Terapia medica ottimale dopo sindrome coronarica cronica

PL. Temporelli

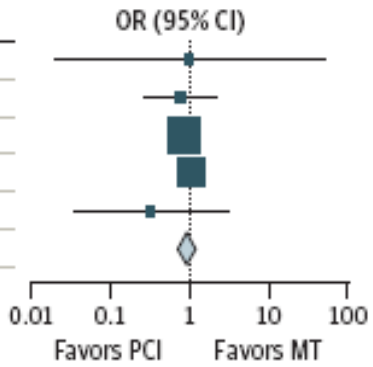
Istituti Clinici Scientifici Maugeri, IRCCS, Veruno

Metanalisi effetto PCI in pazienti con CAD stabile e documentazione ischemia

Morte

A

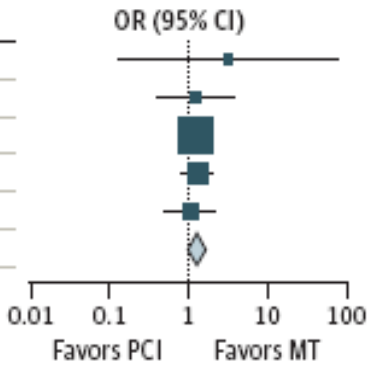
Source	OR (95% CI)	*P* Value
Hambrecht[15]	1.02 (0.02-52.43)	.99
MASS II[13]	0.76 (0.27-2.16)	.60
COURAGE[17]	0.84 (0.61-1.18)	.32
BARI 2D[14]	1.06 (0.71-1.58)	.78
FAME 2[16]	0.33 (0.03-3.16)	.33
Overall	0.90 (0.71-1.16)	.42



IMA non fatale

B

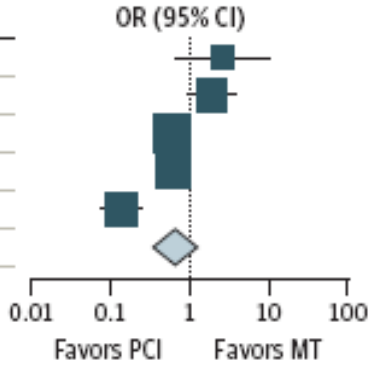
Source	OR (95% CI)	*P* Value
Hambrecht[15]	3.12 (0.12-78.45)	.49
MASS II[13]	1.24 (0.40-3.88)	.71
COURAGE[17]	1.24 (0.94-1.65)	.13
BARI 2D[14]	1.29 (0.82-2.04)	.27
FAME 2[16]	1.06 (0.51-2.22)	.88
Overall	1.24 (0.99-1.55)	.06



Revasc Unplanned

C

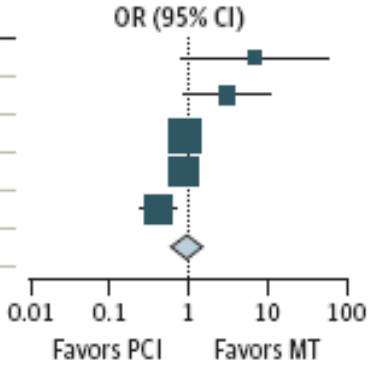
Source	OR (95% CI)	*P* Value
Hambrecht[15]	2.60 (0.63-10.71)	.18
MASS II[13]	1.84 (0.91-3.73)	.09
COURAGE[17]	0.60 (0.48-0.74)	<.001
BARI 2D[14]	0.61 (0.46-0.80)	<.001
FAME 2[16]	0.13 (0.07-0.24)	<.001
Overall	0.64 (0.35-1.17)	.14



Angina in FU

D

Source	OR (95% CI)	*P* Value
Hambrecht[15]	6.82 (0.79-58.85)	.08
MASS II[13]	3.06 (0.83-11.29)	.09
COURAGE[17]	0.91 (0.74-1.10)	.33
BARI 2D[14]	0.87 (0.59-1.28)	.47
FAME 2[16]	0.42 (0.25-0.72)	<.001
Overall	0.90 (0.57-1.44)	.67



Stergiopoulos et al. JAMA Intern Med 2014;174:232-40

ISCHEMIA

International Study Of Comparative Health Effectivenes With Medical And Invasive Approaches (ISCHEMIA):

Primary Report of Clinical Outcomes

Funded by the National Heart, Lung, and Blood Institute

Judith S. Hochman, MD

NYU School of Medicine

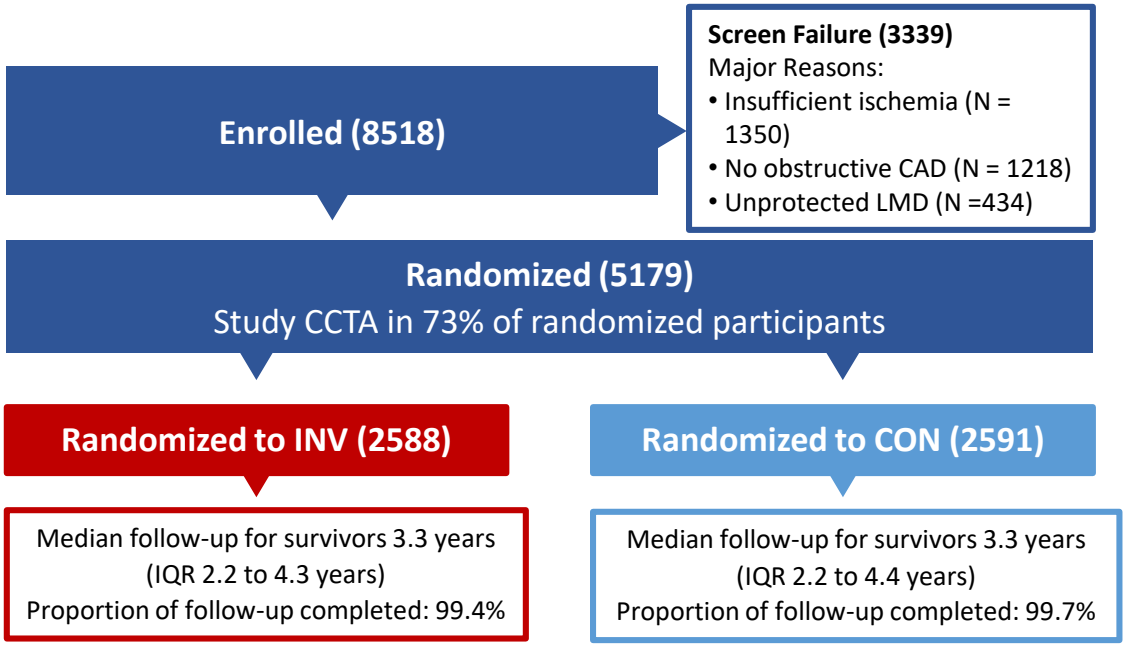
On behalf of the ISCHEMIA Research Group

ISCHEMIA Research Question

- ✓ In stable patients with at least moderate ischemia on a stress test, is there a benefit to adding cardiac catheterization and, if feasible, revascularization to optimal medical therapy?

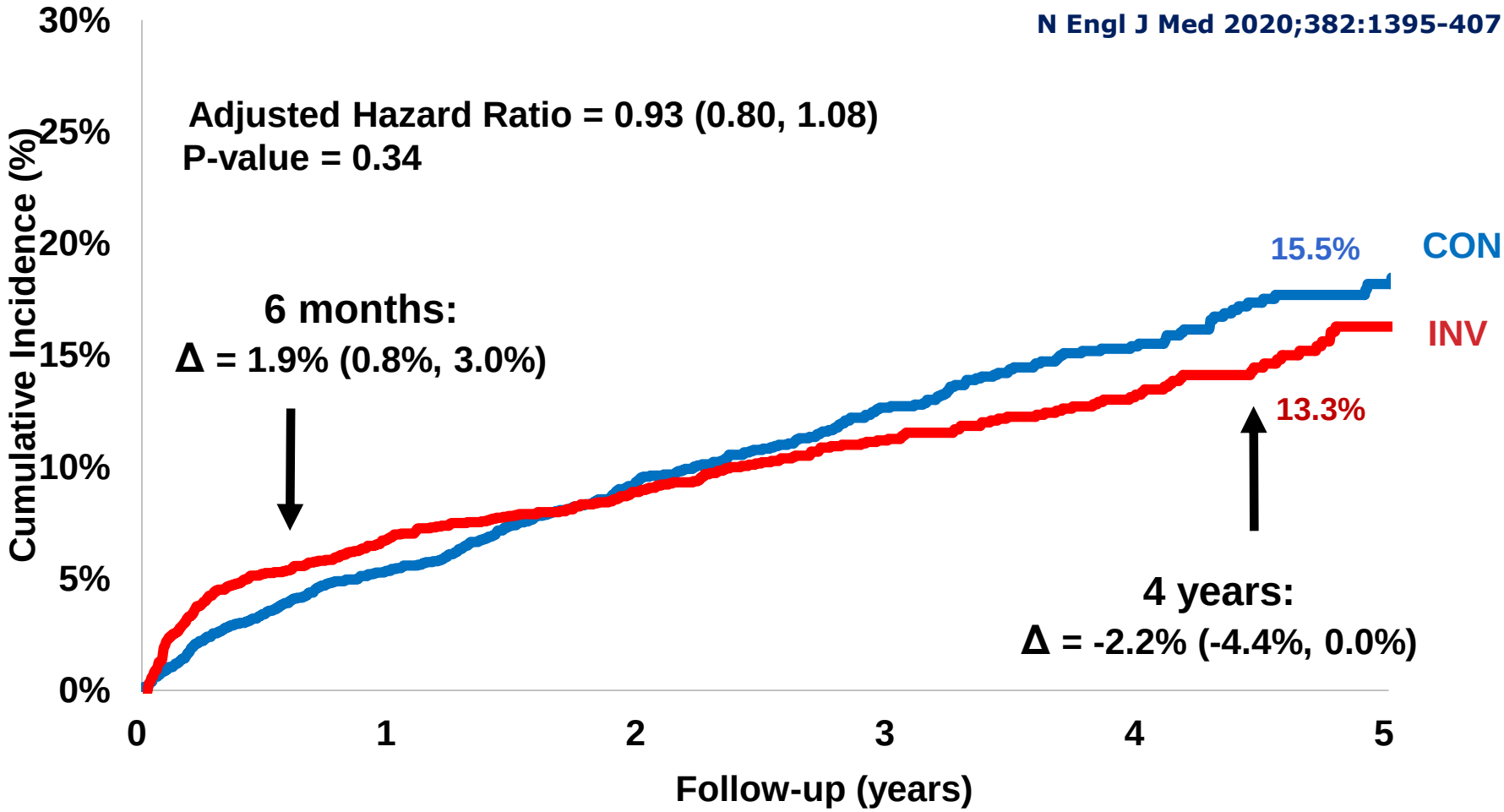
ISCHEMIA

Study Flow



Maron DJ, et al. American Heart Journal. 2018; 201;124-135

Primary Outcome: CV Death, MI, hospitalization for UA, HF or resuscitated cardiac arrest



