



Creato da Paint S

CORSI PRECONGRESSUALI

24 Giugno 2026

CONGRESSO

25-27 Giugno 2026

SEDE DEL CONGRESSO

A. Roma Lifestyle Hotel

Via Giorgio Zoega 59, Roma



Anoca e Inoca: dai modelli fisiopatologici alle possibilità terapeutiche

C. Cavallini
Perugia

Circulation

Volume 135, Issue 11, 14 March 2017; Pages 1075-1092
<https://doi.org/10.1161/CIRCULATIONAHA.116.024534>



WHITE PAPER

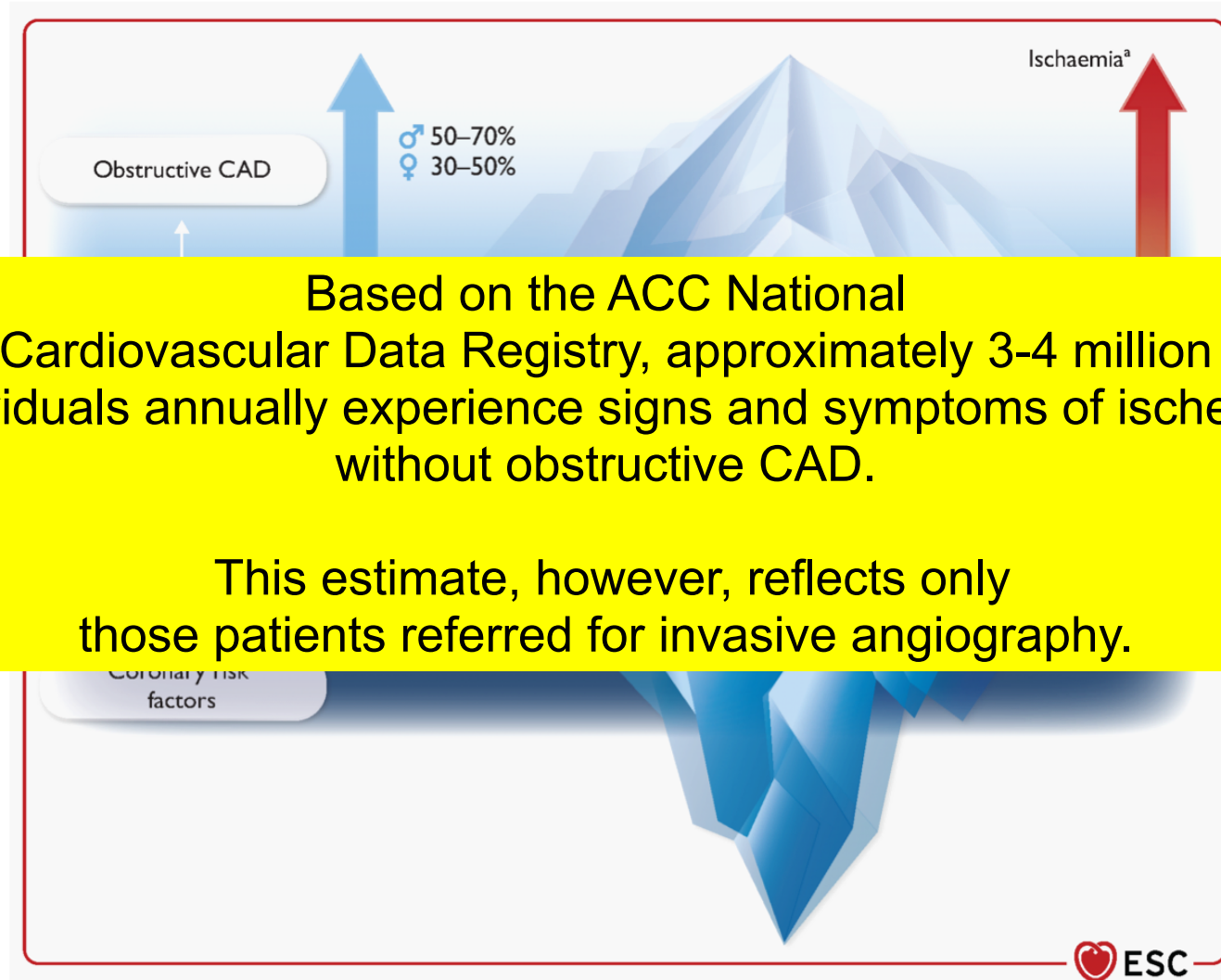
Ischemia and No Obstructive Coronary Artery Disease (INOCA)

210 papers sull'argomento
negli ultimi 12 mesi



« *Cardiac ischaemia caused
by vascular dysfunction
without obstructive CAD* »

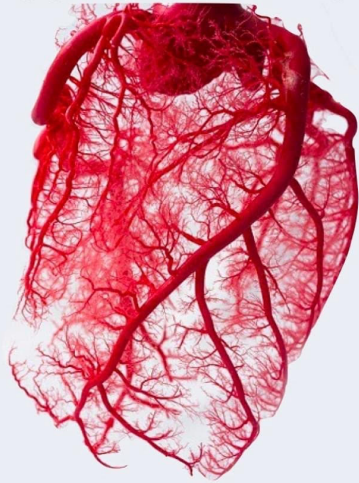
FFR >0,80



Based on the ACC National Cardiovascular Data Registry, approximately 3-4 million individuals annually experience signs and symptoms of ischemia without obstructive CAD.

This estimate, however, reflects only those patients referred for invasive angiography.

ISCHEMIA WITH NO OBSTRUCTIVE CORONARY ARTERY DISEASE



In collaboration with the American College of Cardiology, a survey was sent to US Cardiologists to better understand the clinical practice and knowledge gaps related to

INOCA

3 out of 4

manage
INOCA
patients



1 out of 3 feel

NOT very
confident/neutral
with managing
INOCA

Evaluations of
coronary flow reserve
&
myocardial blood flow
UNDERUTILIZED



Coronary Function Testing
(21%)

Stress PET (14%)

Stress CMR (11%)

