Year Follow-Up of the Randomized Trial of Invasive Versus Medical
Therapy in Elderly Patients (TIME)

301 pazienti, età media anni 80 ± 4

MORTALITA'

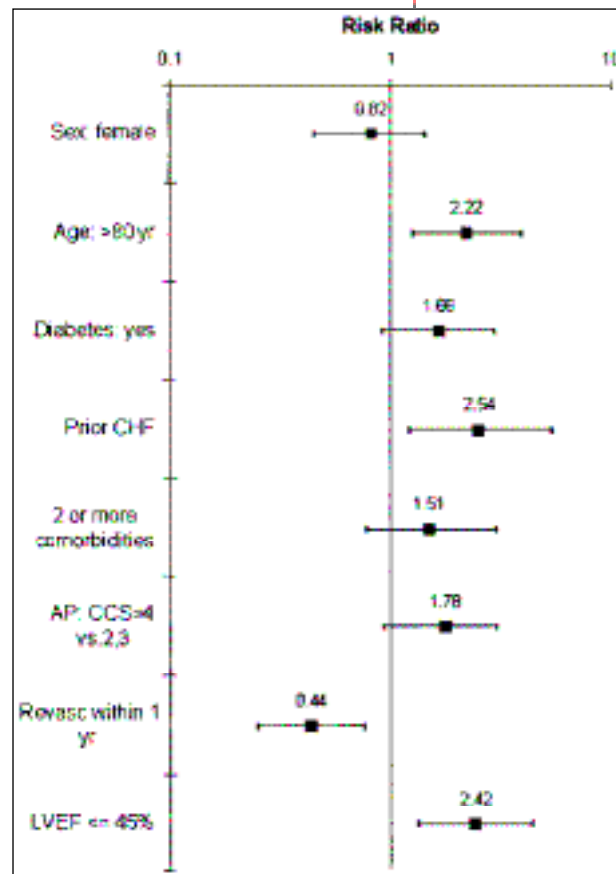


EVENTI



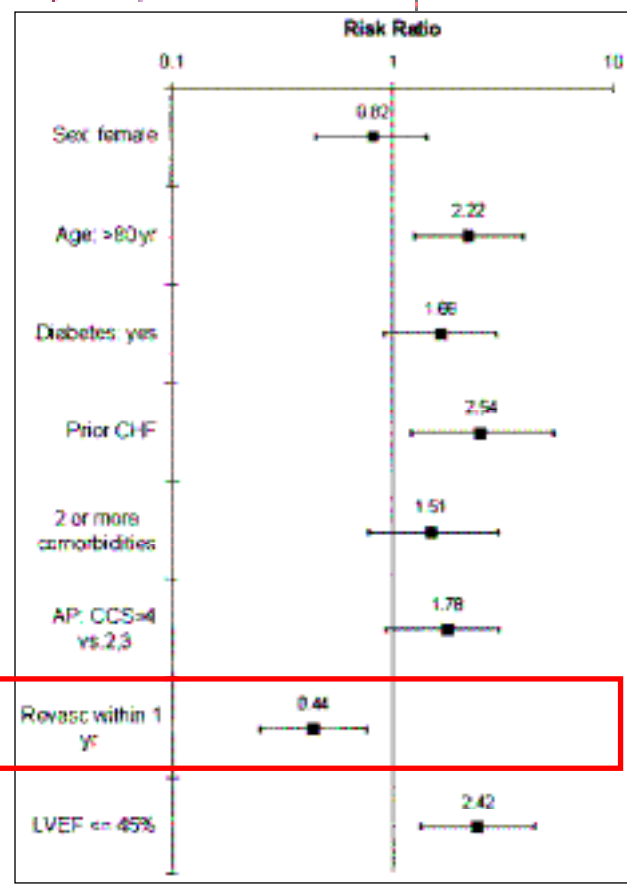
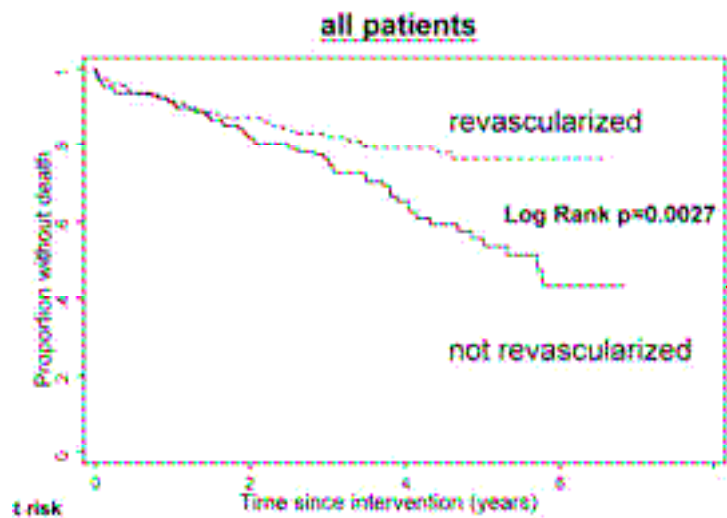
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Controversies in Cardiovascular Medicine

Eur Heart J 2010

**Chronic stable coronary artery disease: drugs
vs. revascularization**

Controversies in Cardiovascular Medicine

Eur Heart J 2010

Chronic stable coronary artery disease: drugs
vs. revascularization ?