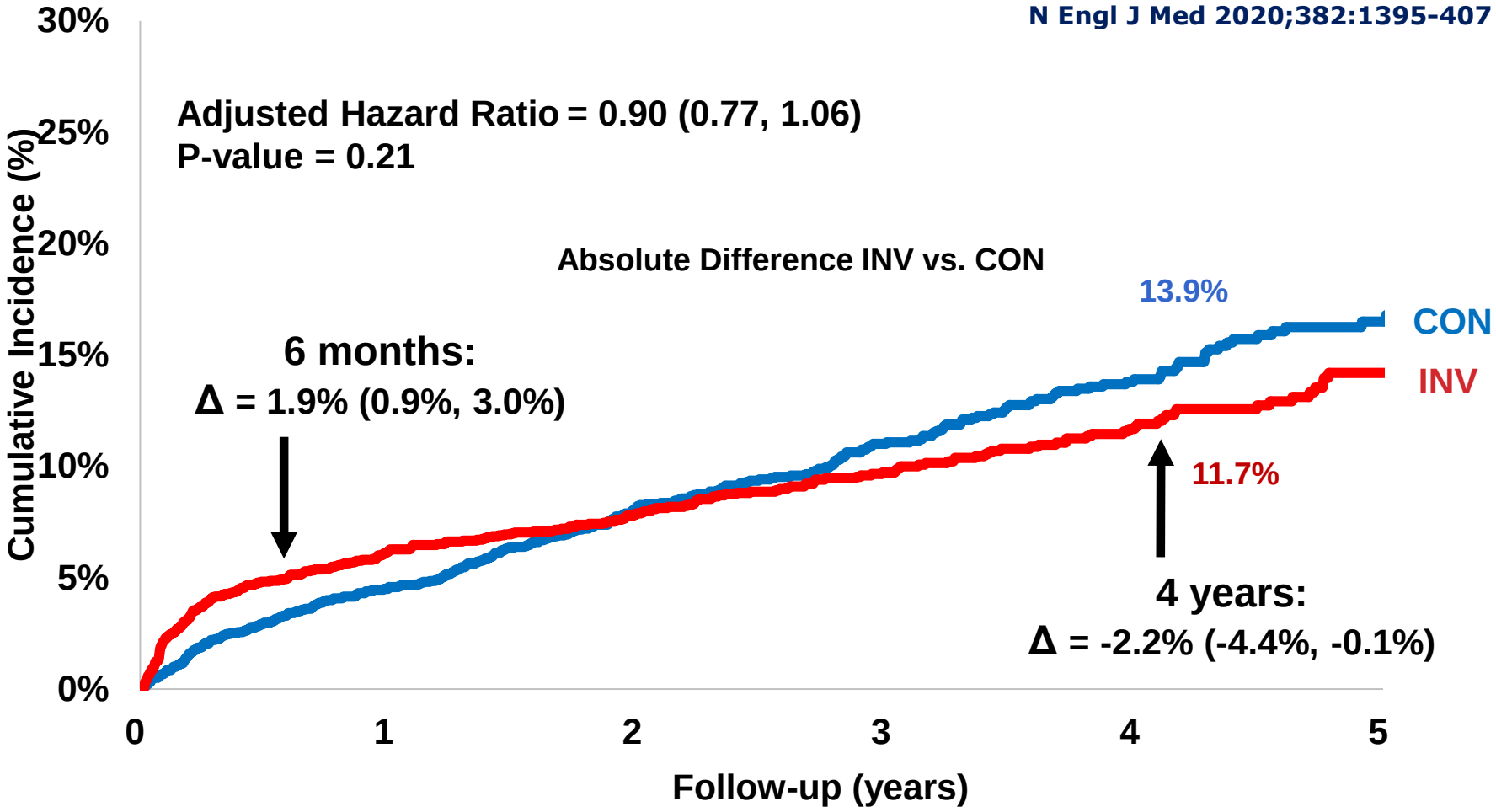
Subjects at Risk

CON	2591	2431	1907	1300	733	293
INV	2588	2364	1908	1291	730	271

ISCHEMIA

Major Secondary: CV Death or MI

N Engl J Med 2020;382:1395-407



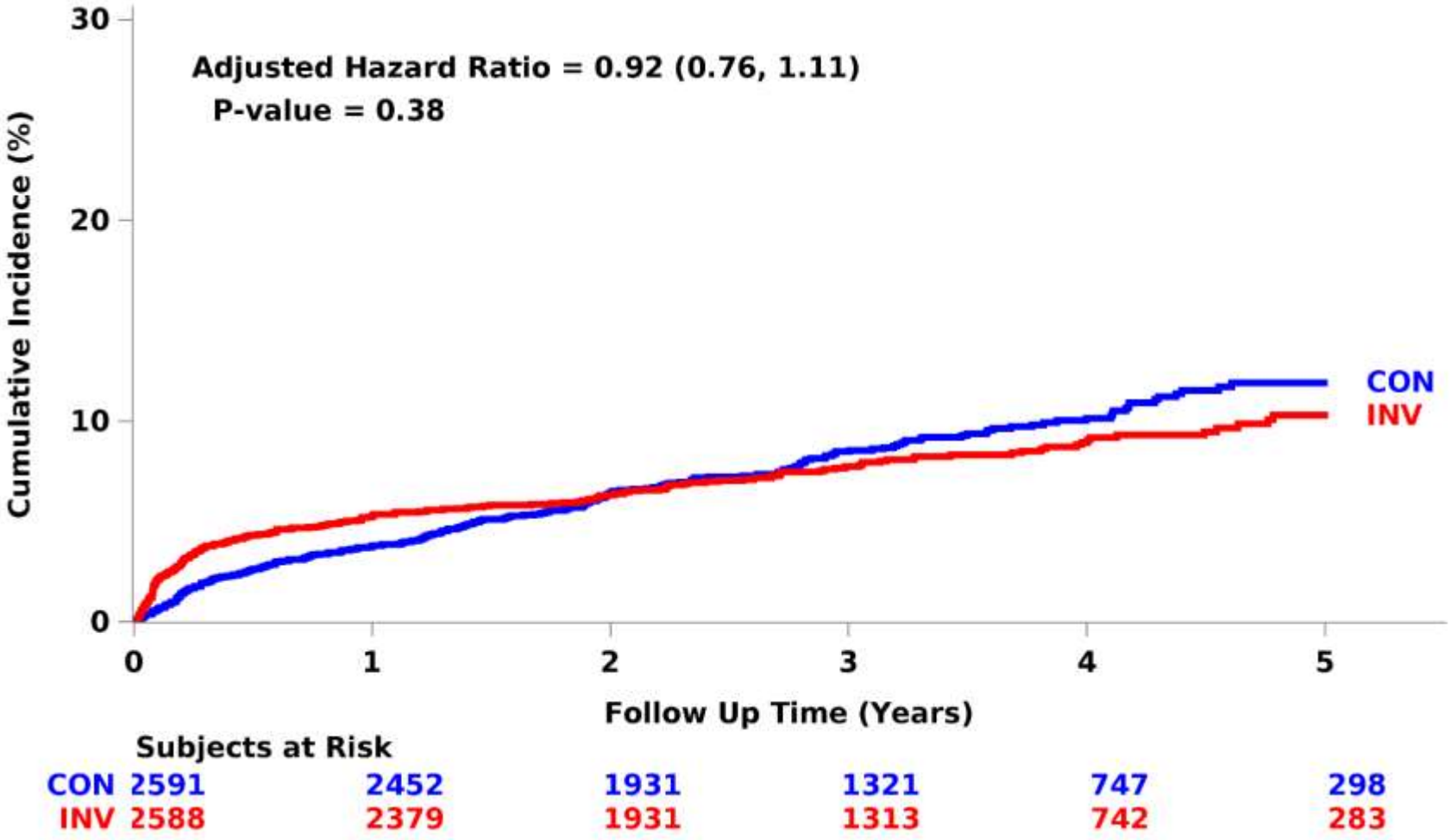
Subjects at Risk

CON	2591	2453	1933	1325	746	298
INV	2588	2383	1933	1314	752	282

ISCHEMIA

Myocardial Infarction

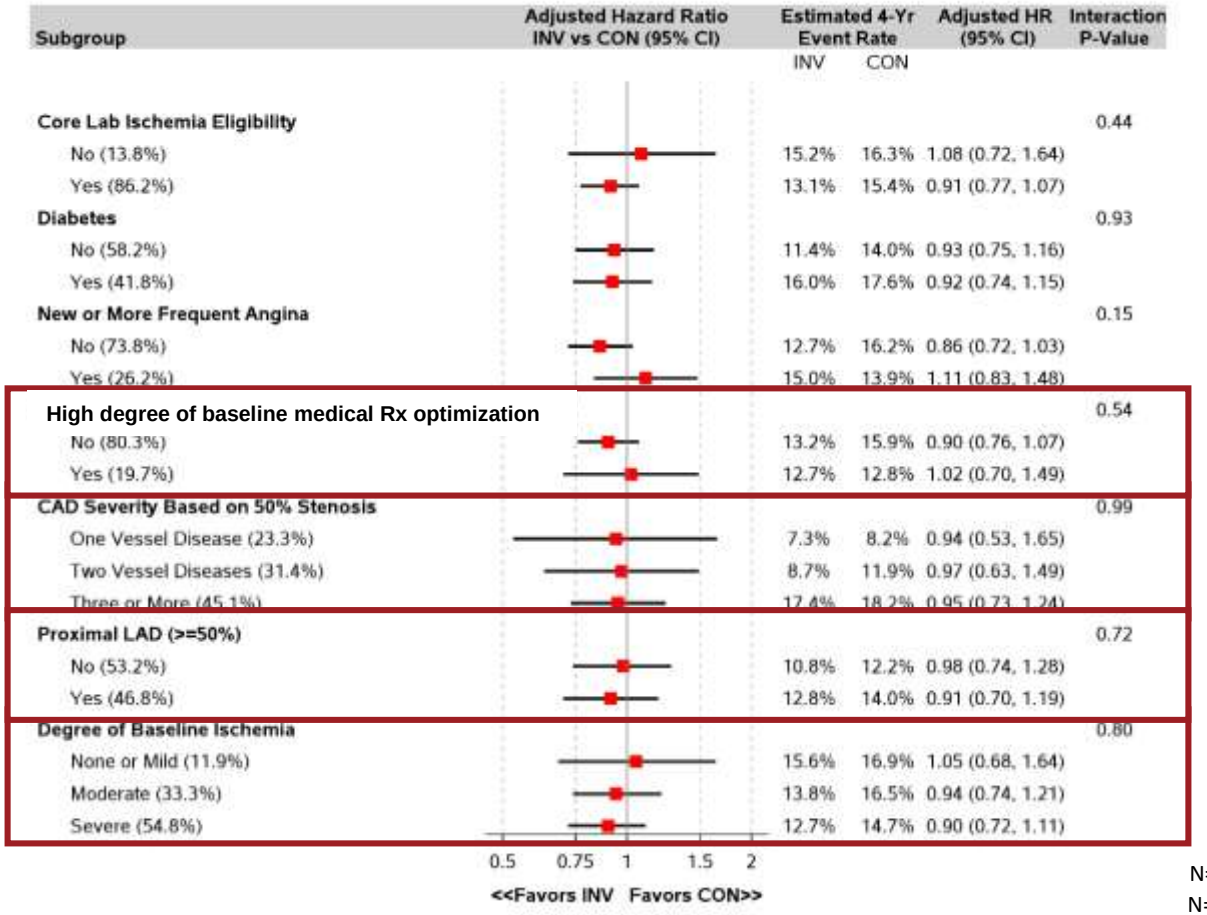
N Engl J Med 2020;382:1395-407



ISCHEMIA

Primary endpoint
Pre-specified Important Subgroups

There was no heterogeneity of treatment effect



Subgroup	Adjusted Hazard Ratio INV vs CON (95% CI)	Estimated 4-Yr Event Rate INV	Estimated 4-Yr Event Rate CON	Adjusted HR (95% CI)	Interaction P-Value
Core Lab Ischemia Eligibility					0.44
No (13.8%)		15.2%	16.3%	1.08 (0.72, 1.64)	
Yes (86.2%)		13.1%	15.4%	0.91 (0.77, 1.07)	
Diabetes					0.93
No (58.2%)		11.4%	14.0%	0.93 (0.75, 1.16)	
Yes (41.8%)		16.0%	17.6%	0.92 (0.74, 1.15)	
New or More Frequent Angina					0.15
No (73.8%)		12.7%	16.2%	0.86 (0.72, 1.03)	
Yes (26.2%)		15.0%	13.9%	1.11 (0.83, 1.48)	
High degree of baseline medical Rx optimization					0.54
No (80.3%)		13.2%	15.9%	0.90 (0.76, 1.07)	
Yes (19.7%)		12.7%	12.8%	1.02 (0.70, 1.49)	
CAD Severity Based on 50% Stenosis					0.99
One Vessel Disease (23.3%)		7.3%	8.2%	0.94 (0.53, 1.65)	
Two Vessel Diseases (31.4%)		8.7%	11.9%	0.97 (0.63, 1.49)	
Three or More (45.1%)		17.4%	18.2%	0.95 (0.73, 1.24)	
Proximal LAD (>=50%)					0.72
No (53.2%)		10.8%	12.2%	0.98 (0.74, 1.28)	
Yes (46.8%)		12.8%	14.0%	0.91 (0.70, 1.19)	
Degree of Baseline Ischemia					0.80
None or Mild (11.9%)		15.6%	16.9%	1.05 (0.68, 1.64)	
Moderate (33.3%)		13.8%	16.5%	0.94 (0.74, 1.21)	
Severe (54.8%)		12.7%	14.7%	0.90 (0.72, 1.11)	

N=3739 for Prox LAD Y/N
N=2982 for # diseased vessels

ISCHEMIA

After ISCHEMIA…

"The take-home message for me as a practicing cardiologist is that I don't have to feel… that I am doing any harm by trying medicines first."

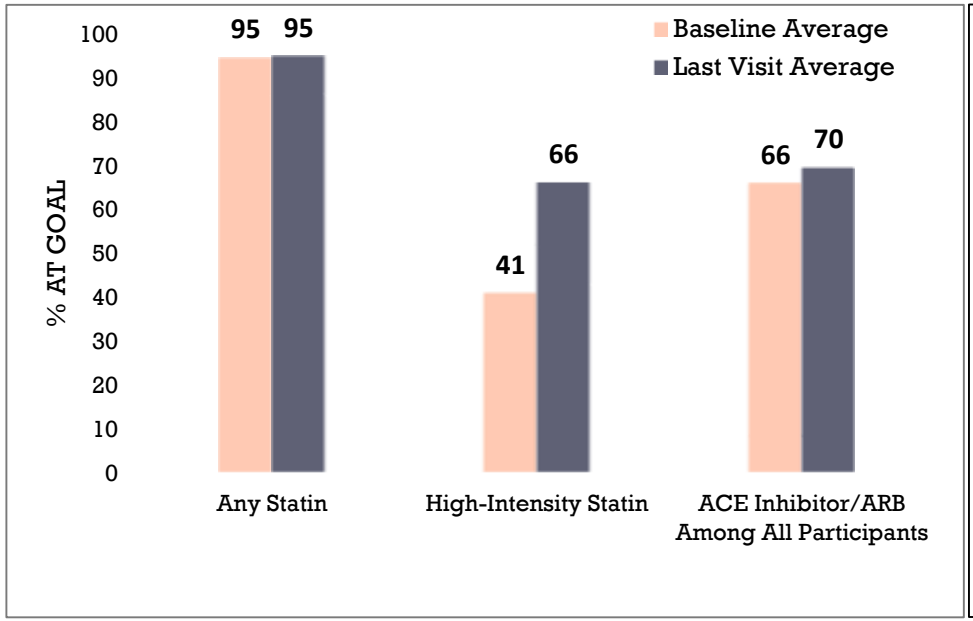
John Spertus, MD

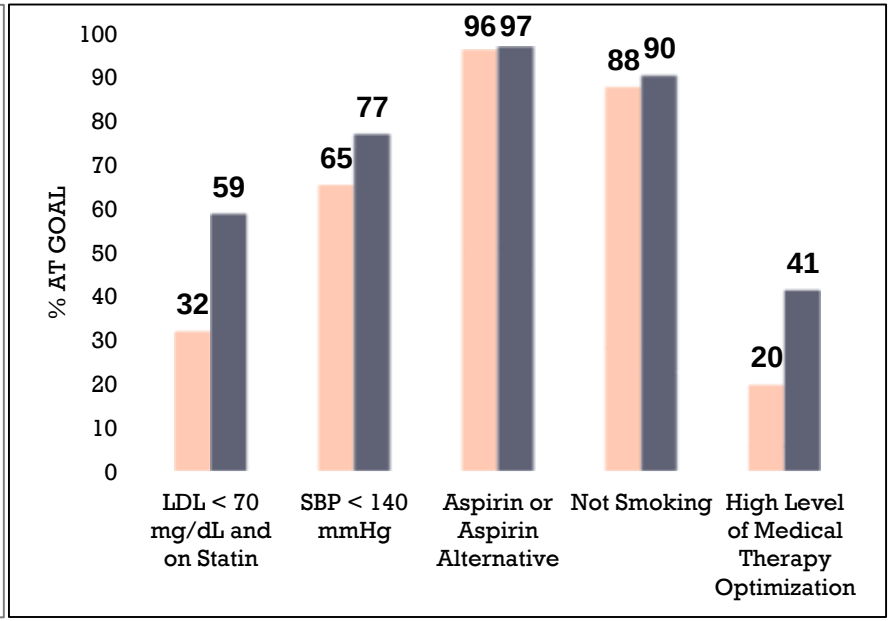
Director, Health Outcomes Research, Saint Luke's Mid America Heart Institute

Risk Factor Management

Baseline vs last visit

No between group differences INV vs CON





High Level of Medical Therapy Optimization is defined as a participant meeting all of the following goals: LDL < 70 mg/dL and on any statin, systolic blood pressure < 140 mm/Hg, on aspirin or other antiplatelet or anticoagulant, and not smoking. High level of medical therapy optimization is missing if any of the individual goals are missing.