Always/often ordered

23%
**Invasive Coronary
Angio**

15%
CT Coronary Angio



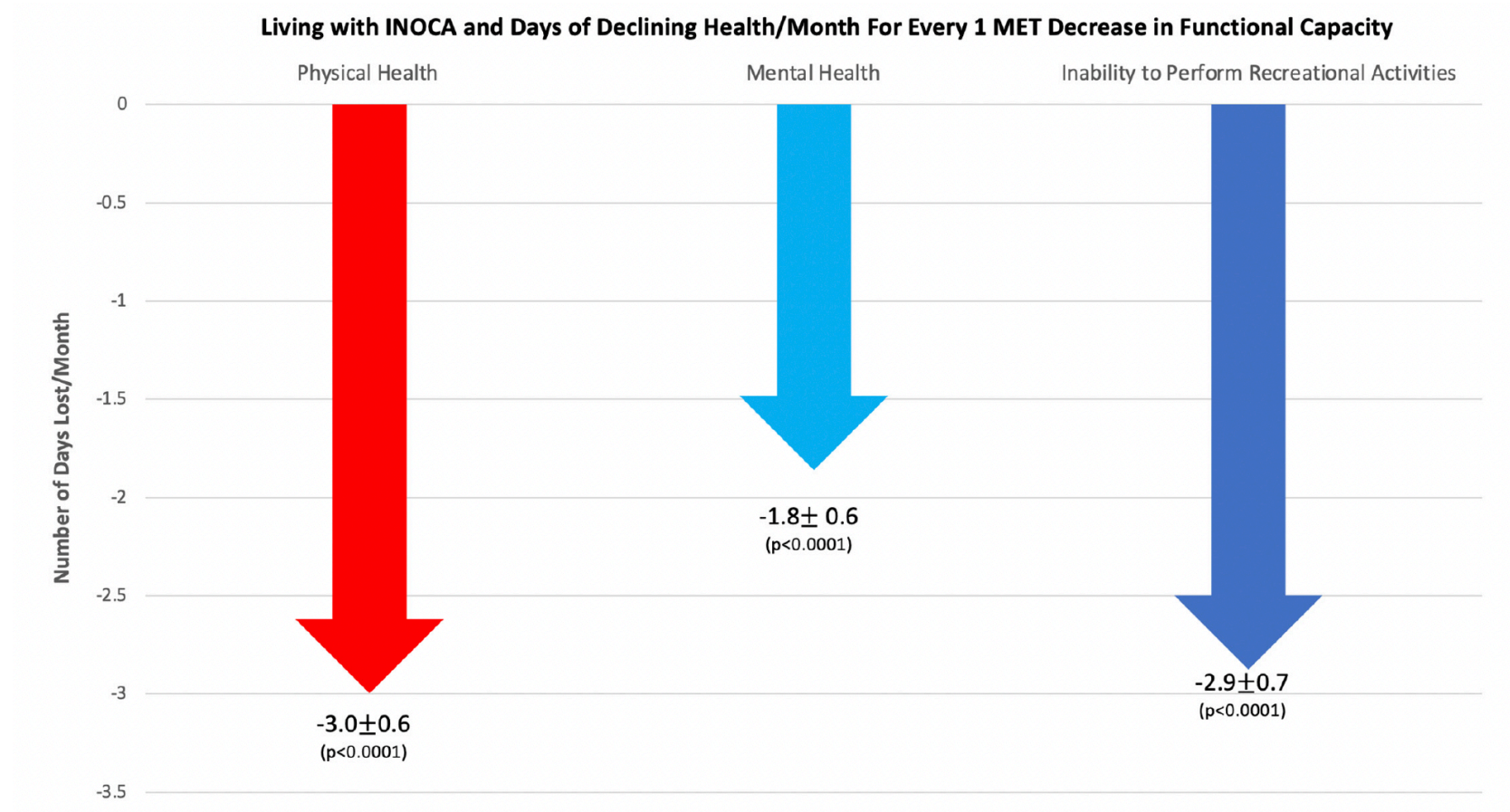
97% want more
clinical guidance
for treating INOCA

**Commonly
prescribed**

STATIN (68%)
ASPIRIN (66%)
CCB (63%)
NITRATE (60%)
ALPHA/BETA BLOCKER (55%)



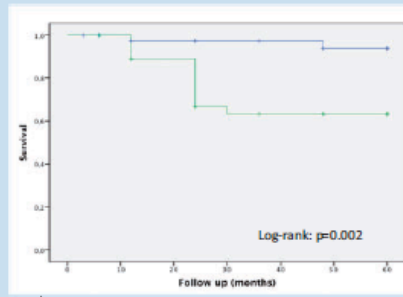
**ONLY
1 out of 4**
prescribe
ACE-I/ARB



Gulati M et al, Int J of Cardiology, 2022

A

Death from any causes

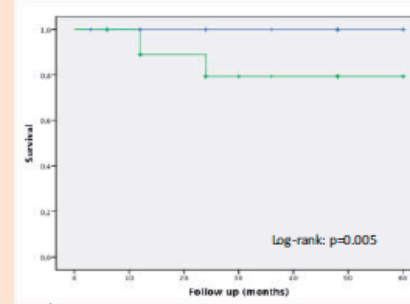


No. at risk	0y	1y	2y	3y	4y	5y
Positive test	37	34	27	15	11	7
Negative test	43	42	33	23	14	3

Positive test
Negative test

B

Cardiac death

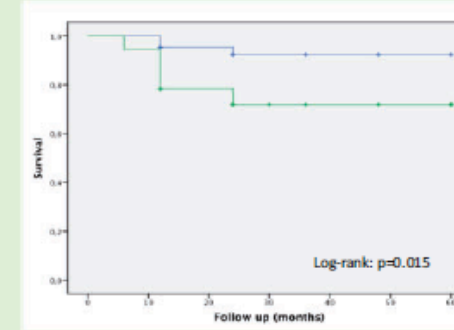


No. at risk	0y	1y	2y	3y	4y	5y
Positive test	37	34	27	15	11	7
Negative test	43	42	33	23	14	3