Controversies in Cardiovascular Medicine

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Perché spesso i dati sono così
contrastanti?



Controversies in Cardiovascular Medicine

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**Does Percutaneous Coronary Intervention Reduce Mortality in Patients With
Stable Chronic Angina: Are We Talking About Apples and Oranges?**

Harindra C. Wijeyesundera and Dennis T. Ko
Circ Cardiovasc Qual Outcomes 2009;2;123-126

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E' possibile trovare una chiave di interpretazione?

Percutaneous Coronary Intervention for Stable Coronary Artery Disease

Table 1 Randomized Studies of PCI Versus PPI in Patients With Documented Ischemia

Study	n	PCI (%)	PPI (%)	Ischemia	Follow-Up (yr)
ASAP (1 year)	100/105	51	53	ET, recurrent MI	1
Harsanyi et al (2y)					
ASAP (2 years)	50/51	41	51	ET, recurrent MI	5
Pasterkamp et al (3y)					
ASAP (3y)	22/23	100	100	Adjuvant PPI	1
Kandathil et al (3y)					
ASAP	50/50	46	0	Pericoronary	1
COURAGE	1,136/1,149	36	33	SS, infarction	4.6
Boden et al (1y)					
ASAP (1 year)	100/98	100	100	Sublingual v	1.2

SS = stress PPI

Placing COURAGE in Context: Review of the Recent Literature on Managing Stable Coronary Artery Disease

TABLE 1. Baseline Characteristics of Patients in Studies Comparing Medical Therapy and Revascularization^a

	AVERT	RITA-2	TIME	MASS II	SWISSI II	COURAGE
Patients, No.	341	1018	301	611	201	2287
Women, No. (%)	53 (16)	183 (18)	131 (44)	187 (31)	25 (12)	338 (15)
Mean age, y	59	58	80	60	55	62
Angina, Canadian class	Nearly all 0 to II	53% II, III, or IV	100% II, III, or IV	81% II or III	None (silent ischemia)	58% II or III
Prior MI, No. (%)	136 (40)	471 (46)	141 (47)	269 (44)	201 (100) (first in preceding 3 mo)	876 (38)
Diabetes, No. (%)	51 (15)	90 (9)	68 (23)	177 (29)	23 (11)	766 (34)
Mean LVEF, %	61	54	53	67	57	62
LVEF exclusion, %	<40	None	"Predominant CHF"	40	None	30; 35 if 3-vessel disease
Ischemia by treadmill test	Excluded	Not required	Not required	Required	Required	Required
Vessels diseased, % ^b						
1	57	60	14	Excluded	1- or 2-vessel disease required	35
2	43	33	19	42	See above	39
3	Excluded	7	60	58	Excluded	25
Previous CABG or PCI	Excluded if PCI in last 6 mo or if history of CABG	Excluded	18% PCI 20% MT	Excluded	Not reported	16% PCI 11% MT