ISCHEMIA

2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes

The Task Force for the diagnosis and management of chronic coronary syndromes of the European Society of Cardiology (ESC)

Authors/Task Force Members: Juhani Knuuti* (Finland) (Chairperson), William Wijns* (Ireland) (Chairperson), Antti Saraste (Finland), Davide Capodanno (Italy), Emanuele Barbato (Italy), Christian Funck-Brentano (France), Eva Prescott (Denmark), Robert F. Storey (United Kingdom), Christi Deaton (United Kingdom), Thomas Cuisset (France), Stefan Agewall (Norway), Kenneth Dickstein (Norway), Thor Edvardsen (Norway), Javier Escaned (Spain), Bernard J. Gersh (United States of America), Pavel Svitil (Czech Republic), Martine Gilard (France), David Hasdai (Israel), Robert Hatala (Slovak Republic), Felix Mahfoud (Germany), Josep Masip (Spain), Claudio Muneretto (Italy), Marco Valgimigli (Switzerland), Stephan Achenbach (Germany), Jeroen J. Bax (Netherlands)

Document Reviewers: Franz-Josef Neumann (Germany) (CPG Review Coordinator), Udo Sechtem (Germany) (CPG Review Coordinator), Adrian Paul Banning (United Kingdom), Nikolaos Bonaros (Austria), Héctor Bueno (Spain), Raffaele Bugiardini (Italy), Alaide Chieffo (Italy), Filippo Crea (Italy),

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2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes

Non-pharmacological management

Recommendations on lifestyle management

Recommendations	Class[a]	Level[b]
Improvement of lifestyle factors in addition to appropriate pharmacological management is recommended.[119–122,124,148–153]	I	A
Cognitive behavioural interventions are recommended to help individuals achieve a healthy lifestyle.[181–183]	I	A
Exercise-based cardiac rehabilitation is recommended as an effective means for patients with CCS to achieve a healthy lifestyle and manage risk factors.[151–153]	I	A
Involvement of multidisciplinary healthcare professionals (e.g. cardiologists, GPs, nurses, dieticians, physiotherapists, psychologists, and pharmacists) is recommended.[121,123,181,184]	I	A
Psychological interventions are recommended to improve symptoms of depression in patients with CCS.[126,157]	I	B
Annual influenza vaccination is recommended for patients with CCS, especially in the elderly.[175,176,178,179,185–187]	I	B

A systematic breakdown of the levels of evidence supporting the European Society of Cardiology guidelines

Wouter B van Dijk[1], Diederick E Grobbee[1], Martine C de Vries[2], Rolf H H Groenwold[3], Rieke van der Graaf[4] and Ewoud Schuit[1,5]

European Journal of Preventive Cardiology
2019, Vol. 26(18) 1944–1952
sagepub.com/journals-permissions
DOI: 10.1177/2047487319868540
journals.sagepub.com/home/cpr
SAGE

Recommendation class	Overall	I			II			III		
Level of evidence	Overall	A	B	C	A	B	C	A	B	C
Therapeutic	1245	300 (11.8%)	350 (13.8%)	484 (19.0%)	63 (2.5%)	411 (16.1%)	715 (28.1%)	48 (1.9%)	72 (2.8%)	102 (4.0%)
Diagnostic	831	39 (4.7%)	118 (14.2%)	299 (36.0%)	20 (2.6%)	100 (12.0%)	206 (24.8%)	5 (0.6%)	7 (0.8%)	35 (4.2%)
Other	155	21 (13.5%)	21 (13.5%)	52 (33.5%)	1 (0.6%)	24 (15.5%)	35 (22.6%)	-	-	1 (0.6%)

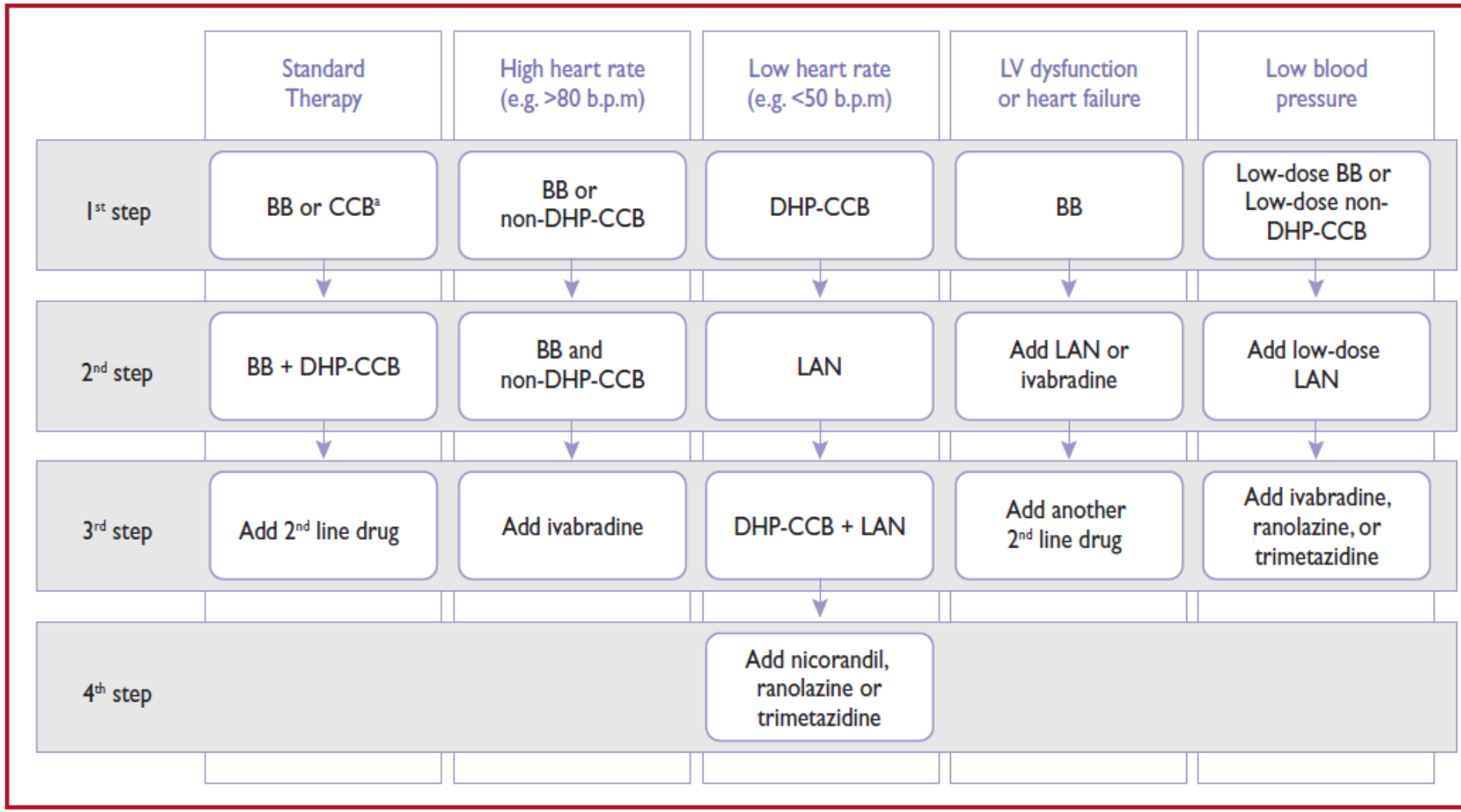
Lifestyle modification

Recommendations	Total (n. 5070)
Personalized diet, n. (%)	2957 (58)
Smoking cessation, n. (%)* **on 887 smokers*	629 (71)
Physical activity, n. (%)	3302 (65)

De Luca L, et al. Eur J Prev Cardiol. 2018;25:43

Suggested stepwise strategy for long-term anti-ischaemic drug therapy in patients with chronic coronary syndromes

(Atto I°)



European Journal of Internal Medicine 72 (2020) 5–8

Contents lists available at ScienceDirect

European Journal of Internal Medicine

journal homepage: www.elsevier.com/locate/ejim

Review Article

The ESC 2019 CCS guidelines: Have we left our patients and scientific evidence behind?

A.J. Manolis[a], M.S. Kallistratos[a,*], L.E. Poulimenos[a], G. Ambrosio[b], R. Dechend[d], J. Lopez-Sendon[e], G. Rosano[f,g], P. Collins[c]

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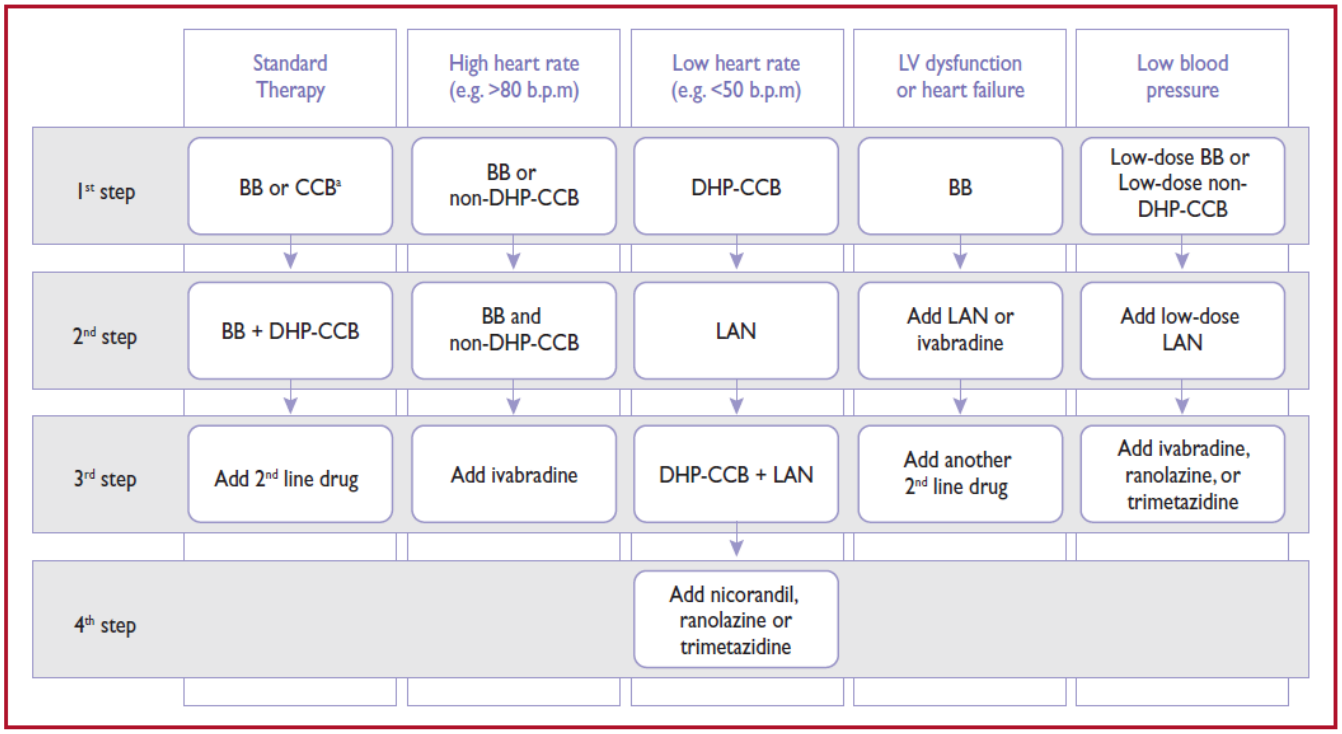
[b] Division of Cardiology, University of Perugia School of Medicine, Italy
[c] National Heart and Lung Institute, Imperial College London and Royal Brompton Hospital, UK
[d] Experimental and Clinical Research Center, A Joint Cooperation between the Max-Delbruck Center for Molecular Medicine and the Charité Medical Faculty and HELIOS-Clinic, Berlin, Germany
[e] Cardiology Department, Hospital Universitario La Paz, La Paz Research Institute (Idipaz), Spain
[f] Clinical Academic Group, St George's Hospitals NHS Trust, Blackshaw Road, London SW17 0QT, UK
[g] Department of Medical Sciences, IRCCS San Raffaele, Via della Pisana, 235, 00163 Rome, Italy



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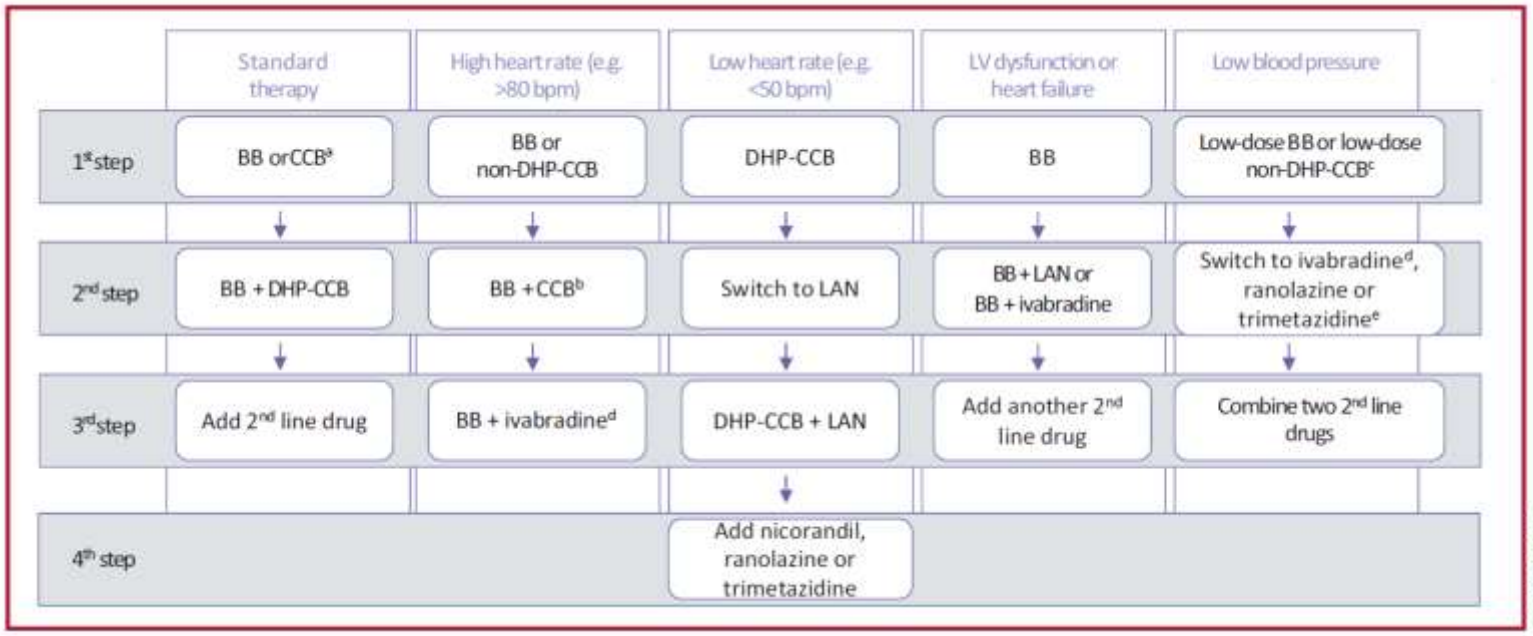