Positive test
Negative test

C

Readmission for ACS

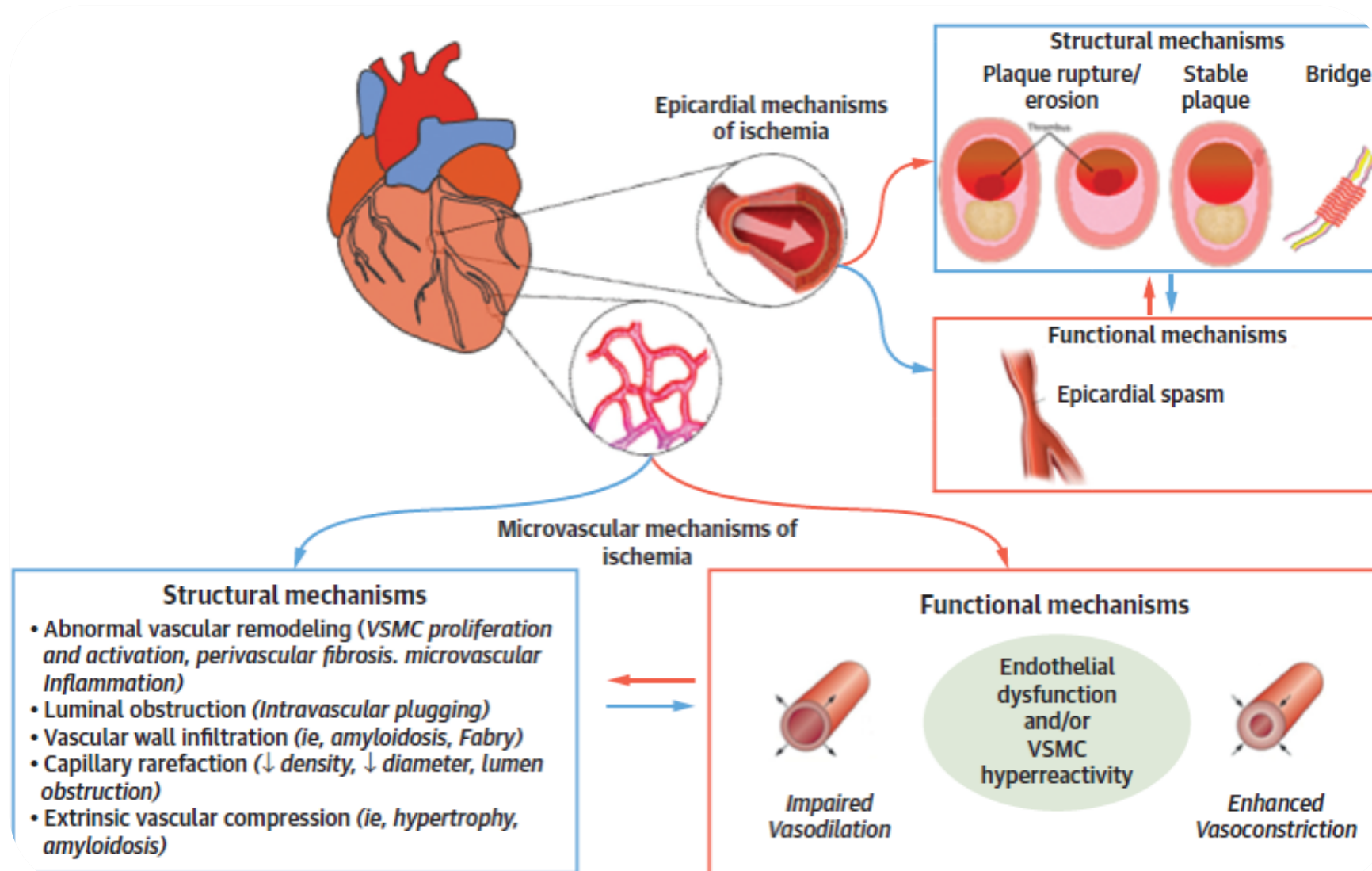


No. at risk	0y	1y	2y	3y	4y	5y
Positive test	37	34	27	15	11	7
Negative test	43	42	33	23	14	3

Positive test
Negative test

Montone R. et al. EHJ 2018

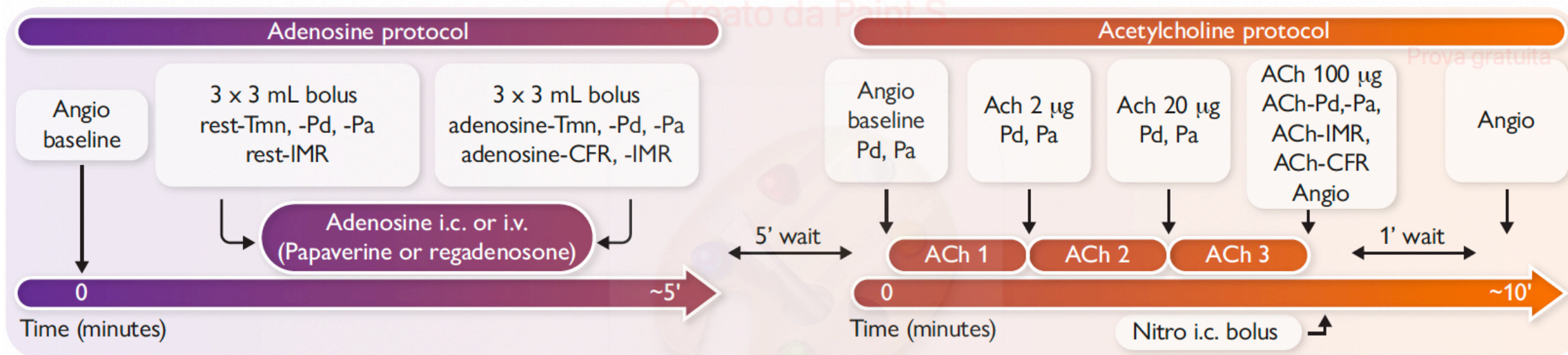
Meccanismi fisiopatologici diversi alla base di uno stesso quadro clinico: INOCA o ANOCA



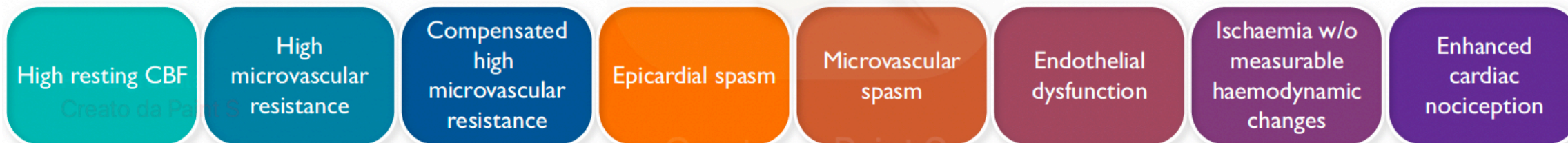
Meccanismi fisiopatologici diversi alla base di uno stesso quadro clinico: INOCA o ANOCA

- FENOTIPO ANGINA MICROVASCOLARE
- FENOTIPO ANGINA VASOSPASTICA

Endotypes of angina with non-obstructive coronary arteries: a prospective multicentre study