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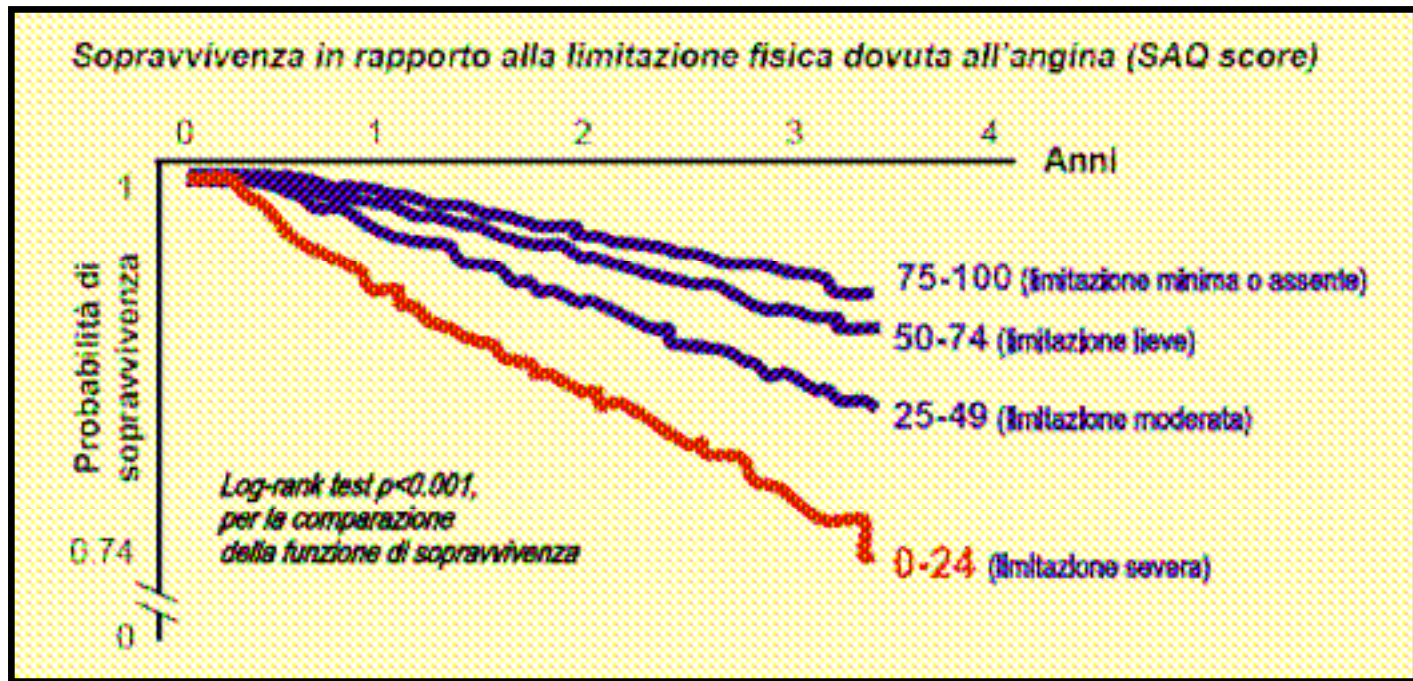
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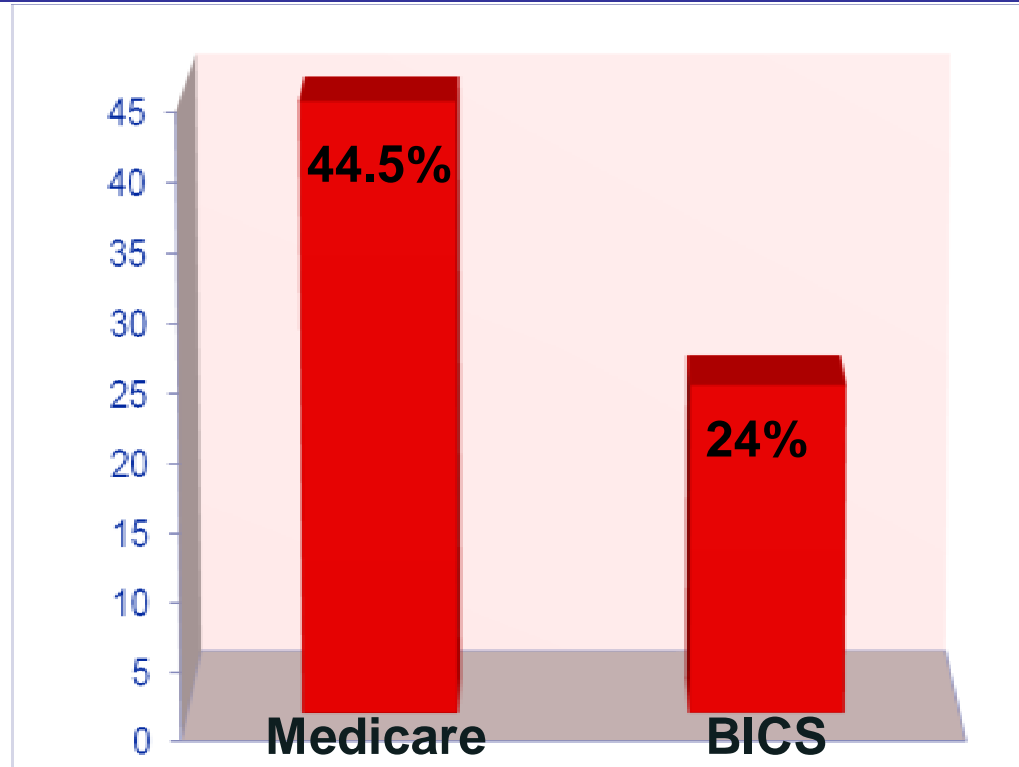
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Implicazioni prognostiche della gravità dei sintomi nell'angina



Mozaffarian D, et al. Am Heart J 2003;146:1015-22.

Frequenza di test provocativi per documentare ischemia prima di una rivascularizzazione elettiva