(Atto II°)

ESC European Society of Cardiology

European Heart Journal (2020) **41**, 480–481
doi:10.1093/eurheartj/ehz901

DISCUSSION FORUM

Anti-ischaemic medication must be adapted to each patient's characteristics and preferences in patients with chronic coronary syndromes

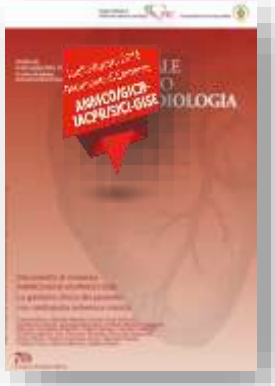
Juhani Knuuti [1]*, William Wijns[2], and Christian Funck-Brentano [3]

[1]Department of Clinical Physiology, Nuclear Medicine and PET and Turku PET Centre, Turku University Hospital, Kiinamyllynkatu 4-8, Turku FI-20520, Finland; [2]The Lambe Institute for Translational Medicine and Curam, National University of Ireland Galway, University Road, Galway H91 TK33, Ireland; and [3]Department of Clinical Pharmacology, Sorbonne Université, INSERM CIC Paris-Est, AP-HP.Sorbonne Université, ICAN, Pitié-Salpêtrière Hospital, 47–83 Blvd de l'Hôpital, F-75013 Paris, France

Online publish-ahead-of-print 28 December 2019

Dunque, che fare?

Documento di consenso ANMCO/GICR-IACPR/SICI-GISE: La gestione clinica del paziente con cardiopatia ischemica cronica



Carmine Riccio[1] (Coordinatore), Michele Massimo Gulizia[2] (Coordinatore), Furio Colivicchi[3] (Coordinatore), Andrea Di Lenarda[4] (Coordinatore), Giuseppe Musumeci[5], Pompilio Massimo Faggiano[6], Maurizio Giuseppe Abrignani[7], Roberta Rossini[5], Francesco Fattirolli[8], Serafina Valente[9], Gian Francesco Mureddu[10], Pier Luigi Temporelli[11], Zoran Olivari[12], Antonio Francesco Amico[13], Giancarlo Casolo[14], Claudio Fresco[15], Alberto Menozzi[16], Federico Nardi[17]

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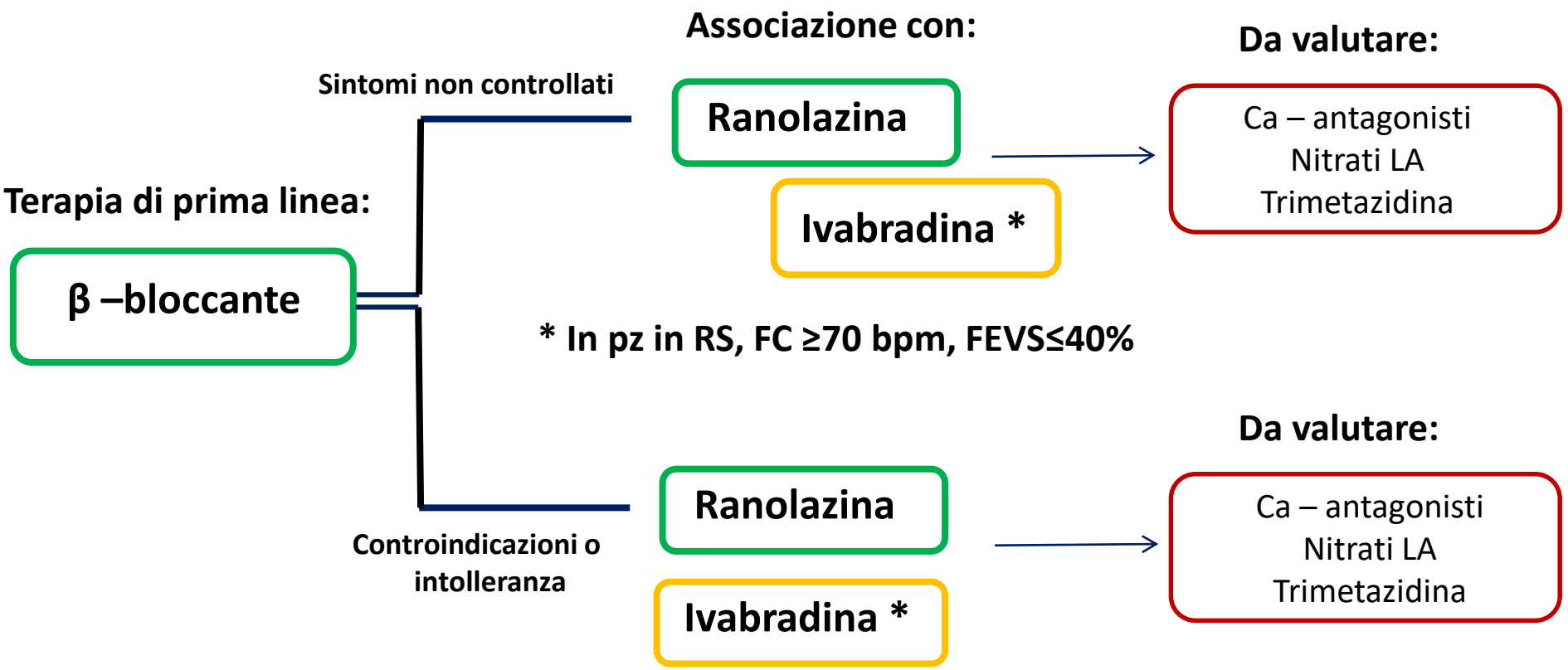
[16]U.O. Cardiologia, Azienda Ospedaliera Universitaria di Parma, Parma
[17]S.O.C. Cardiologia, Ospedale Castelli, Verbania

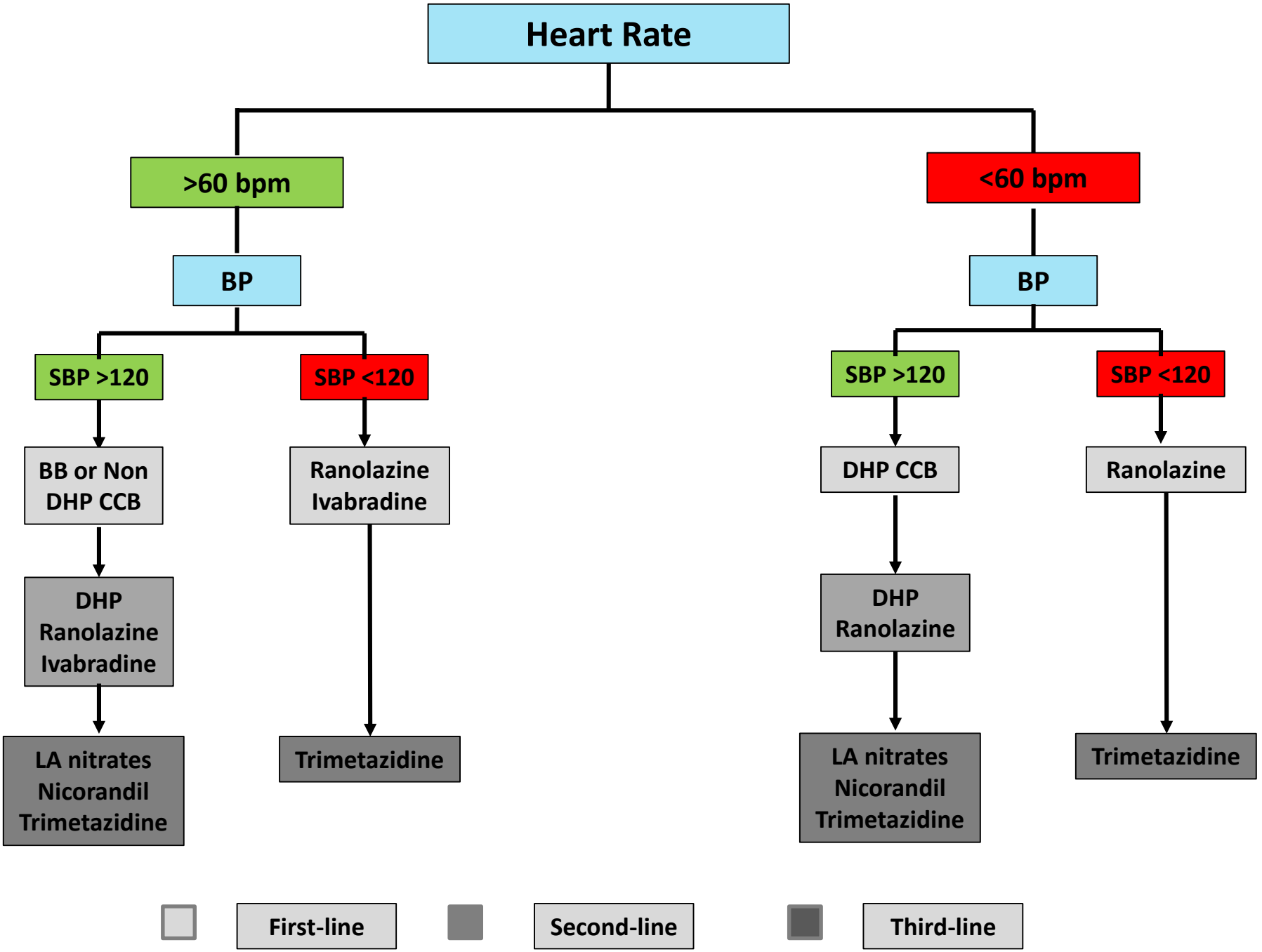
G Ital Cardiol 2016;17

Revisori del Documento
Roberto Caporale, Marco Malvezzi Caracciolo, Giovanna Geraci, Alfredo Marchese, Roberto Pedretti, Guerrino Zuin

Documento di consenso ANMCO/GICR-IACPR/SICI-GISE: La gestione clinica del paziente con cardiopatia ischemica cronica

G Ital Cardiol 2016;17




Heart Rate
>60 bpm
<60 bpm
BP
BP
SBP >120
SBP <120
SBP >120
SBP <120
BB or Non DHP CCB
Ranolazine Ivabradine
DHP CCB
Ranolazine
DHP Ranolazine Ivabradine
DHP Ranolazine
LA nitrates Nicorandil Trimetazidine
Trimetazidine
LA nitrates Nicorandil Trimetazidine
Trimetazidine
First-line
Second-line
Third-line

Take Home Message

✓Alla luce delle recenti evidenze (ISCHEMIA trial) la **terapia medica ottimale** dovrebbe essere il fondamento nella gestione del paziente con sindrome coronarica cronica

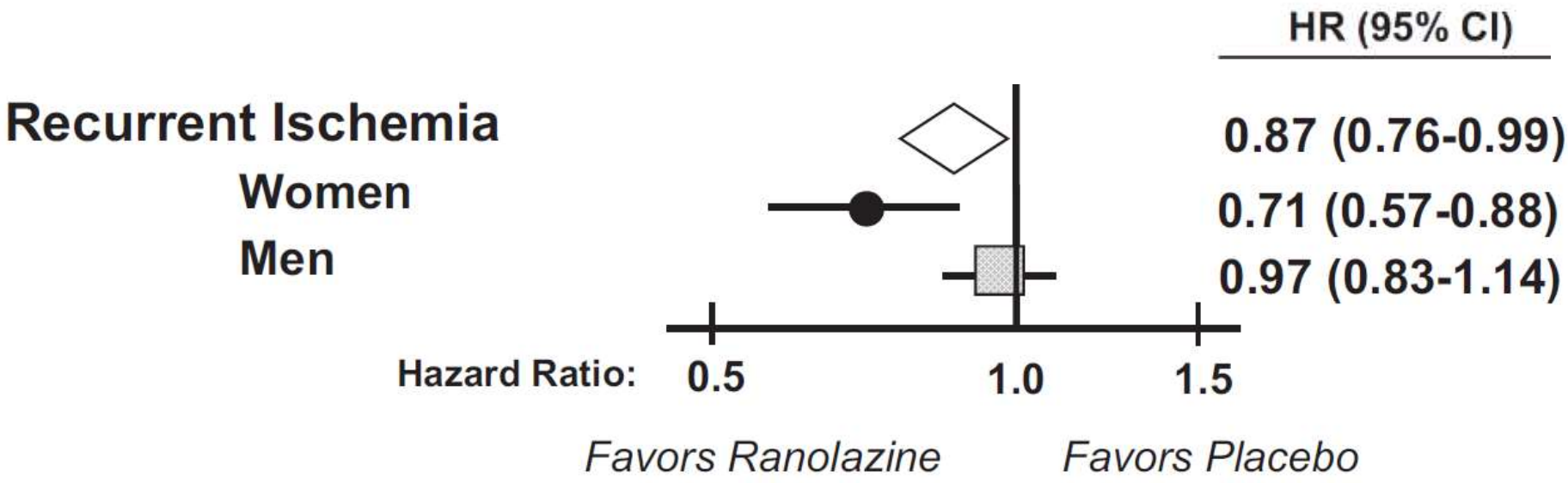
✓Terapia medica ottimale non vuol dire assenza di rivascolarizzazione a priori, piuttosto la presenza di un intensivo approccio ***farmacologico e non***

✓Nell'ambito di un ottimale approccio farmacologico secondo documenti di consenso nazionali **le nuove molecole anti-ischemiche, in particolare ranolazina, devono avere un ruolo di maggiore rilievo**