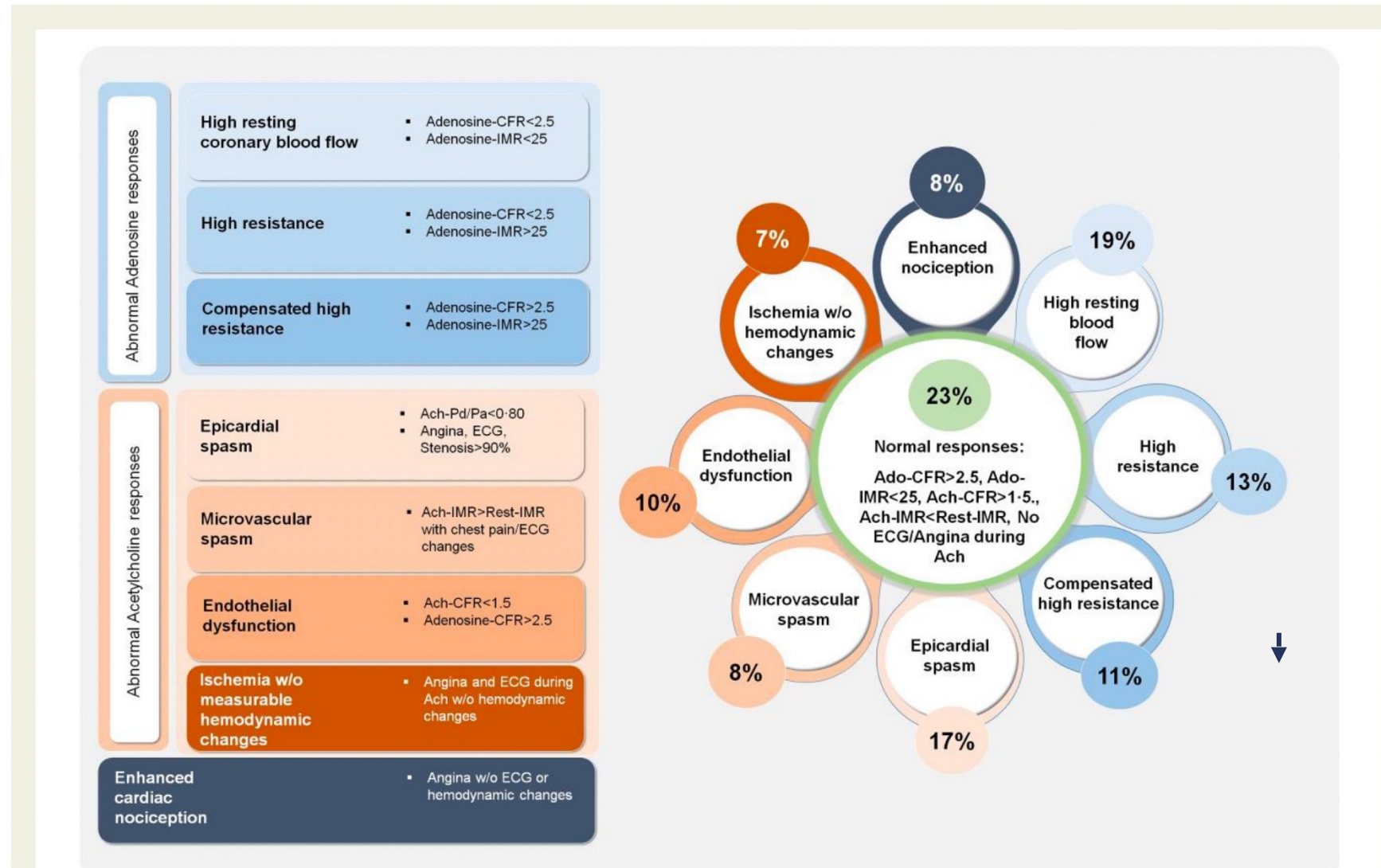


Endotypes



ENDOTYPE OF ANOCA

Miner S, Eur H Journal (2026) **47**, 594–604



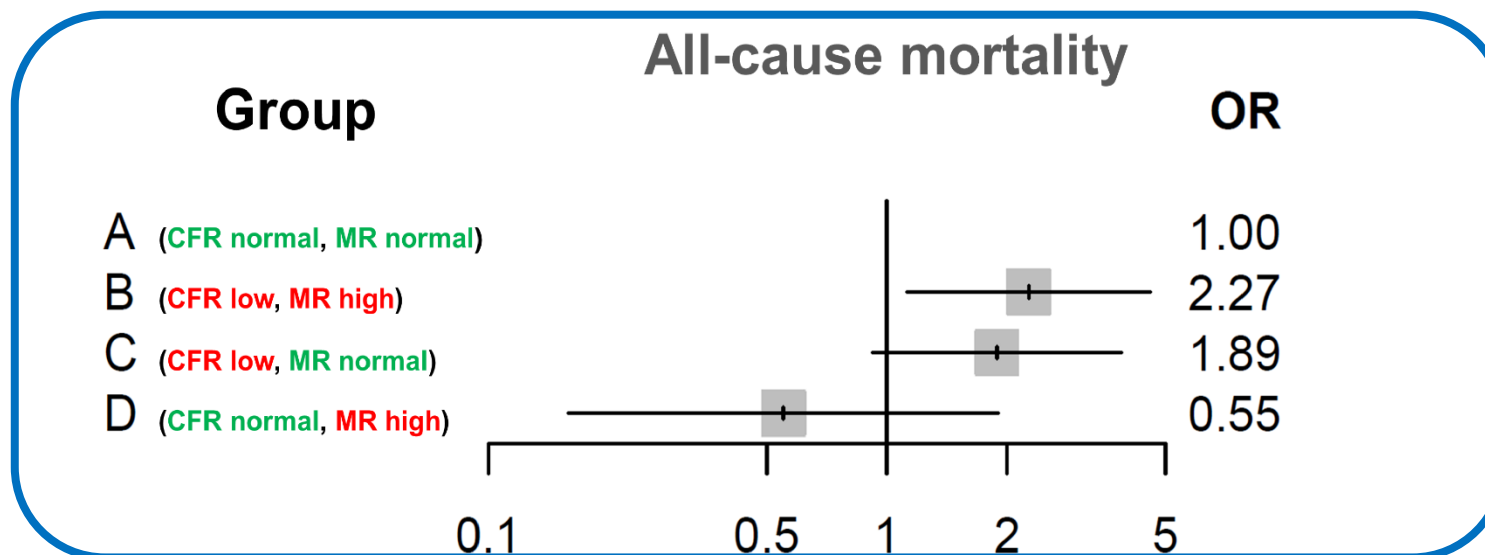
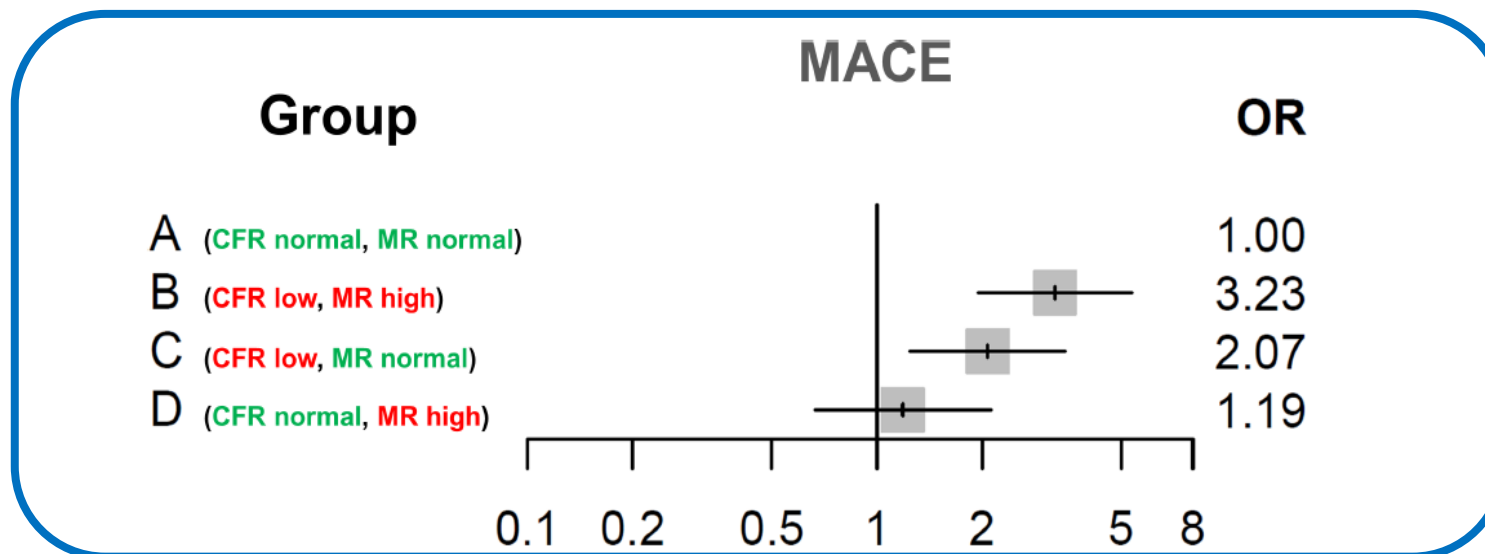
PROGNOSI