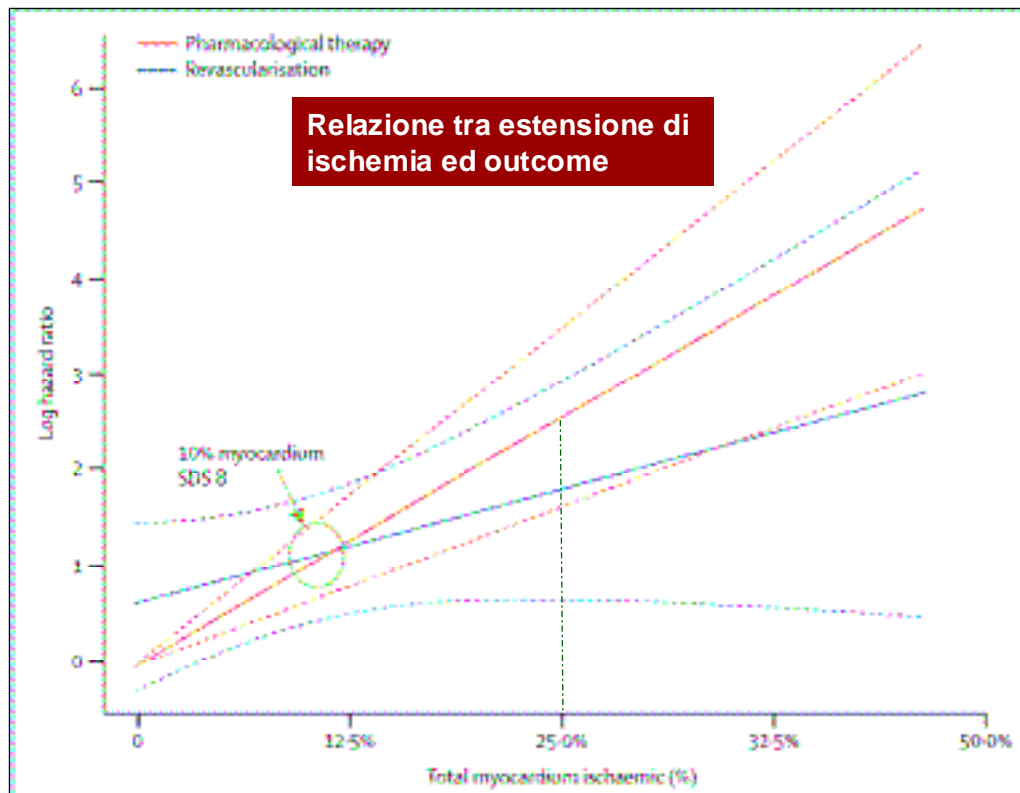
Lin GA et al. JAMA. 2008;300:1765-1773

Ludman P www.bcis.org.uk/resources/audit

Implicazioni prognostiche della estensione di ischemia nell'angina

Management of stable coronary artery disease

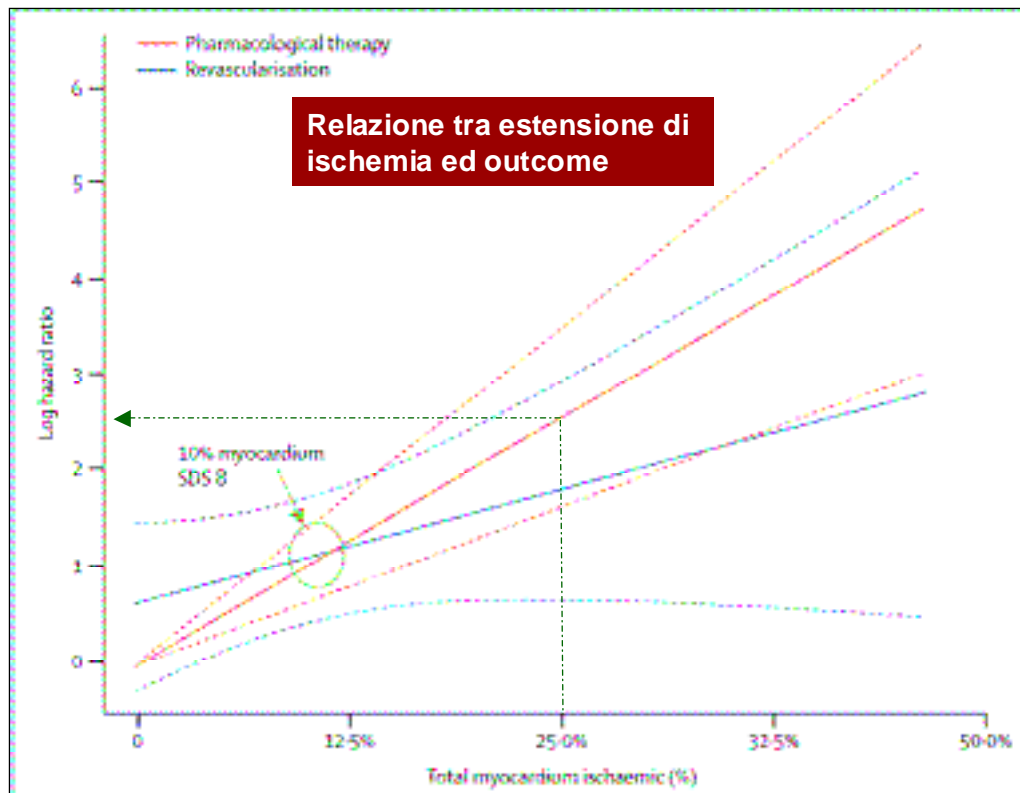
Matthias E Pfisterer, Michael J Zellweger, Bernard J Gersh *Lancet* 2010; 375: 763-72