Clinical Features and Outcomes of Women With Unstable Ischemic Heart Disease

Observations From Metabolic Efficiency With Ranolazine for Less Ischemia in Non–ST-Elevation Acute Coronary Syndromes–Thrombolysis in Myocardial Infarction 36 (MERLIN-TIMI 36)

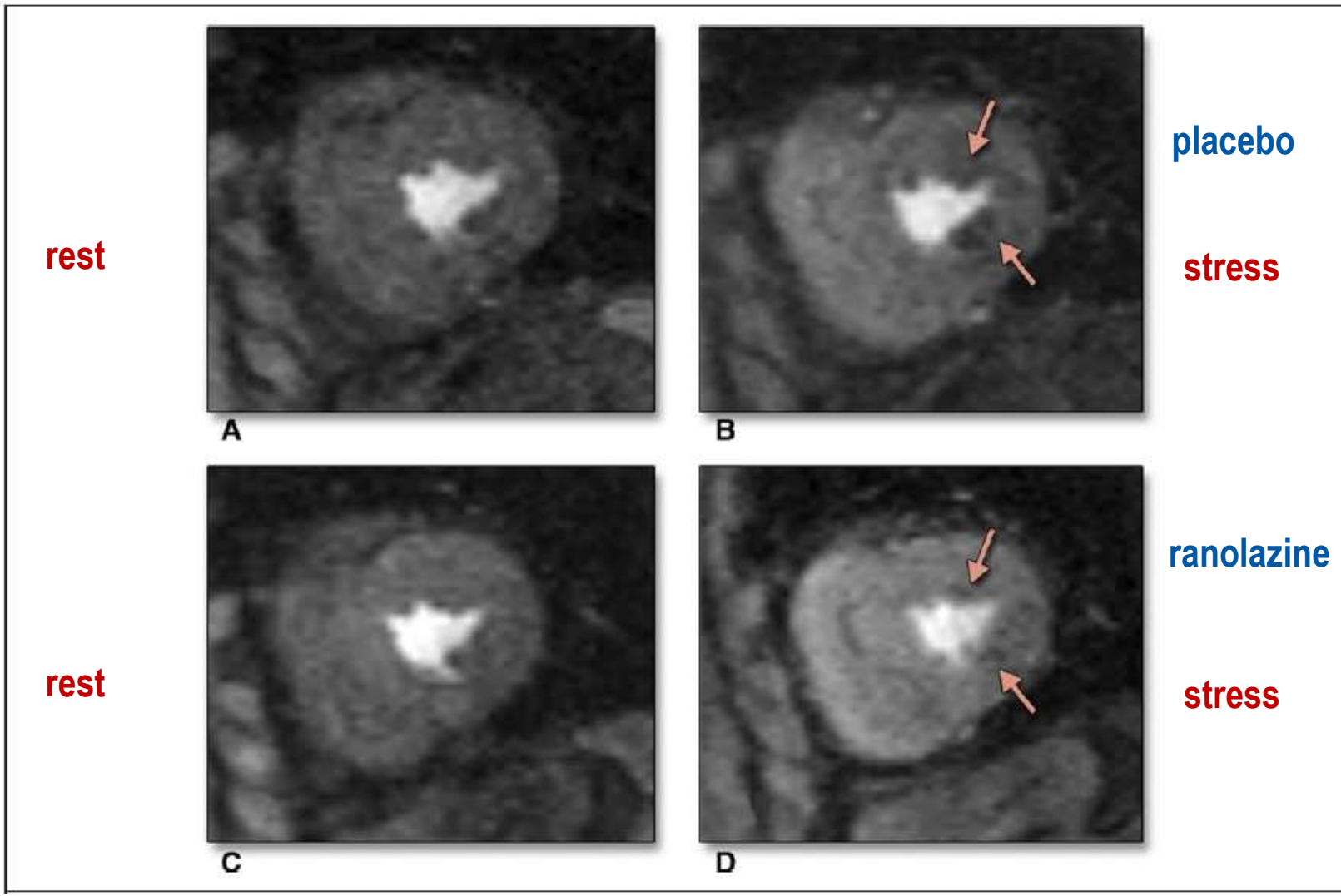
Mega J, Circulation 2010



JACC: CARDIOVASCULAR IMAGING
VOL. 4, NO. 5, 2011

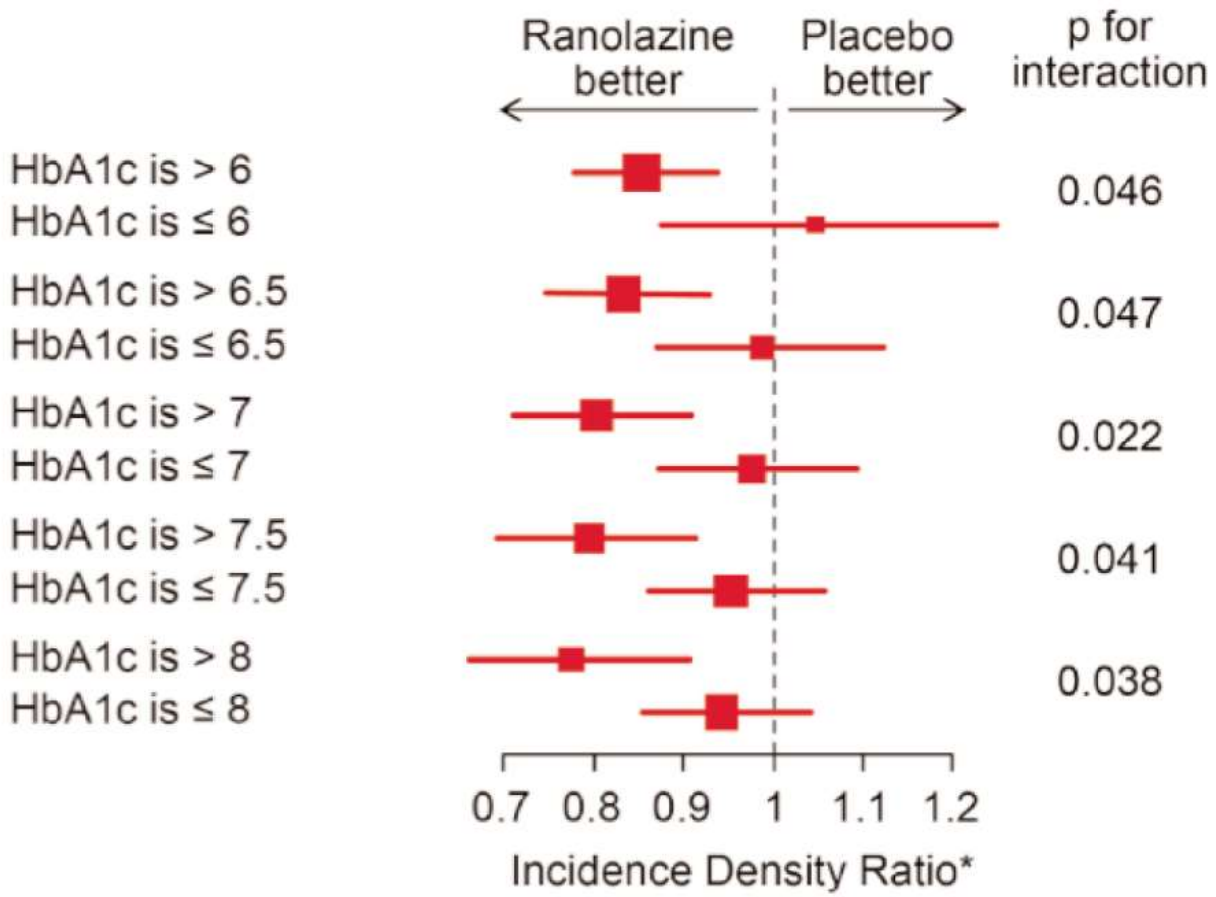
PUBLISHED BY ELSEVIER INC.
ISSN 1936-878X/$36.00
DOI:10.1016/j.jcmg.2011.03.007

Ranolazine Improves Angina in Women



Evaluation of Ranolazine in Patients with Type 2 Diabetes Mellitus and Chronic Stable Angina. Results from the TERISA randomized clinical trial

Kosiborod MJ Am Coll Cardiol 2013



Canagliflozin and Renal Outcomes in Type 2 Diabetes and Nephropathy

V. Perkovic, M.J. Jardine, B. Neal, S. Bompoint, H.J.L. Heerspink, D.M. Charytan, R. Edwards, R. Agarwal, G. Bakris, S. Bull, C.P. Cannon, G. Capuano, P.-L. Chu, D. de Zeeuw, T. Greene, A. Levin, C. Pollock, D.C. Wheeler, Y. Yavin, H. Zhang, B. Zinman, G. Meininger, B.M. Brenner, and K.W. Mahaffey, for the CREDENCE Trial Investigators*

ABSTRACT

BACKGROUND

Type 2 diabetes mellitus is the leading cause of kidney failure worldwide, but few effective long-term treatments are available. In cardiovascular trials of inhibitors of sodium–glucose cotransporter 2 (SGLT2), exploratory results have suggested that such drugs may improve renal outcomes in patients with type 2 diabetes.

METHODS

In this double-blind, randomized trial, we assigned patients with type 2 diabetes and albuminuric chronic kidney disease to receive canagliflozin, an oral SGLT2 inhibitor, at a dose of 100 mg daily or placebo. All the patients had an estimated glomerular filtration rate (GFR) of 30 to <90 ml per minute per 1.73 m^2 of body-surface area and albuminuria (ratio of albumin [mg] to creatinine [g], >300 to 5000) and were treated with renin–angiotensin system blockade. The primary outcome was a composite of end-stage kidney disease (dialysis, transplantation, or a sustained estimated GFR of <15 ml per minute per 1.73 m^2), a doubling of the serum creatinine level, or death from renal or cardiovascular causes. Prespecified secondary outcomes were tested hierarchically.

RESULTS

The trial was stopped early after a planned interim analysis on the recommendation of the data and safety monitoring committee. At that time, 4401 patients had undergone randomization, with a median follow-up of 2.62 years. The relative risk of the primary outcome was 30% lower in the canagliflozin group than in the placebo group, with event rates of 43.2 and 61.2 per 1000 patient-years, respectively (hazard ratio, 0.70; 95% confidence interval [CI], 0.59 to 0.82; P=0.00001). The relative risk of the renal-specific composite of end-stage kidney disease, a doubling of the creatinine level, or death from renal causes was lower by 34% (hazard ratio, 0.66; 95% CI, 0.53 to 0.81; P<0.001), and the relative risk of end-stage kidney disease was lower by 32% (hazard ratio, 0.68; 95% CI, 0.54 to 0.86; P=0.002). The canagliflozin group also had a lower risk of cardiovascular death, myocardial infarction, or stroke (hazard ratio, 0.80; 95% CI, 0.67 to 0.95; P=0.01) and hospitalization for heart failure (hazard ratio, 0.61; 95% CI, 0.47 to 0.80; P<0.001). There were no significant differences in rates of amputation or fracture.

CONCLUSIONS

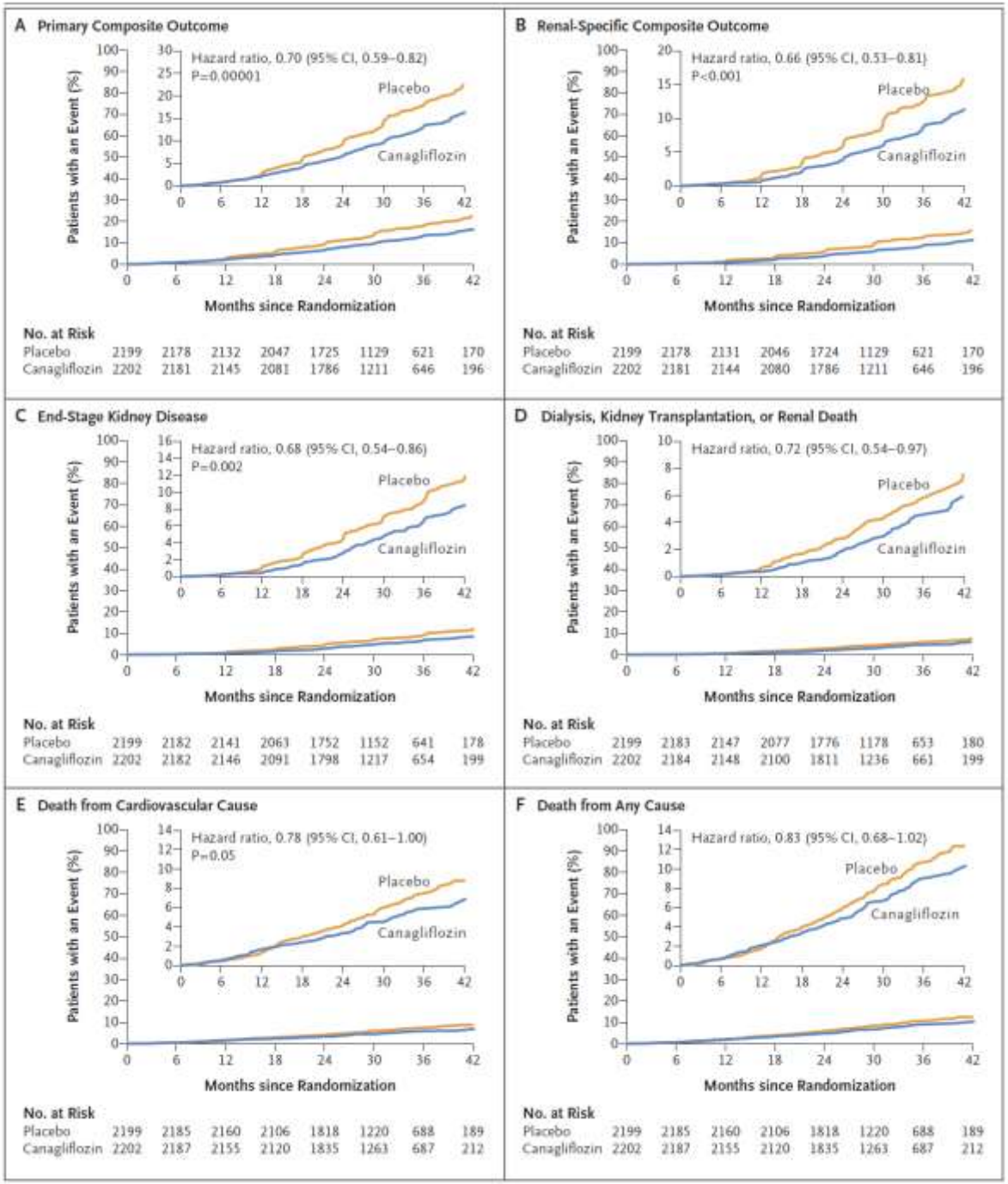
In patients with type 2 diabetes and kidney disease, the risk of kidney failure and cardiovascular events was lower in the canagliflozin group than in the placebo group at a median follow-up of 2.62 years. (Funded by Janssen Research and Development; CREDENCE ClinicalTrials.gov number, NCT02065791.)