MALATTIE DIVERSE

=

PROGNOSI DIVERSE

coronary flow reserve
and microvascular resistance
in coronary microvascular
Disease:
PROGNOSIS



DATI GISE e AGENAS anno 2022

**295.000 coro: 150.000 PCI, 12.500 CABG e 38.000
interventi su valvola (chirurgici o percutanei)**

90.500 coronarografie non seguite da interventi
in **1.220** pz è stata valutata la riserva di flusso
coronarico

Stratified Medical Therapy Using Invasive Coronary Function Testing in Angina

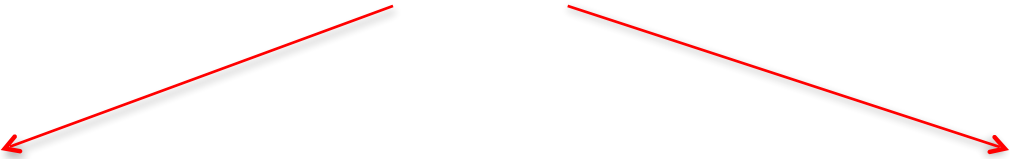
JACC VOL. 72, NO. 23, 2018

DECEMBER 11, 2018:2841-55

The CorMicA Trial

Pts with angina without obstructive CAD (at angio)

randomized 1:1



intervention group
(stratified medical therapy)
76 pts

control group
(standard care, sham procedure)
75 pts

CorMicA trial. Medications after randomization

Medications post-randomization for the randomized population overall, and by randomized treatment group. Treatment groups compared using Fisher's Exact Tests.

	Randomized			
	All Patients	Non-disclosed	Disclosed	p-value
Overall N	151	76	75	
Aspirin	117 (77.5%)	56 (73.7%)	61 (81.3%)	p=0.331
Beta-blocker	74 (49.0%)	37 (48.7%)	37 (49.3%)	p=1.000
Calcium channel blocker	75 (49.7%)	27 (35.5%)	48 (64.0%)	p=0.001 
Nitroglycerin spray	109 (72.2%)	45 (59.2%)	64 (85.3%)	p<0.001 
ACE inhibitor or Angiotensin receptor blocker	79 (52.3%)	36 (47.4%)	43 (57.3%)	p=0.255
Statin	122 (80.8%)	56 (73.7%)	66 (88.0%)	p=0.038 

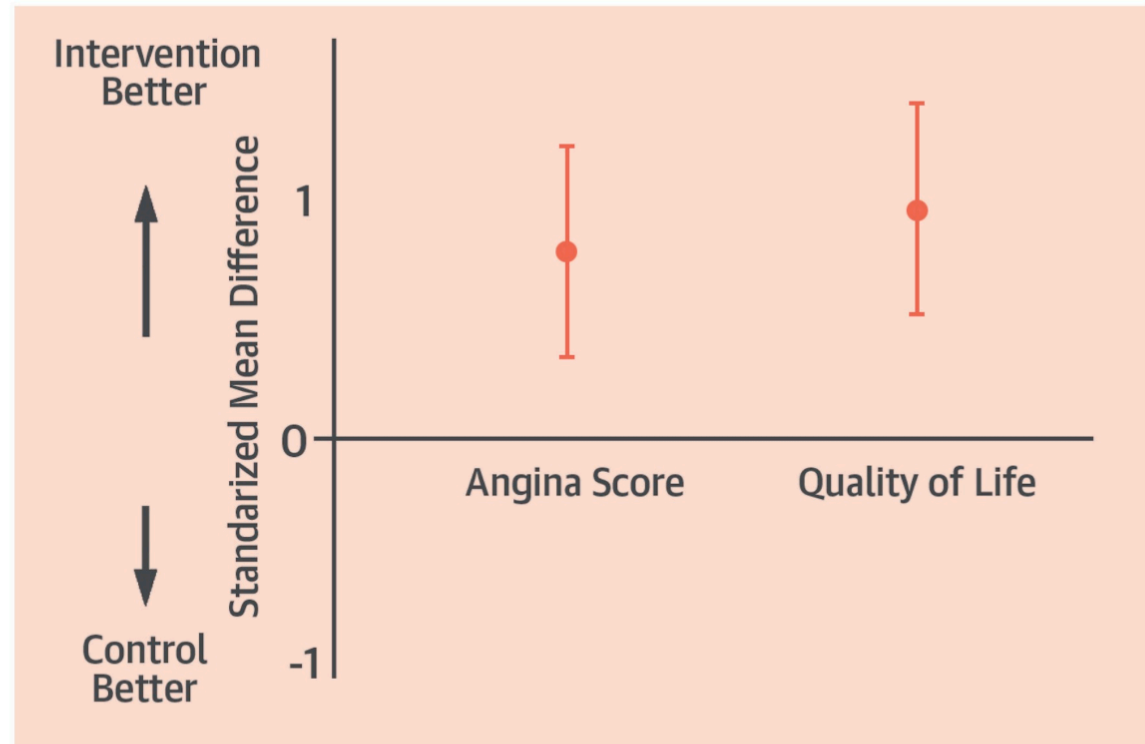
CorMicA trial: results

Stratified Medicine in Patients with INOCA:

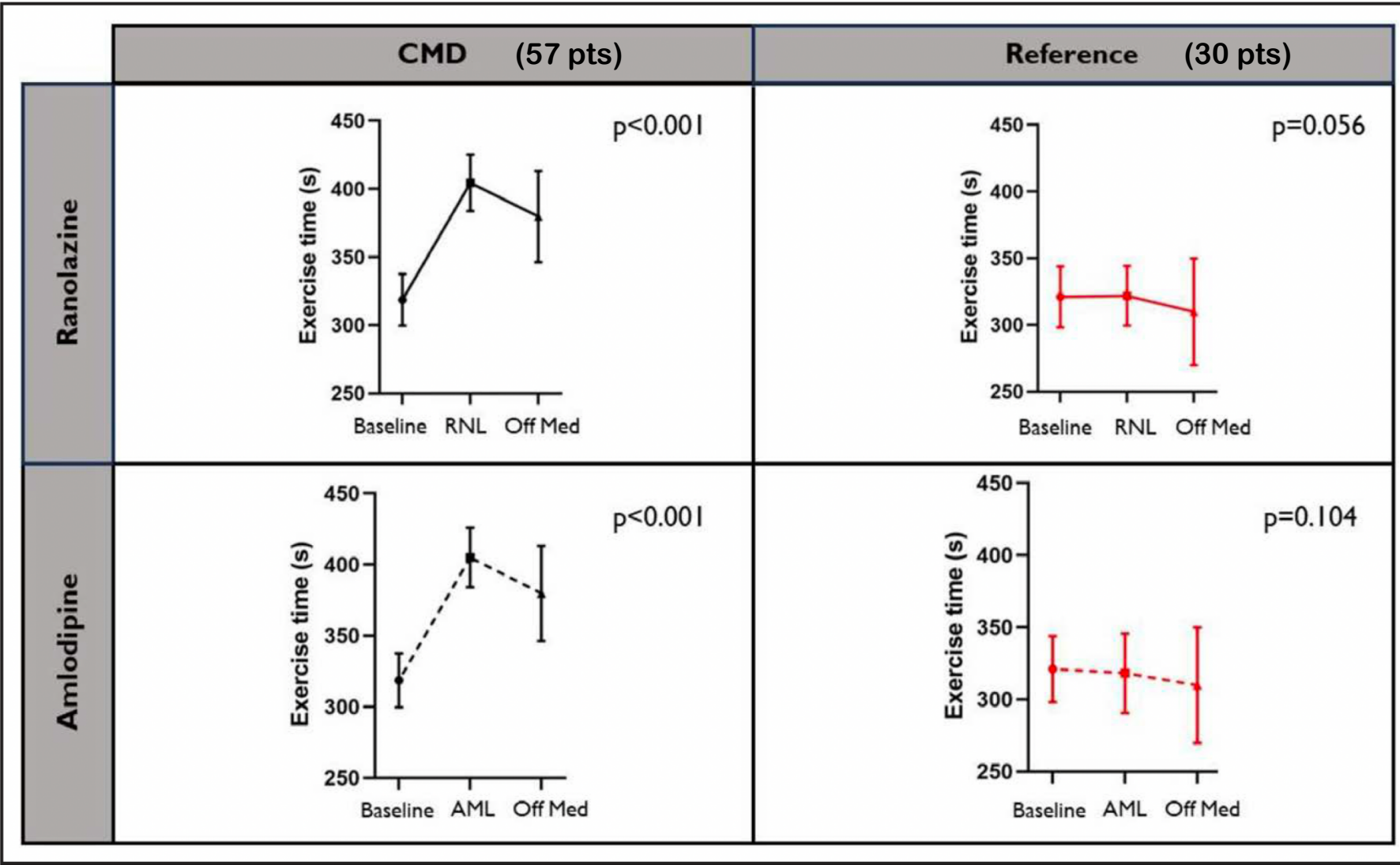
- Microvascular Angina
- Vasopastic Angina
- Non-Cardiac Chest Pain



**Improved Angina and
Quality of Life**



ChaMP-CMD: A Phenotype-Blinded, Randomized Controlled, Cross-Over Trial. Circulation. 2024;149:36–47.



Change in exercise time between baseline, with anti-ischemic medication and without anti-ischemic medication.