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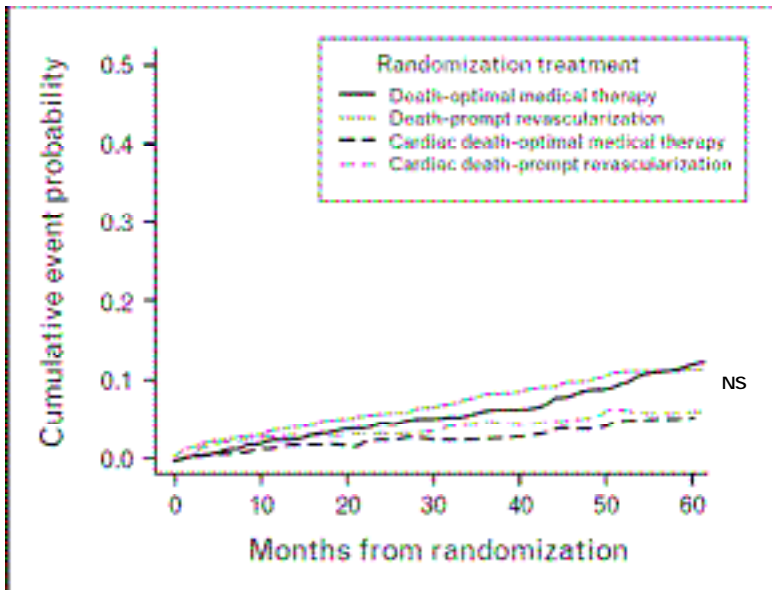
Management of stable coronary artery disease

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Choice of initial medical therapy vs. prompt coronary revascularization in patients with type 2 diabetes and stable ischemic coronary disease with special emphasis on the BARI 2D trial results

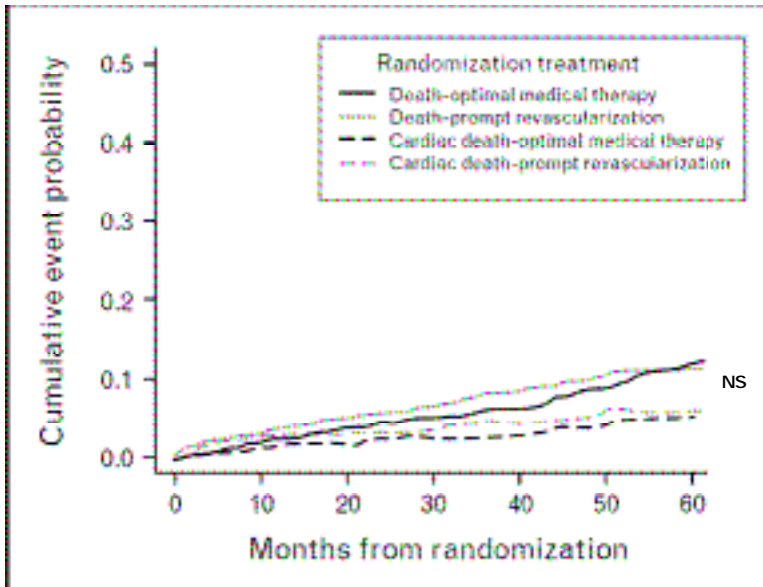
**Mortalità totale e cardiaca:
Rivascolarizzazione vs Terapia medica**



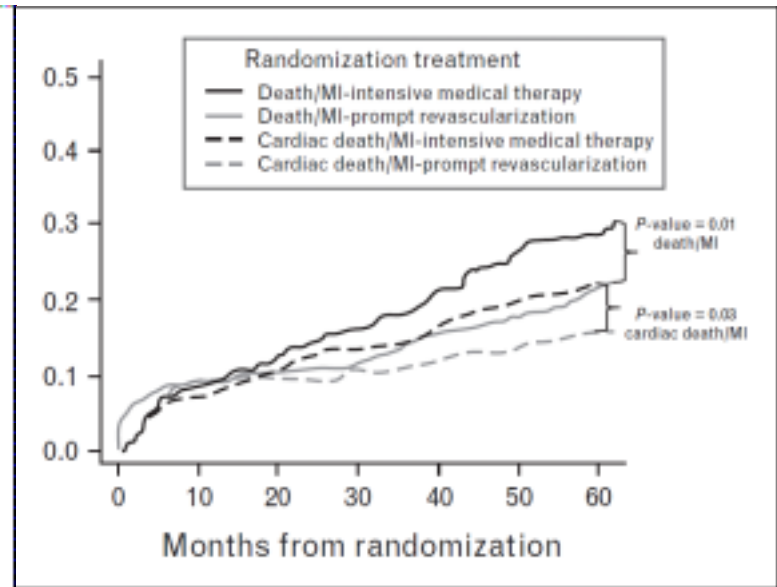
Choice of initial medical therapy vs. prompt coronary revascularization in patients with type 2 diabetes and stable ischemic coronary disease with special emphasis on the BARI 2D trial results