The authors' full names, academic degrees, and affiliations are listed in the Appendix. Address reprint requests to Dr. Perkovic at the George Institute for Global Health, University of New South Wales Sydney, Level 5, 1 King St., Newtown, NSW 2042, Australia, or at vperkovic@georgeinstitute.org.au.

*A complete list of the CREDENCE trial investigators is provided in the Supplementary Appendix, available at NEJM.org.

This article was published on April 14, 2019, at NEJM.org.

N Engl J Med 2019;380:2295-306.
DOI: 10.1056/NEJMoa1811744


A Primary Composite Outcome
Hazard ratio, 0.70 (95% CI, 0.59–0.82)
P=0.00001
Placebo
Canagliflozin
Patients with an Event (%)
Months since Randomization
No. at Risk
Placebo 2199 2178 2132 2047 1725 1129 621 170
Canagliflozin 2202 2181 2145 2081 1786 1211 646 196
B Renal-Specific Composite Outcome
Hazard ratio, 0.66 (95% CI, 0.53–0.81)
P<0.001
Placebo
Canagliflozin
Patients with an Event (%)
Months since Randomization
No. at Risk
Placebo 2199 2178 2131 2046 1724 1129 621 170
Canagliflozin 2202 2181 2144 2080 1786 1211 646 196
C End-Stage Kidney Disease
Hazard ratio, 0.68 (95% CI, 0.54–0.86)
P=0.002
Placebo
Canagliflozin
Patients with an Event (%)
Months since Randomization
No. at Risk
Placebo 2199 2182 2141 2063 1752 1152 641 178
Canagliflozin 2202 2182 2146 2091 1798 1217 654 199
D Dialysis, Kidney Transplantation, or Renal Death
Hazard ratio, 0.72 (95% CI, 0.54–0.97)
Placebo
Canagliflozin
Patients with an Event (%)
Months since Randomization
No. at Risk
Placebo 2199 2183 2147 2077 1776 1178 653 180
Canagliflozin 2202 2184 2148 2100 1811 1236 661 199
E Death from Cardiovascular Cause
Hazard ratio, 0.78 (95% CI, 0.61–1.00)
P=0.05
Placebo
Canagliflozin
Patients with an Event (%)
Months since Randomization
No. at Risk
Placebo 2199 2185 2160 2106 1818 1220 688 189
Canagliflozin 2202 2187 2155 2120 1835 1263 687 212
F Death from Any Cause
Hazard ratio, 0.83 (95% CI, 0.68–1.02)
Placebo
Canagliflozin
Patients with an Event (%)
Months since Randomization
No. at Risk
Placebo 2199 2185 2160 2106 1818 1220 688 189
Canagliflozin 2202 2187 2155 2120 1835 1263 687 212

Dapagliflozin in Patients with Chronic Kidney Disease

Hiddo J.L. Heerspink, Ph.D., Bergur V. Stefánsson, M.D., Ricardo Correa-Rotter, M.D., Glenn M. Chertow, M.D., Tom Greene, Ph.D., Fan-Fan Hou, M.D., Johannes F.E. Mann, M.D., John J.V. McMurray, M.D., Magnus Lindberg, M.Sc., Peter Rossing, M.D., C. David Sjöström, M.D., Roberto D. Toto, M.D., Anna-Maria Langkilde, M.D., and David C. Wheeler, M.D., for the DAPA-CKD Trial Committees and Investigators*

ABSTRACT

BACKGROUND

Patients with chronic kidney disease have a high risk of adverse kidney and cardiovascular outcomes. The effect of dapagliflozin in patients with chronic kidney disease, with or without type 2 diabetes, is not known.

METHODS

We randomly assigned 4304 participants with an estimated glomerular filtration rate (GFR) of 25 to 75 ml per minute per 1.73 m^2 of body-surface area and a urinary albumin-to-creatinine ratio (with albumin measured in milligrams and creatinine measured in grams) of 200 to 5000 to receive dapagliflozin (10 mg once daily) or placebo. The primary outcome was a composite of a sustained decline in the estimated GFR of at least 50%, end-stage kidney disease, or death from renal or cardiovascular causes.

RESULTS

The independent data monitoring committee recommended stopping the trial because of efficacy. Over a median of 2.4 years, a primary outcome event occurred in 197 of 2152 participants (9.2%) in the dapagliflozin group and 312 of 2152 participants (14.5%) in the placebo group (hazard ratio, 0.61; 95% confidence interval [CI], 0.51 to 0.72; P<0.001; number needed to treat to prevent one primary outcome event, 19 [95% CI, 15 to 27]). The hazard ratio for the composite of a sustained decline in the estimated GFR of at least 50%, end-stage kidney disease, or death from renal causes was 0.56 (95% CI, 0.45 to 0.68; P<0.001), and the hazard ratio for the composite of death from cardiovascular causes or hospitalization for heart failure was 0.71 (95% CI, 0.55 to 0.92; P=0.009). Death occurred in 101 participants (4.7%) in the dapagliflozin group and 146 participants (6.8%) in the placebo group (hazard ratio, 0.69; 95% CI, 0.53 to 0.88; P=0.004). The effects of dapagliflozin were similar in participants with type 2 diabetes and in those without type 2 diabetes. The known safety profile of dapagliflozin was confirmed.

CONCLUSIONS

Among patients with chronic kidney disease, regardless of the presence or absence of diabetes, the risk of a composite of a sustained decline in the estimated GFR of at least 50%, end-stage kidney disease, or death from renal or cardiovascular causes was significantly lower with dapagliflozin than with placebo. (Funded by AstraZeneca; DAPA-CKD ClinicalTrials.gov number, NCT03036150.)

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*A complete list of DAPA-CKD committee members and investigators is provided in the Supplementary Appendix, available at NEJM.org.

This article was published on September 24, 2020, at NEJM.org.

DOI: 10.1056/NEJMoa2024816

Cardiovascular and Renal Outcomes with Empagliflozin in Heart Failure

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ABSTRACT

BACKGROUND

Sodium–glucose cotransporter 2 (SGLT2) inhibitors reduce the risk of hospitalization for heart failure in patients regardless of the presence or absence of diabetes. More evidence is needed regarding the effects of these drugs in patients across the broad spectrum of heart failure, including those with a markedly reduced ejection fraction.

METHODS

In this double-blind trial, we randomly assigned 3730 patients with class II, III, or IV heart failure and an ejection fraction of 40% or less to receive empagliflozin (10 mg once daily) or placebo, in addition to recommended therapy. The primary outcome was a composite of cardiovascular death or hospitalization for worsening heart failure.

RESULTS

During a median of 16 months, a primary outcome event occurred in 361 of 1863 patients (19.4%) in the empagliflozin group and in 462 of 1867 patients (24.7%) in the placebo group (hazard ratio for cardiovascular death or hospitalization for heart failure, 0.75; 95% confidence interval [CI], 0.65 to 0.86; P<0.001). The effect of empagliflozin on the primary outcome was consistent in patients regardless of the presence or absence of diabetes. The total number of hospitalizations for heart failure was lower in the empagliflozin group than in the placebo group (hazard ratio, 0.70; 95% CI, 0.58 to 0.85; P<0.001). The annual rate of decline in the estimated glomerular filtration rate was slower in the empagliflozin group than in the placebo group (−0.55 vs. −2.28 ml per minute per 1.73 m^2 of body-surface area per year, P<0.001), and empagliflozin-treated patients had a lower risk of serious renal outcomes. Uncomplicated genital tract infection was reported more frequently with empagliflozin.

CONCLUSIONS

Among patients receiving recommended therapy for heart failure, those in the empagliflozin group had a lower risk of cardiovascular death or hospitalization for heart failure than those in the placebo group, regardless of the presence or absence of diabetes. (Funded by Boehringer Ingelheim and Eli Lilly; EMPEROR-Reduced ClinicalTrials.gov number, NCT03057977.)

The authors' full names, academic degrees, and affiliations are listed in the Appendix. Address reprint requests to Dr. Packer at Baylor Heart and Vascular Institute, 621 N. Hall St., Dallas, TX 75226, or at milton.packer@baylorhealth.edu.

*A complete list of the EMPEROR-Reduced investigators is provided in the Supplementary Appendix, available at NEJM.org.

This article was published on August 29, 2020, at NEJM.org.

DOI: 10.1056/NEJMoa2022190

Table 1. Characteristics of the Patients at Baseline.*

Characteristic	Empagliflozin (N = 1863)	Placebo (N = 1867)
Age — yr	67.2±10.8	66.5±11.2
Female sex — no. (%)	437 (23.5)	456 (24.4)
Race — no. (%)†		
White	1325 (71.1)	1304 (69.8)
Black	123 (6.6)	134 (7.2)
Asian	337 (18.1)	335 (17.9)
Other or missing	78 (4.2)	94 (5.0)
Region — no. (%)		
North America	212 (11.4)	213 (11.4)
Latin America	641 (34.4)	645 (34.5)
Europe	676 (36.3)	677 (36.3)
Asia	248 (13.3)	245 (13.1)
Other	86 (4.6)	87 (4.7)
NYHA functional class — no. (%)		
II	1399 (75.1)	1401 (75.0)
III	455 (24.4)	455 (24.4)
IV	9 (0.5)	11 (0.6)
Body-mass index‡	28.0±5.5	27.8±5.3
Heart rate — beats/min	71.0±11.7	71.5±11.8
Systolic blood pressure — mm Hg	122.6±15.9	121.4±15.4
Left ventricular ejection fraction		
Mean value	27.7±6.0	27.2±6.1
Value of ≤30% — no. (%)	1337 (71.8)	1392 (74.6)
NT-proBNP		
Median value (IQR) — pg/ml	1887 (1077–3429)	1926 (1153–3525)
Value of ≥1000 pg/ml — no./total no. (%)	1463/1862 (78.6)	1488/1866 (79.7)
Cause of heart failure — no. (%)		
Ischemic	983 (52.8)	946 (50.7)
Nonischemic	880 (47.2)	921 (49.3)
Cardiovascular history — no. (%)		
Hospitalization for heart failure in ≤12 mo	577 (31.0)	574 (30.7)
Atrial fibrillation	664 (35.6)	705 (37.8)
Diabetes mellitus	927 (49.8)	929 (49.8)
Hypertension	1349 (72.4)	1349 (72.3)
Estimated glomerular filtration rate		
Mean value — ml/min/1.73 m^2	61.8±21.7	62.2±21.5
Value of <60 ml/min/1.73 m^2 — no./total no. (%)	893/1862 (48.0)	906/1866 (48.6)

Quale follow up nel paziente con sindrome coronarica cronica ?

Less Is More

How Less Health Care Can Result in Better Health

ARCH INTERN MED/VOL 170 (NO. 9), MAY 10, 2010

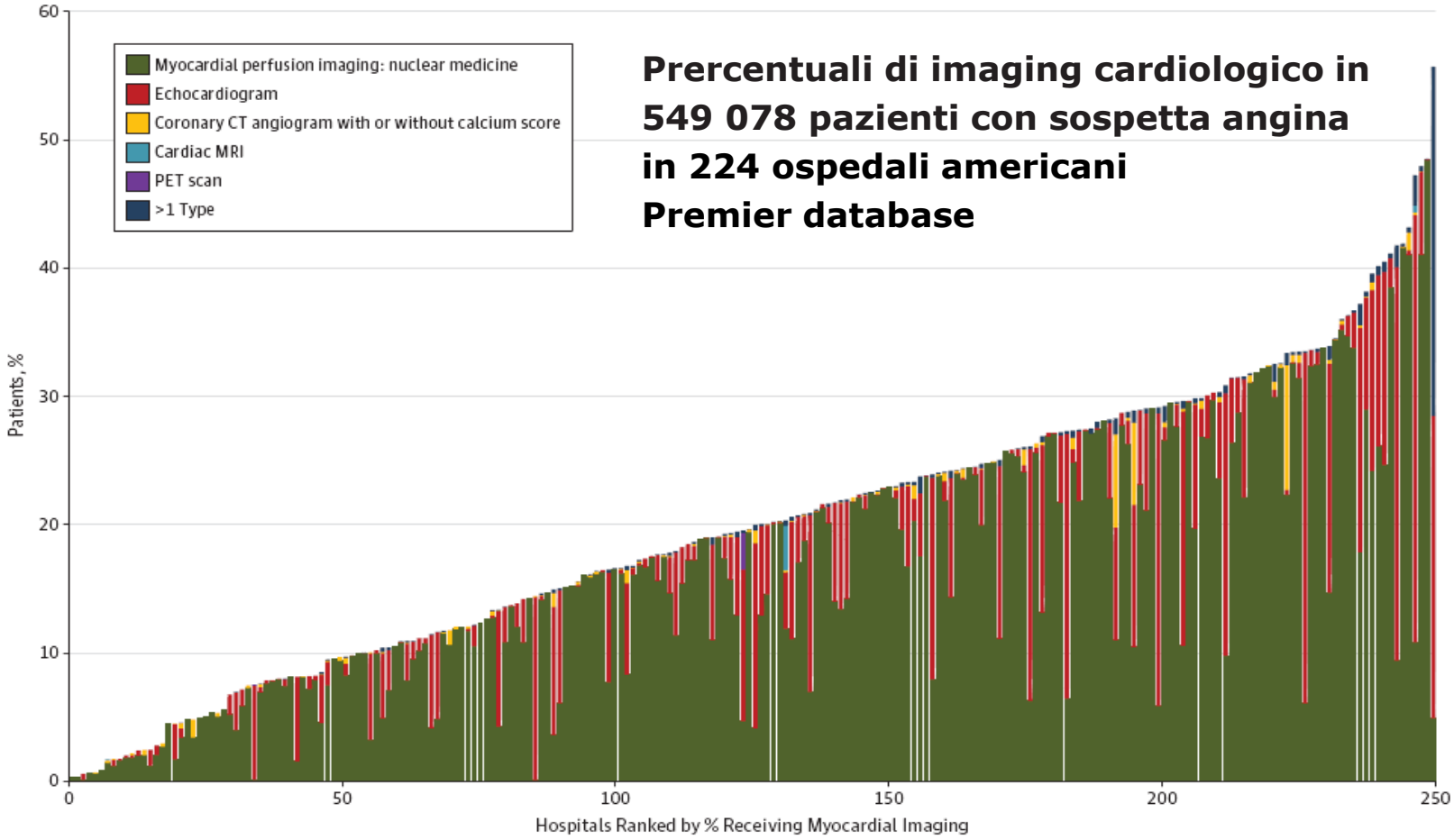
Deborah Grady, MD, MPH
Rita F. Redberg, MD, MSc
Editor

Se alcune procedure mediche sono utili, più procedure saranno ancora più utili, o no?