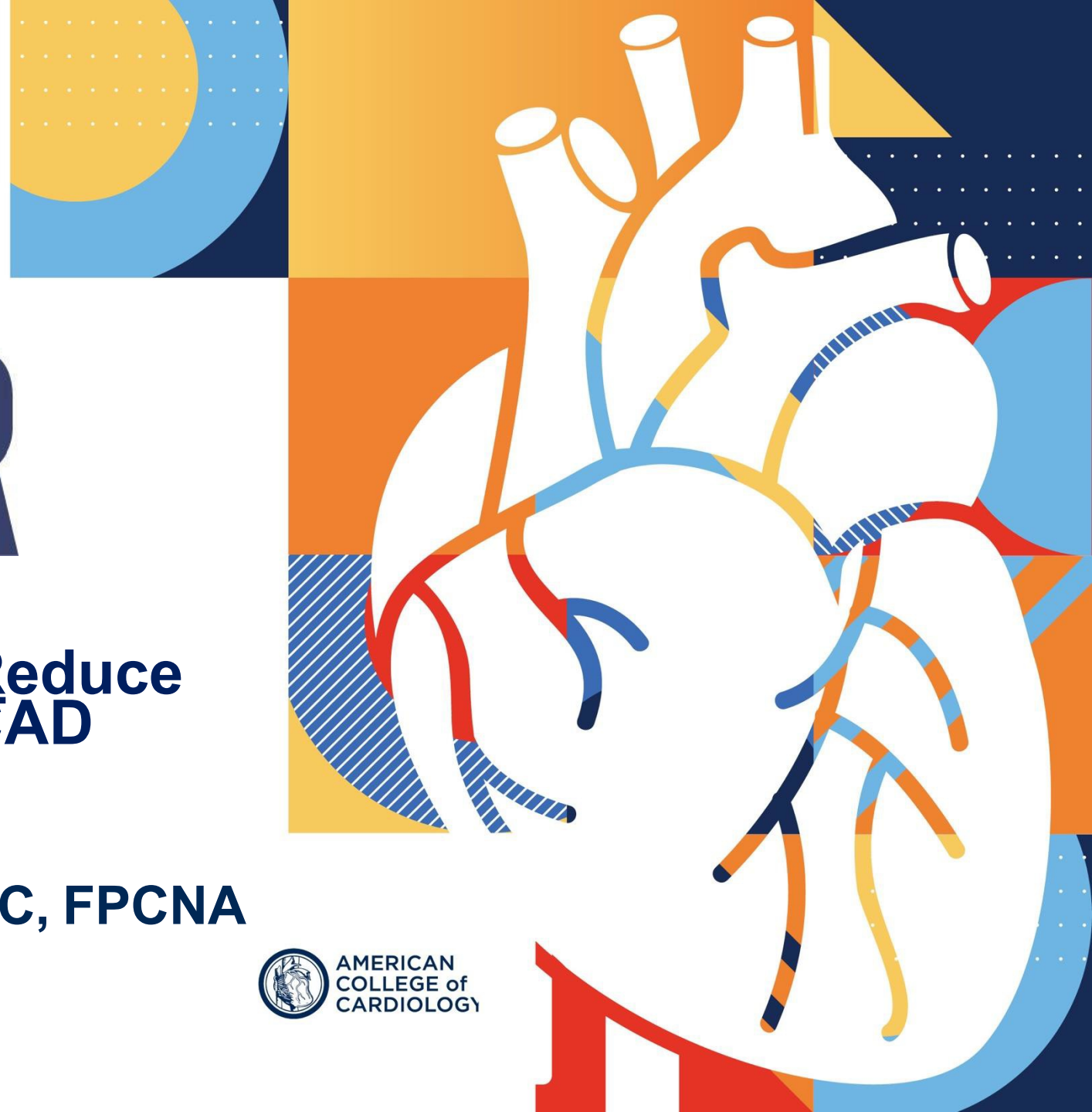
ACC.25

WARRIOR

**Women's IschemiA TRial to Reduce
Events In Non-ObstruCtive CAD**

Eileen Handberg, PhD, FAHA, FACC, FPCNA

Professor of Medicine, University of Florida



Clinically stable women with angina¹ and no obstructive coronary artery disease² by invasive coronary angiography (INV) or coronary tomographic angiography (CCTA)

Exclusions³

2476 Randomized

1239 Randomized to IMT⁴

675 INV

564 CCTA

1237 Randomized to UC⁵

678 INV

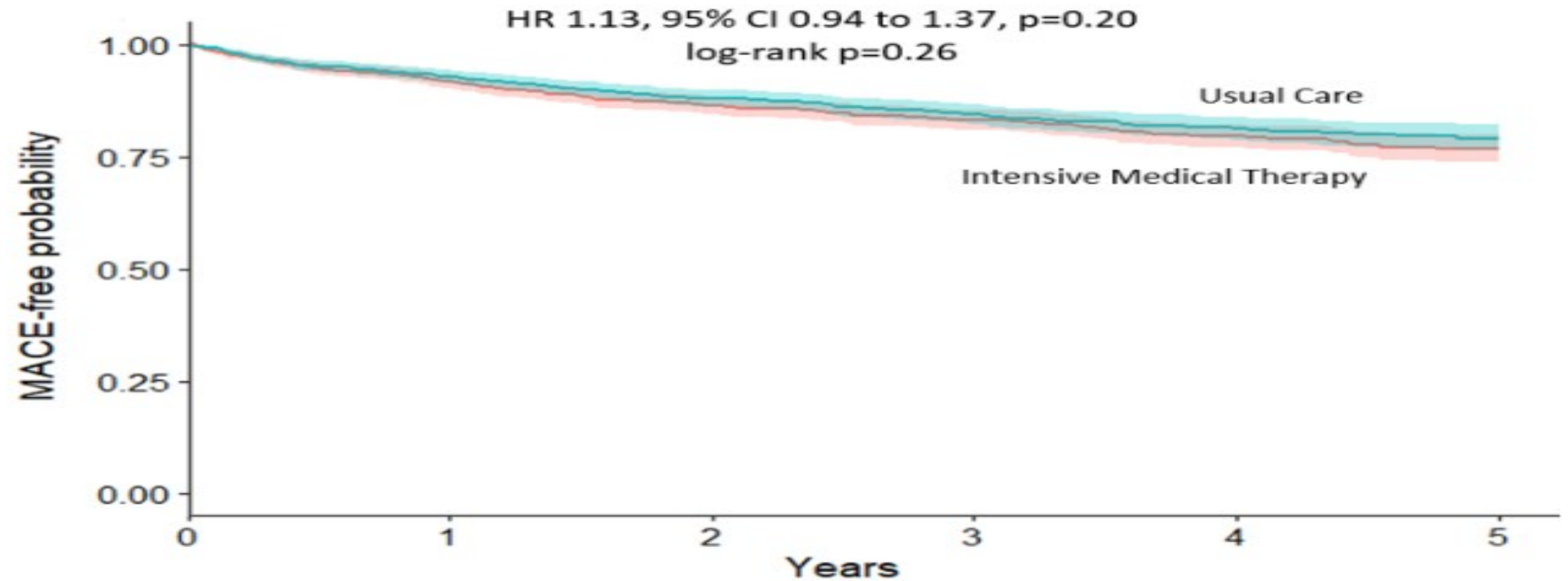
559 CCTA

Intensive Medical Therapy = high intensity statin (or PCSK9 i) + ACE-I (or ARB) + low dose aspirin

vs

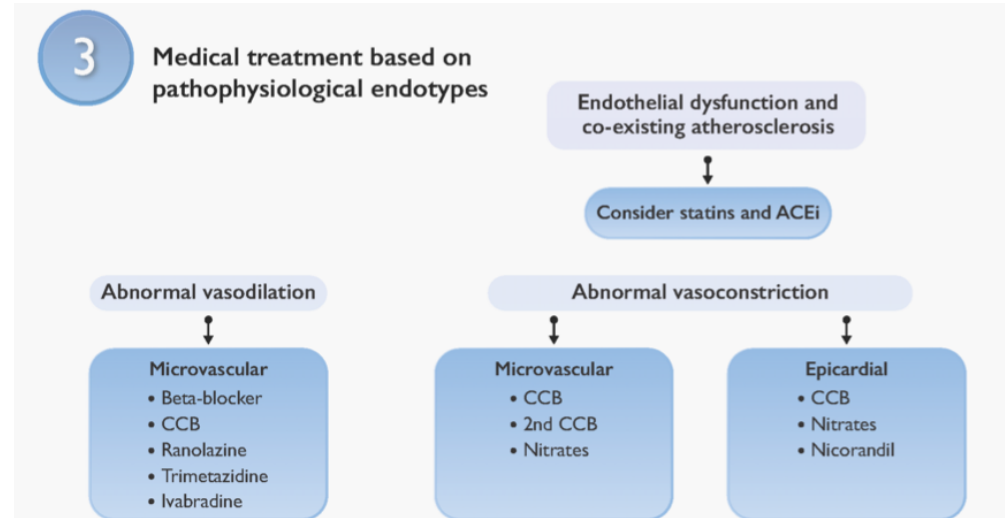
Usual Care- dictated by treating physician

Primary Outcome



Number at Risk

	1239	1052	865	629	364	159
	1237	1056	873	642	368	157



Management of ANOCA/INOCA

In symptomatic patients with ANOCA/INOCA, medical therapy based on coronary functional test results should be considered to improve symptoms and quality of life.

IIa

A

For the management of endothelial dysfunction, ACE-I should be considered for symptom control.

IIa

B

For the management of microvascular angina associated with reduced coronary/myocardial blood flow reserve, beta-blockers should be considered for symptom control.