Malattia coronarica estesa

Mortalità totale e cardiaca:
Rivascolarizzazione vs Terapia medica



Mortalità e infarto:
CABG subito vs Terapia medica



Placing COURAGE in Context: Review of the Recent Literature on Managing Stable Coronary Artery Disease

Coronary artery disease (CAD) is the leading cause of death in the United States, but prevention and intervention efforts are lowering mortality. This progress is being undercut by rising rates of obesity and diabetes, and adherence to evidence-based prevention efforts is less than ideal. Many patients with CAD who are asymptomatic or have minimal symptoms undergo percutaneous coronary intervention (PCI) each year, even though PCI has not been demonstrated to improve survival for this group. Motivated by the

“.....il punto non è se la terapia medica è superiore per tutti i pazienti, ma che la terapia medica ottimale ed un adeguato stile di vita rappresentano la strategia iniziale appropriata nei pazienti che non hanno instabilità clinica o sintomi disabilitanti.....”

published studies, early benefits in angina control afforded by revascularization wane over time; this could change with modern interventional therapies. The final word is not that medical therapy is superior for all patients, but that optimizing medical and lifestyle therapy is appropriate as an initial management strategy for most patients who do not have unstable or disabling symptoms. It is essential that systems are set in place to make the medical management of patients with CAD second nature; this focus could be one of the most powerful results of the COURAGE trial.

Guidelines on myocardial revascularization

The Task Force on Myocardial Revascularization of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS)

Table 8 Indications for revascularization in stable angina or silent ischaemia

	Subset of CAD by anatomy	Class ^a	Level ^b	Ref. ^c
For prognosis	Left main >50% ^d	I	A	30, 31, 54
	Any proximal LAD >50% ^d	I	A	30–37
	2VD or 3VD with impaired LV function ^d	I	B	30–37
	Proven large area of ischaemia (>10% LV)	I	B	13, 14, 38
	Single remaining patent vessel >50% stenosis ^d	I	C	—
	IVD without proximal LAD and without >10% ischaemia	III	A	39, 40, 53
For symptoms	Any stenosis >50% with limiting angina or angina-equivalent, unresponsive to OMT	I	A	30, 31, 39–43
	Dyspnoea/CHF and >10% LV ischaemia/viability supplied by >50% stenotic artery	IIa	B	—
	No limiting symptoms with OMT	III	C	—

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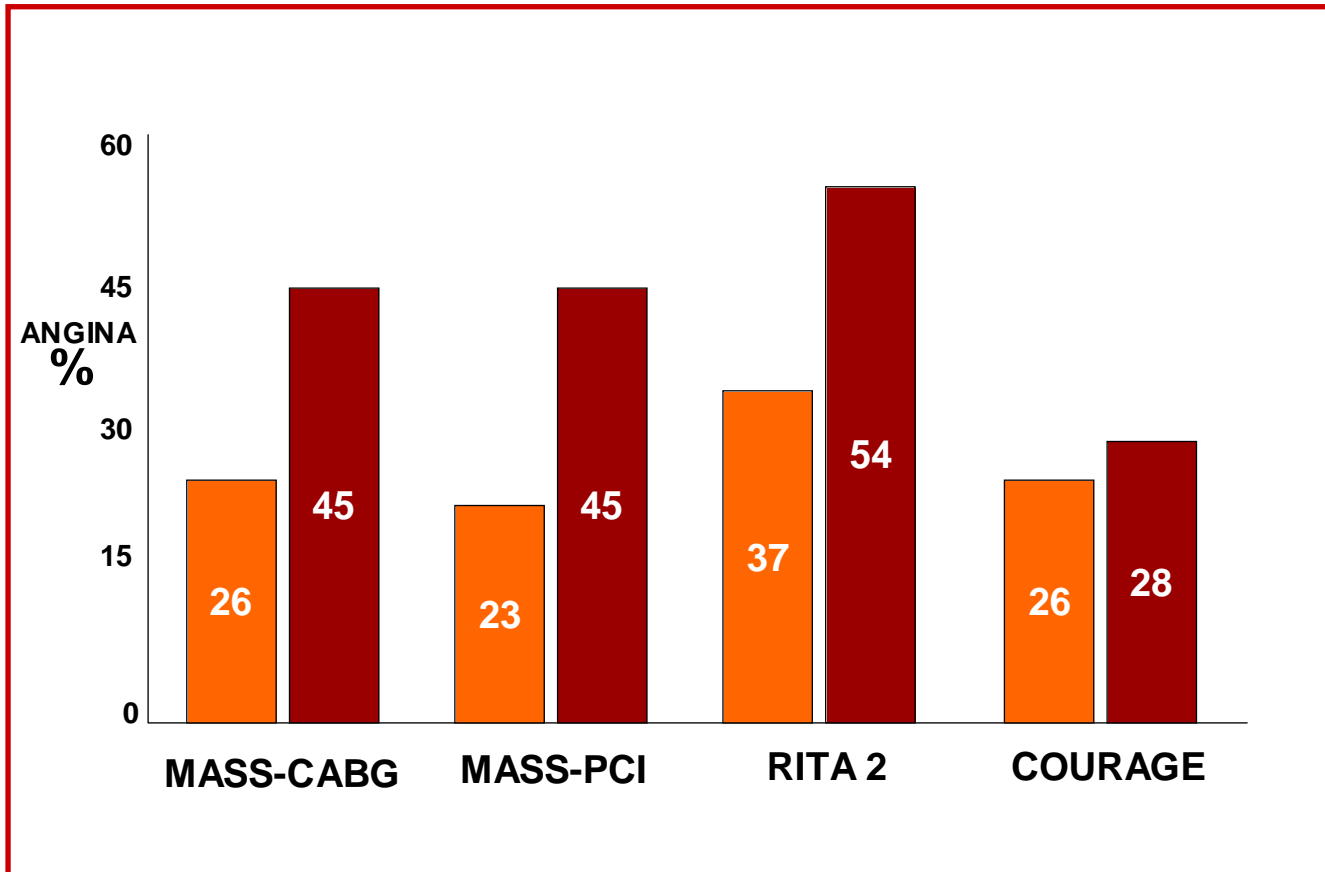
Table 8 Indications for revascularization in stable angina or silent ischaemia