Purtroppo, ciò spesso non corrisponde al vero.

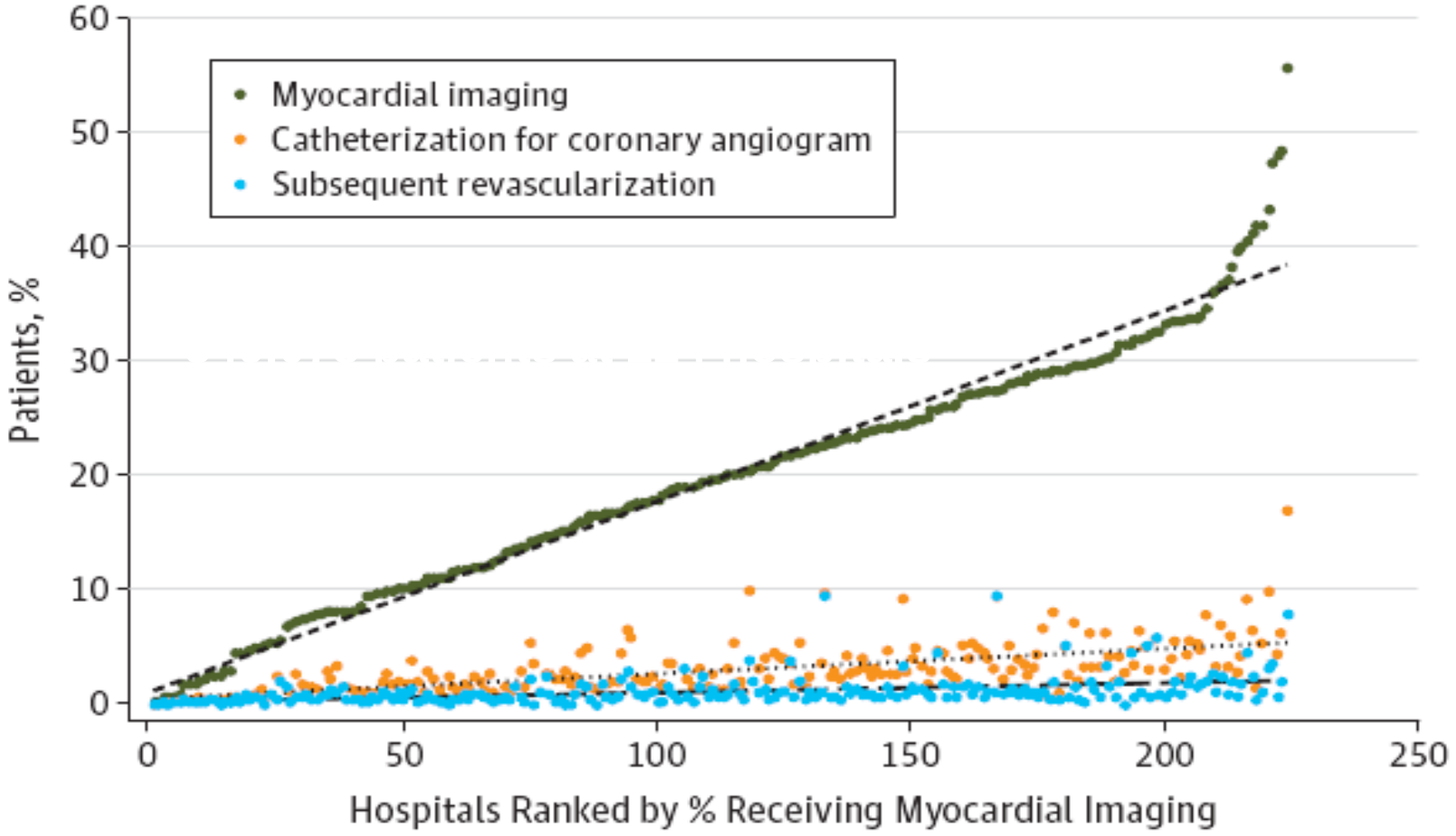
Variazioni tra ospedali nell'uso di imaging cardiologico non invasivo e loro associazioni con ulteriori esami, interventi e risultati a distanza

Safavi et Al. JAMA Int Med 2014;174:546-553



Rapporto tra test di ischemia e successive coronarografie e rivascolarizzazioni

Safavi et Al. JAMA Int Med 2014;174:546-553



JAMA Internal Medicine | Original Investigation | HEALTH CARE POLICY AND LAW

Variation in Physician Spending and Association With Patient Outcomes

Yusuke Tsugawa, MD, MPH, PhD; Ashish K. Jha, MD, MPH; Joseph P. Newhouse, PhD; Alan M. Zaslavsky, PhD; Anupam B. Jena, MD, PhD

Published online March 13, 2017

CONCLUSIONI E RILEVANZA. La spesa per l'assistenza sanitaria varia più tra i singoli medici che tra gli ospedali. Tuttavia, la spesa medica più elevata non è associata a migliori risultati.

I nostri dati suggeriscono che le politiche rivolte sia ai medici che agli ospedali potrebbero essere più efficaci nel ridurre la spesa sanitaria rispetto alle politiche che si concentrano esclusivamente sugli ospedali.

2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes

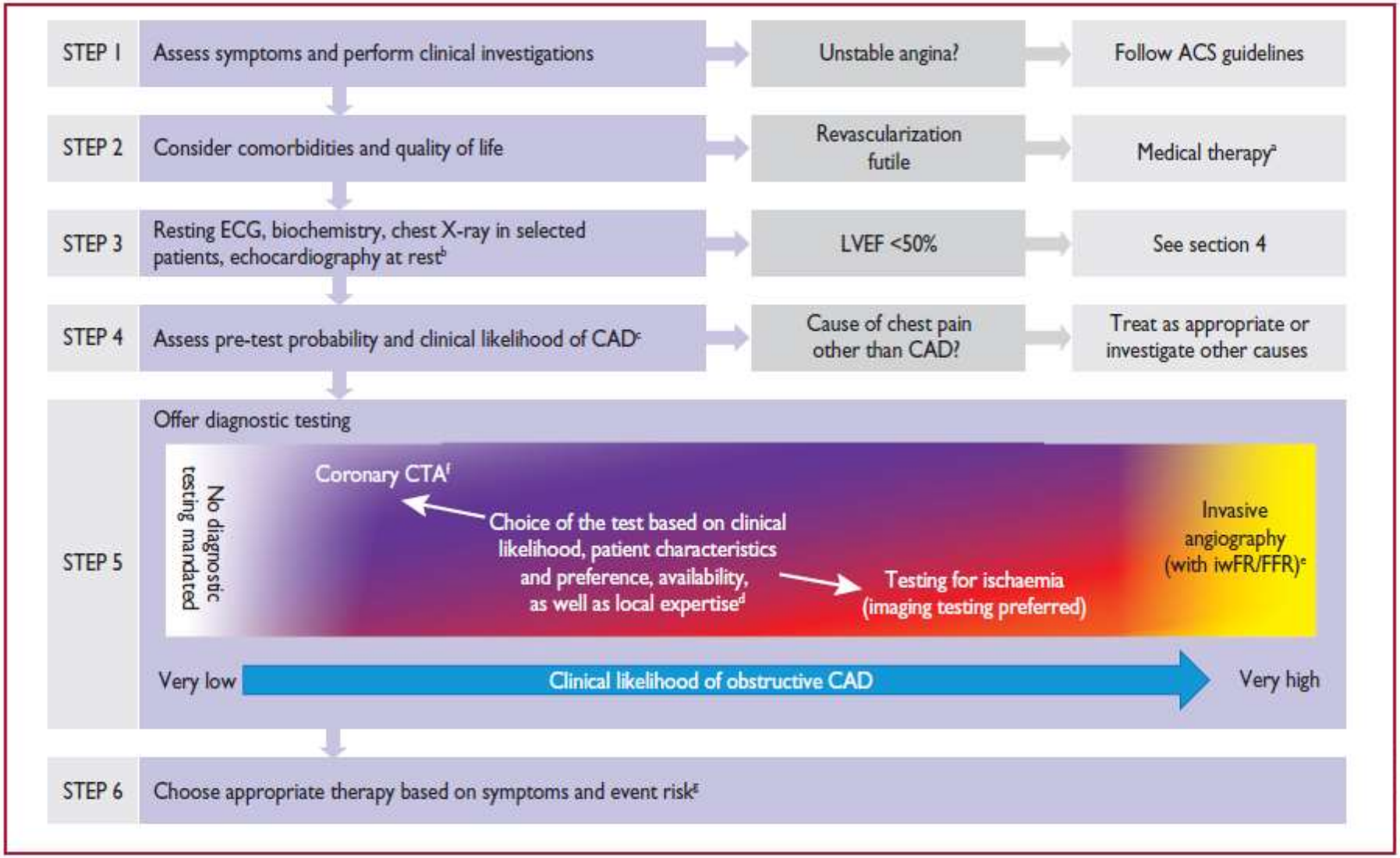
The Task Force for the diagnosis and management of chronic coronary syndromes of the European Society of Cardiology (ESC)

Authors/Task Force Members: Juhani Knuuti* (Finland) (Chairperson), William Wijns* (Ireland) (Chairperson), Antti Saraste (Finland), Davide Capodanno (Italy), Emanuele Barbato (Italy), Christian Funck-Brentano (France), Eva Prescott (Denmark), Robert F. Storey (United Kingdom), Christi Deaton (United Kingdom), Thomas Cuisset (France), Stefan Agewall (Norway), Kenneth Dickstein (Norway), Thor Edvardsen (Norway), Javier Escaned (Spain), Bernard J. Gersh (United States of America), Pavel Svitil (Czech Republic), Martine Gilard (France), David Hasdai (Israel), Robert Hatala (Slovak Republic), Felix Mahfoud (Germany), Josep Masip (Spain), Claudio Muneretto (Italy), Marco Valgimigli (Switzerland), Stephan Achenbach (Germany), Jeroen J. Bax (Netherlands)

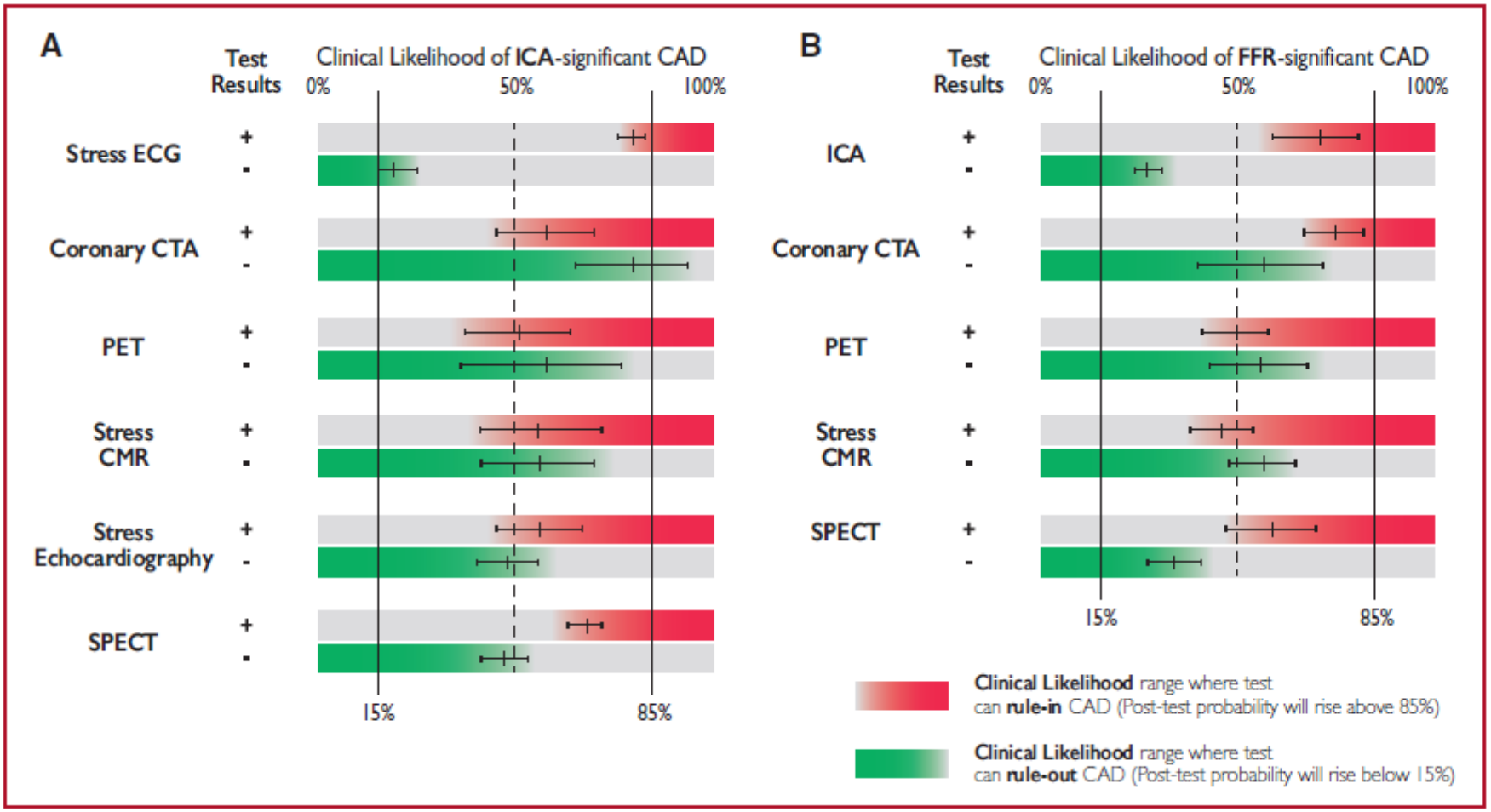
Document Reviewers: Franz-Josef Neumann (Germany) (CPG Review Coordinator), Udo Sechtem (Germany) (CPG Review Coordinator), Adrian Paul Banning (United Kingdom), Nikolaos Bonaros (Austria), Héctor Bueno (Spain), Raffaele Bugiardini (Italy), Alaide Chieffo (Italy), Filippo Crea (Italy),

Approccio al paziente senza documentata coronaropatia con sintomi sospetti per angina

Approccio per la gestione iniziale dei pazienti con angina e sospetta coronaropatia



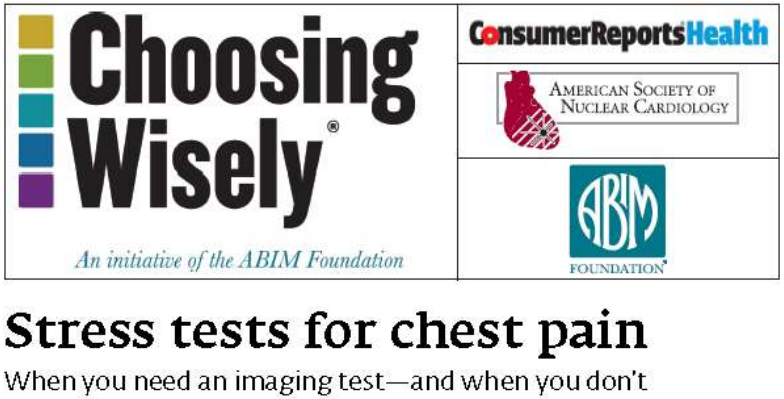
Probabilità di coronaropatia in cui un dato test può escludere (verde) o confermare (rosso) una significativa ostruzione coronarica



Rivalutazione del paziente con documentata coronaropatia

Quando le indagini diagnostiche non sono appropriate nel follow-up del paziente cardiopatico cronico?