IIa

B

For the treatment of isolated vasospastic angina:

- calcium channel blockers are recommended to control symptoms and to prevent ischaemia and potentially fatal complications;
- nitrates should be considered to prevent recurrent episodes.

I

A

IIa

B

In patients with evidence of overlapping endotypes, combination therapy with nitrates, calcium channel blockers, and other vasodilators may be considered.

IIb

B

Treatment of ANOCA/INOCA

1

Lifestyle



Nutrition



Exercise



Coping with stress

Weight management



Smoking cessation

2

Risk factors



Hypertension



Dyslipidaemia



Diabetes mellitus

SAMCRO trial



Investigator-initiated, prospective, randomized, multicentre, open-label study
Blinded endpoint adjudication (PROBE)
Two Italian centres (Ferrara & Parma)



- 123 patients with angina CCS class ≥ 1
- no obstructive CAD (FFR > 0.80)
 - Invasively confirmed CMD or coronary vasomotor disorders (CFR < 2.5 and/or IMR ≥ 25 and/or epicardial/microvascular vasospasm)



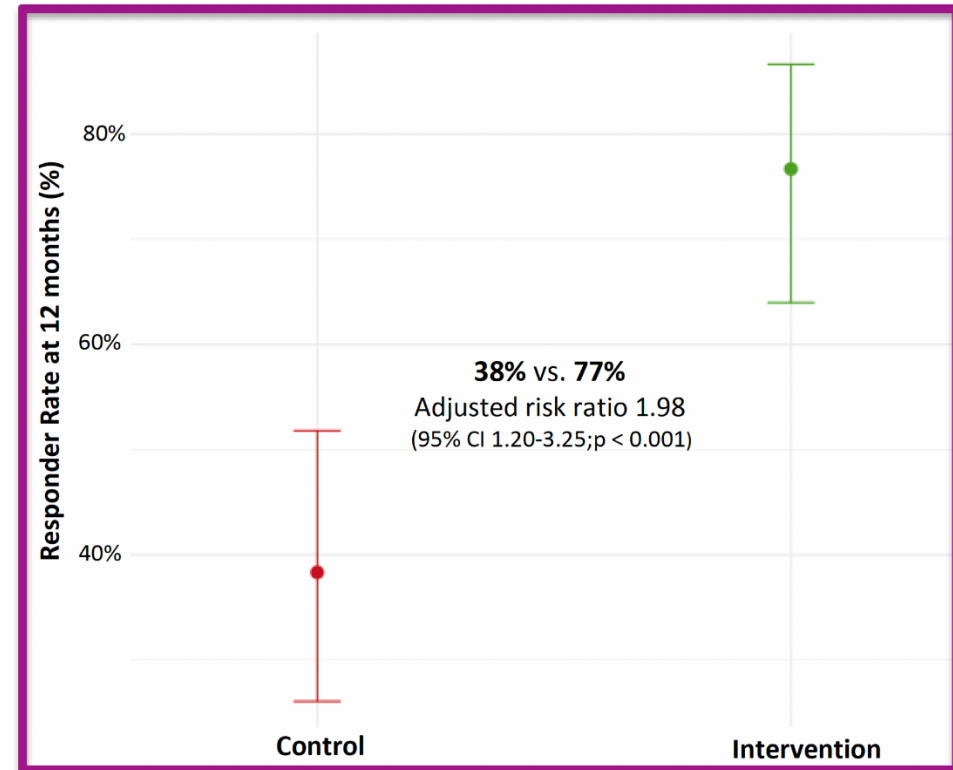
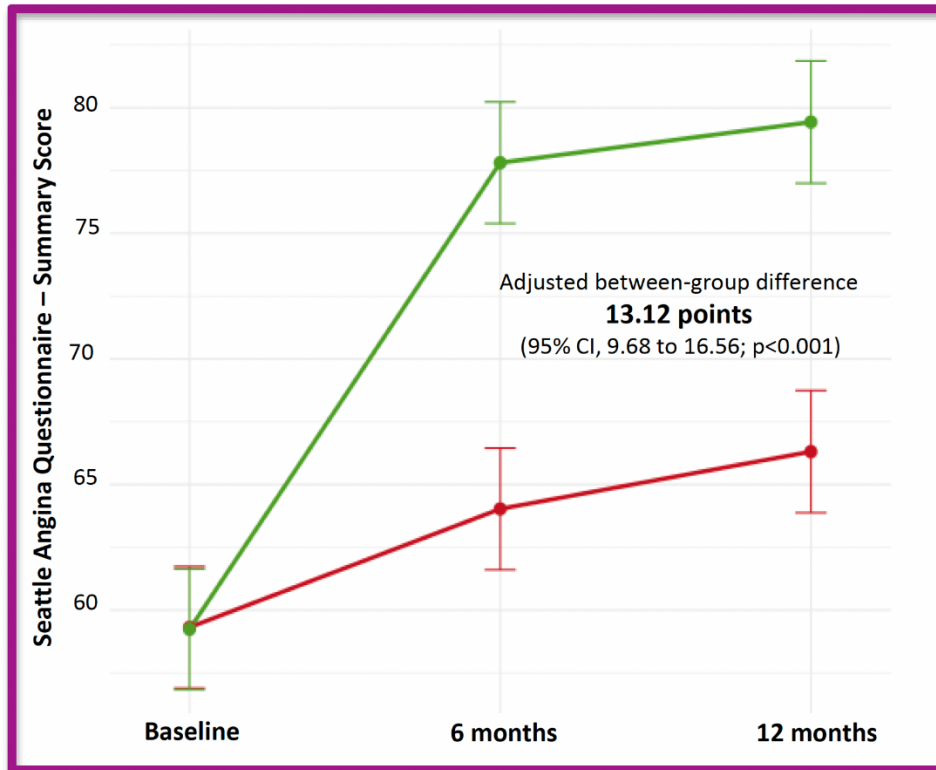
Endotype-guided therapy + multidomain lifestyle intervention (n=62)

Endotype-guided therapy (n=61)

PRIMARY ENDPOINT → Seattle Angina Questionnaire (SAQ) Summary Score 1 year

SAMCRO trial

Seattle Angina Questionnaire - SS



CONCLUSIONI

-  Le **sindromi coronariche croniche senza coronaropatia ostruttiva** sono delle entità cliniche ben definite e con prognosi non del tutto benigna
-  In questi pazienti la qualità di vita è spesso compromessa
-  Fondamentale identificare i **sottogruppi (o endotipi) ad alto rischio**
-  La **gestione** deve essere guidata dal riconoscimento del **meccanismo fisiopatologico sottostante**



Creato da Paint S

CORSI PRECONGRESSUALI

24 Giugno 2026

CONGRESSO

25-27 Giugno 2026

SEDE DEL CONGRESSO

A. Roma Lifestyle Hotel
Via Giorgio Zoega 59, Roma



GRAZIE PER L'ATTENZIONE