Current best evidence shows that revascularization can be readily justified:

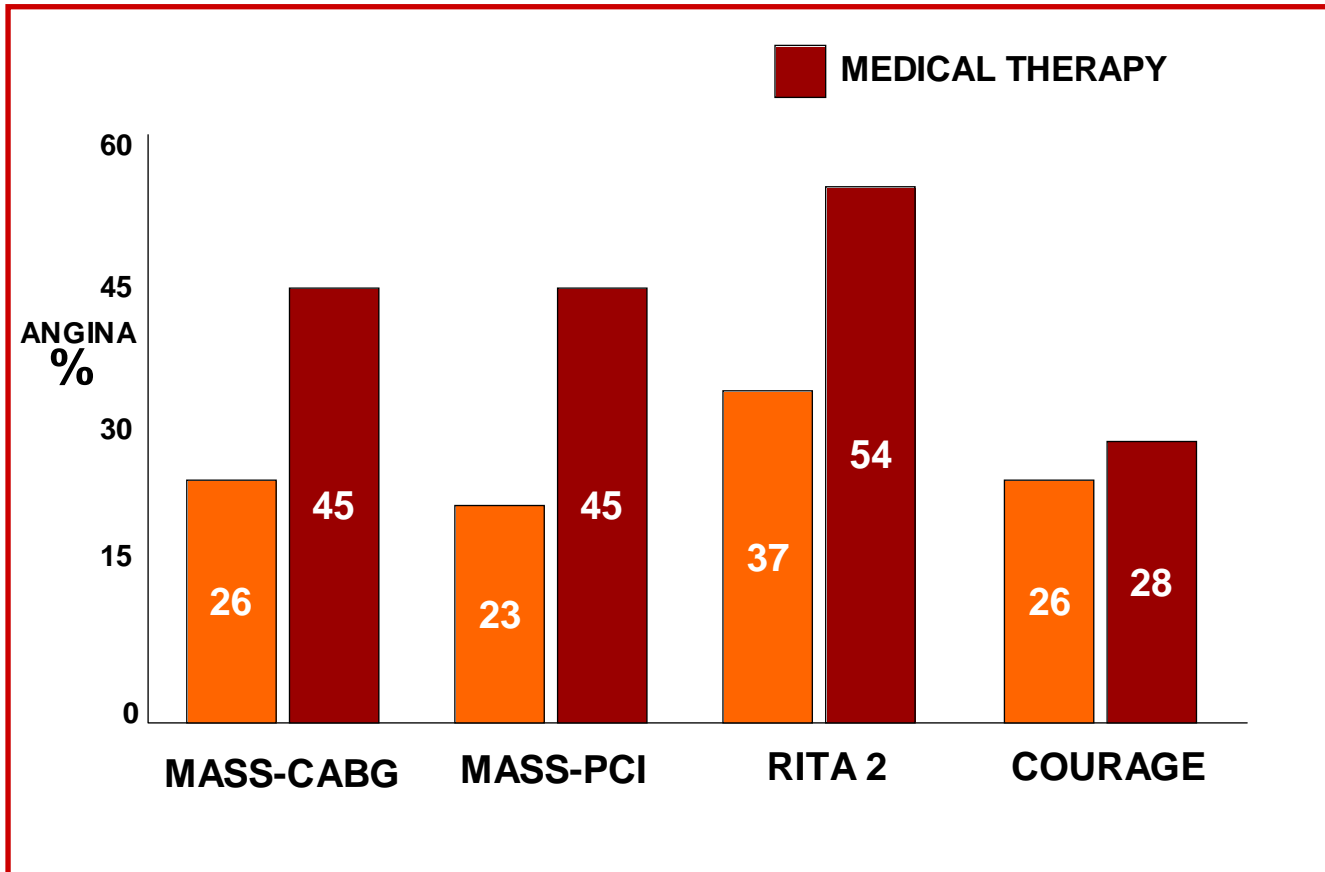
- (i) on symptomatic grounds in patients with persistent limiting symptoms (angina or angina equivalent) despite OMT and/or
- (ii) on prognostic grounds in certain anatomical patterns of disease or a proven significant ischaemic territory