- Ecocardiografia
- ECG da sforzo
- Stress Imaging
- Angio-TC coronarica



Gruppo di lavoro

"Fare di più non significa fare meglio"

Area Prevenzione Cardiovascolare A.N.M.C.O.

F. Fattirolli, A. Cherubini, P. Clavario, A. Frisinghelli, GF Mureddu, PL Temporelli

Procedure diagnostiche in prevenzione cardiovascolare: di che cosa possiamo fare a meno?

Le cinque pratiche a rischio d'inappropriatezza di cui medici e pazienti dovrebbero parlare

Associazione Nazionale Medici Cardiologi Ospedalieri ANMCO

1	**Non richiedere ecocardiografia di controllo in pazienti con valvulopatia lieve-moderata o con disfunzione ventricolare sinistra, in assenza di nuovi sintomi, segni o eventi clinici.**
	A causa della lenta evolutività delle patologie valvolari lievi-moderate e dell'inutilità clinica di rivalutare la funzione ventricolare sinistra in pazienti clinicamente stabili, l'ecocardiografia dovrebbe essere eseguita solo in presenza di variazioni dello stato clinico.
2	**Non richiedere di routine prova elettrocardiografica da sforzo di controllo in pazienti asintomatici dopo rivascolarizzazione chirurgica o percutanea.**
	Non ci sono prove di efficacia che dimostrino la riduzione di eventi con l'esecuzione di routine di una prova da sforzo dopo rivascolarizzazione. La prova da sforzo dovrebbe essere eseguita solo per valutare rivascolarizzazioni incomplete o in presenza di variazioni dello stato clinico.
3	**Non richiedere registrazione Holter in pazienti con dolore toracico da sforzo che siano in grado di eseguire prova da sforzo, a meno che non vi sia anche il sospetto di aritmie.**
	L'Holter ha una bassa sensibilità e specificità nell'evidenziare ischemia in pazienti con dolore toracico, non potendo calibrare l'entità dello sforzo. È preferibile eseguire prima una prova da sforzo.
4	**Non richiedere test di imaging associato a test provocativo in fase di valutazione iniziale di sospetta cardiopatia ischemica.**
	Il test dovrebbe essere indicato solo in presenza di importanti fattori di rischio: diabete oltre i 40 anni, arteriopatia periferica, rischio Framingham/Cuore superiore al 20% , o in presenza di alterazioni dell'ECG di base, tali da inficiare l'interpretazione della prova da sforzo.
5	**Non richiedere prova elettrocardiografica da sforzo per screening di cardiopatia ischemica in pazienti asintomatici a basso rischio cardiovascolare.**
	In pazienti asintomatici e senza fattori di rischio, la probabilità di malattia coronarica è molto bassa, per cui l'esame aumenta il rischio di falsi positivi e di indurre ulteriori test diagnostici per escludere i dubbi sollevati dal test.

Attenzione: le informazioni sopra riportate non sostituiscono la valutazione e il giudizio del medico. Per ogni quesito relativo alle pratiche sopra individuate, con riferimento alla propria specifica situazione clinica è necessario rivolgersi al medico curante.

Giugno 2014

Appropriatezza delle procedure diagnostiche in prevenzione cardiovascolare: di che cosa possiamo fare a meno?

Antonella Cherubini[1], Gian Francesco Mureddu[2], Pier Luigi Temporelli[3], Anna Frisinghelli[4], Piero Clavario[5], Francesca Cesana[6], Francesco Fattirolli[7], a nome dell'Area Prevenzione Cardiovascolare ANMCO

Revisori del documento: Stefano De Servi[8], Fausto Rigo[9], Massimo Uguccioni[10]

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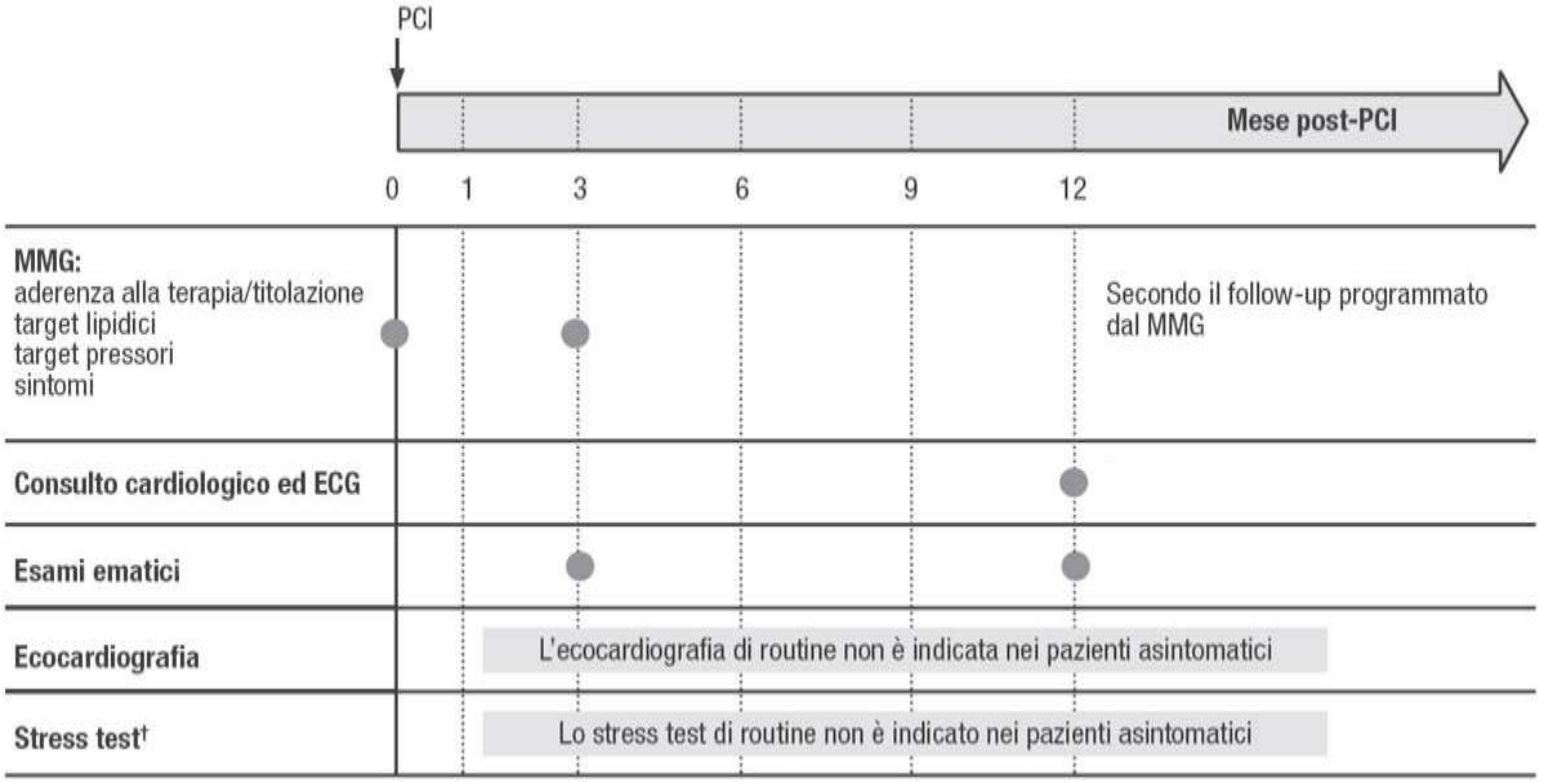
In recent years, a huge increase in the use of cardiac procedures, both invasive and non-invasive, was observed. Diagnostic tests, mainly non-invasive tests, are often prescribed inappropriately, in most cases replacing the clinical evaluation. The rate of inappropriate tests in cardiology is largely variable, depending on regional issues and different medical approach. When the test entails radiation exposure, the biological risk for both the patient and the environment must be taken into account. For this reason, the test that results in less biological risk should always be preferred as a first step.

Moreover, it has not been clearly demonstrated that some diagnostic tests help to improve the outcome, that is to prevent cardiovascular events. As many as one sixth of the patients who undergo stress imaging are not taking proper medication, and very frequently no change in therapy is made after the test, regardless of the

Appropriatezza delle procedure diagnostiche in prevenzione cardiovascolare: di che cosa possiamo fare a meno?

Esame	Popolazione	Timing	Scopo	Appropriatezza
Ecocardiografia	Clinicamente stabili	Entro 6 mesi da evento	Funzione e rimodellamento VS	Utile
		Annuale	Funzione e rimodellamento VS	Non necessaria
Test ergometrico	Clinicamente stabili	Entro 2 anni dall'evento	Ischemia inducibile	Non necessario
	Asintomatici post-PCI (entro 2 anni) o post-BPAC (entro 5 anni)	Entro 2 o 5 anni	Ischemia inducibile	Non necessario
	Post-PCI (entro 2 anni) o post-BPAC (entro 5 anni) se nuovi sintomi o rivascolarizzazione incompleta	Prima di 2 o 5 anni	Ischemia inducibile	Utile
Stress imaging	Solo se ECG basale non valutabile o inadeguata capacità funzionale. Per indicazioni vedi test ergometrico			
ECG Holter	Cardiopatia ischemica cronica		Ischemia miocardica	Non necessario
	Aritmie sospette o angina vasospastica		Ischemia o aritmie	Utile
TC coronarica	Sindrome coronarica acuta/IMA		Valutazione malattia coronarica	Non indicata
	Cardiopatia ischemica cronica		Valutazione malattia coronarica	Non indicata
	Post-PCI e post-BPAC	Prima di 2 o 5 anni	Valutazione malattia coronarica	Non indicata
	Post-BPAC se sintomi	Prima di 5 anni	Verifica pervietà graft	Utile

Strategia di follow-up raccomandata nei pazienti senza comorbilità rilevanti e sottoposti a rivascolarizzazione completa



Musumeci G, Faggiano P et al. G Ital Cardiol 2017;18(1 Suppl 1):3S-12S

G Ital Cardiol 2017;18(6):467-484

Gestione ambulatoriale del paziente di interesse cardiologico: ruolo del medico di medicina generale e del cardiologo, tra sostenibilità ed appropriatezza

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Patologia	Obiettivo primario	Strumenti	Valore aggiunto dello specialista	Prestazione
Cardiopatia ischemica				
CAD a basso rischio, con rivascolarizzazione completa	Sorveglianza clinica Correzione dei FR Aderenza alla tp	Valutazioni cliniche	–*	
CAD ad alto rischio e/o rivascolarizzazione incompleta	Sorveglianza clinica Correzione dei FR Aderenza alla tp	Valutazioni cliniche	+	Controlli clinici cardiologici +/– stress test
CAD dopo SCA	Sorveglianza clinica Correzione dei FR Aderenza alla tp Valutare durata DAPT	Valutazioni cliniche	+	Controlli clinici cardiologici (6, 12, 24 mesi)
CAD con necessità di tp antitrombotica complessa (es. triplice tp con antiaggreganti e anticoagulante)	Sorveglianza clinica Correzione dei FR Aderenza alla tp Valutare durata DAPT, regime tp antitrombotica e sorveglianza del rischio ischemico ed emorragico	Valutazioni cliniche	+	Controlli clinici cardiologici (specie nei primi 12 mesi dopo PCI)

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Cadenza degli esami strumentali da ripetere in prevenzione secondaria in base alle caratteristiche del paziente

Echocardiography at rest	Early (e.g. 1-3 months) after revascularization to set as a reference and/or periodically (e.g. at 1 year if previously abnormal and/or every 3-5 years) to evaluate LV function, valvular status and haemodynamic status.
Stress test for inducible ischaemia	As necessary, to investigate changes in symptoms level, and/or early (e.g. 1-3 months) after revascularization to set as a reference and/or periodically (e.g. every 3-5 years) to reassess ischaemia.
Invasive coronary angiography	As necessary, for patients at high risk based on noninvasive ischaemia testing, or severe angina symptoms (e.g. CCS class 3-4). Not recommended solely for risk stratification.

Quindi
Valutare il paziente, innanzitutto !

Il follow-up strumentale del paziente stabile con Cardiopatia Ischemica Cronica non può essere prestabilito ma dipende da una accurata valutazione clinica, che tenga conto di volta in volta del profilo di rischio, di eventuali variazioni del quadro clinico nel contesto di un attento controllo dei fattori di rischio, dell'aderenza ai trattamenti farmacologici raccomandati ed allo stile di vita appropriato.

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