For symptoms	Any stenosis >50% with limiting angina or angina equivalent, unresponsive to OMT	I	A	30, 31, 39–43
	Dyspnoea/CHF and >10% LV ischaemia/viability supplied by >50% stenotic artery	IIa	B	---
	No limiting symptoms with OMT	III	C	---

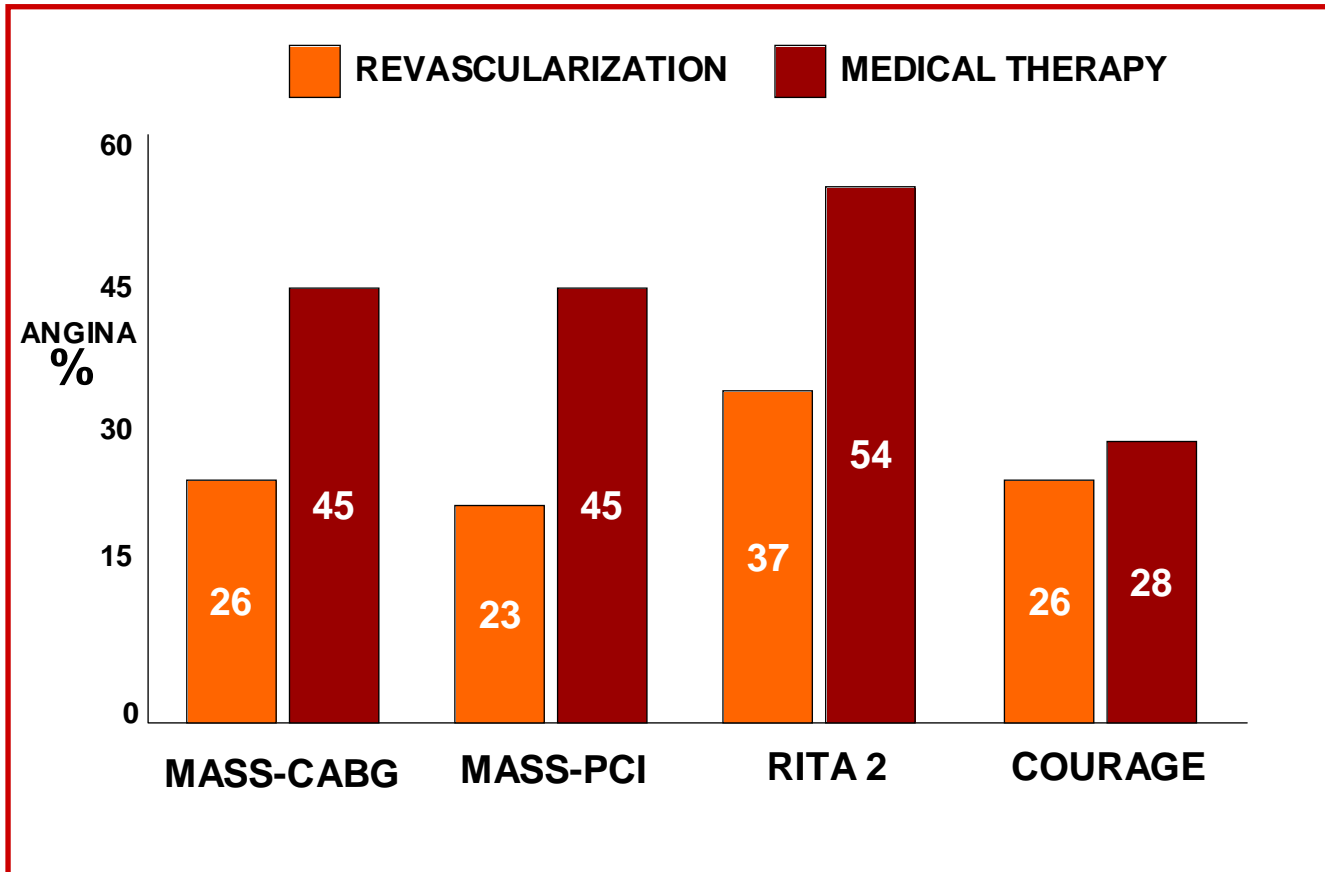
Persistenza di angina



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**NELLA CARDIOPATIA ISCHEMICA CRONICA:
QUANDO RIVASCOLARIZZAZIONE E QUANDO TERAPIA MEDICA**

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Nei principali trial, l'angina persiste sia nei pazienti trattati con terapia medica che con rivascolarizzazione