



AZIENDA
OSPEDALIERA
SAN PIO

BENEVENTO

UOC CARDIOLOGIA INTERVENTISTICA
Unità di Terapia Intensiva Cardiologica
Direttore: Dr. Marino SCHERILLO

AORN "SAN PIO" di Benevento

Azienda Ospedaliera di Rilievo Nazionale e di Alta Specializzazione

Unità Operativa Complessa

Cardiologia Interventistica e UTIC

Centro HUB I Livello – Centrale Cardiologica Regionale

Direttore : Dr. Marino Scherillo

Strategie Gestionali nelle SCA

Marino Scherillo

HOT TOPICS IN CARDIOLOGIA 2024

Napoli, 28 novembre 2024



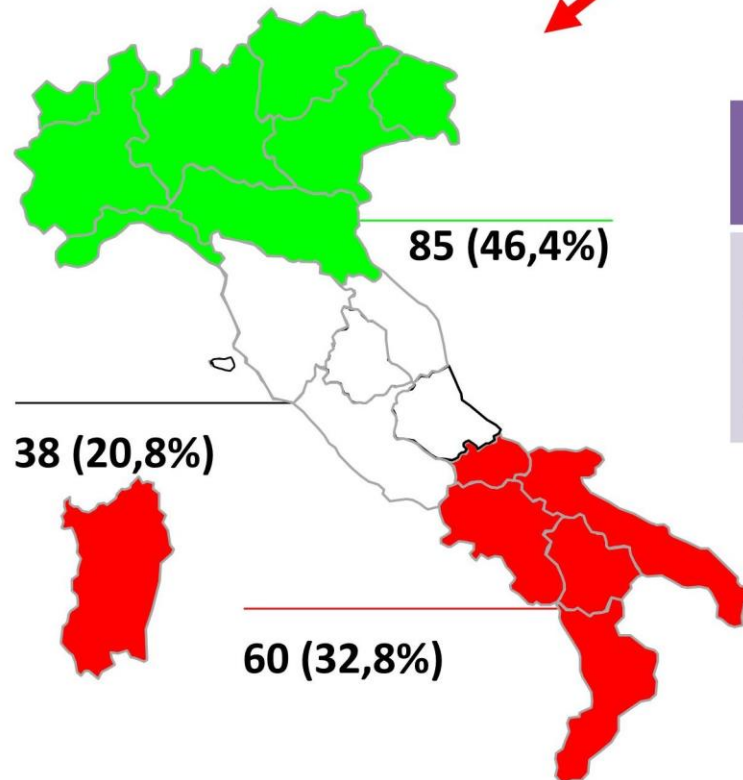
1

***L' Infarto è una
Malattia Cronica con un
Esordio Acuto***



183 Participating Centers

Enrollment Period	N. CCUs	N. Pts Enrolled
1-29 February 2024	183	2806 (STEMI 47.4%; NSTEMI: 52.6%)

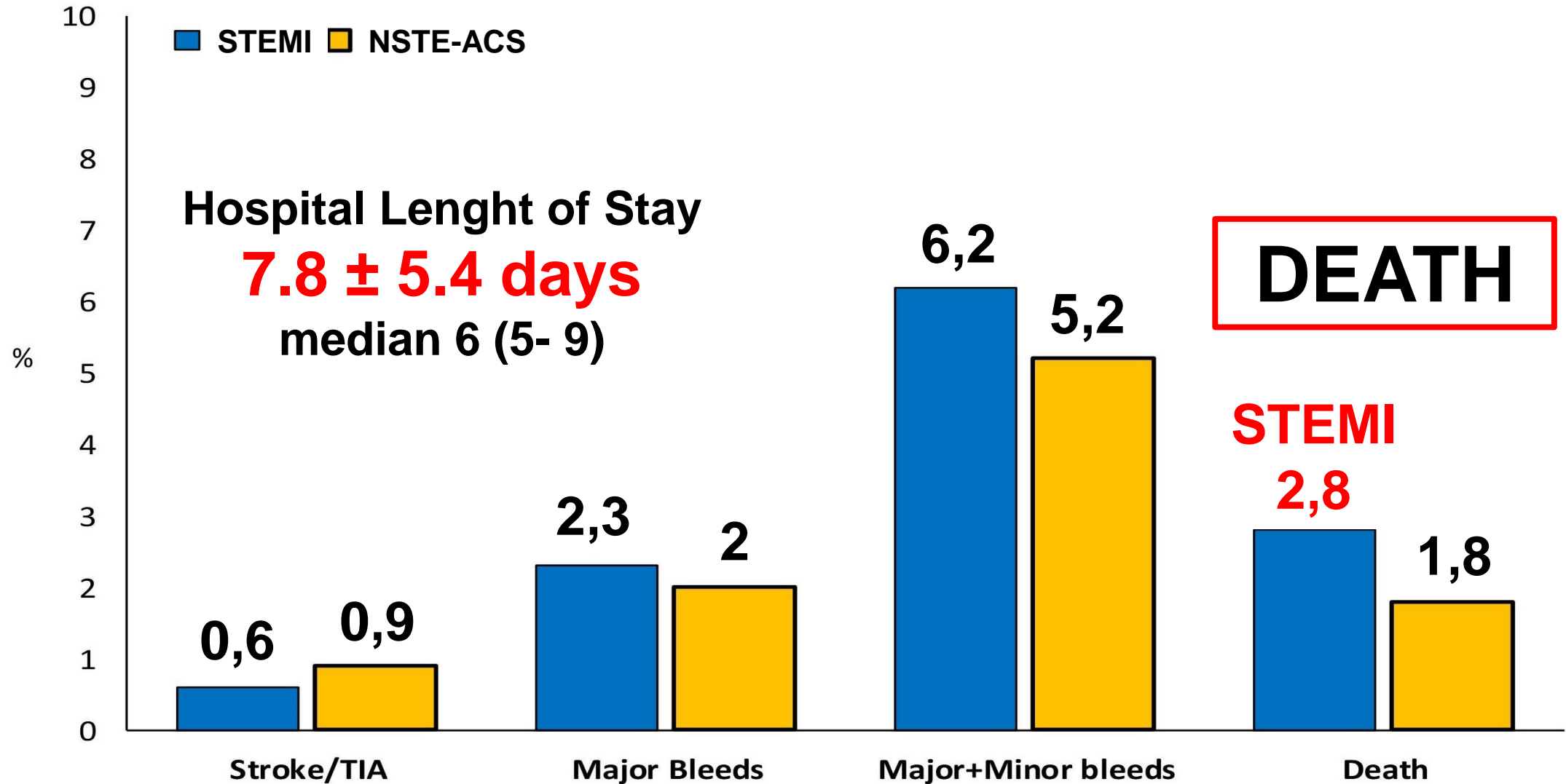


	Total (%)	North (%)	Center (%)	South (%)
No Cath Lab	23.5	20.0	29.0	25.0
Cath Lab+PCI	7.1	7.1	10.5	5.0
Cath lab+h24PCI	43.7	43.5	42.1	45.0
Cath lab+h24PCI+Cardiac Surgery	25.7	29.4	18.4	25.0

2,806 Enrolled Patients

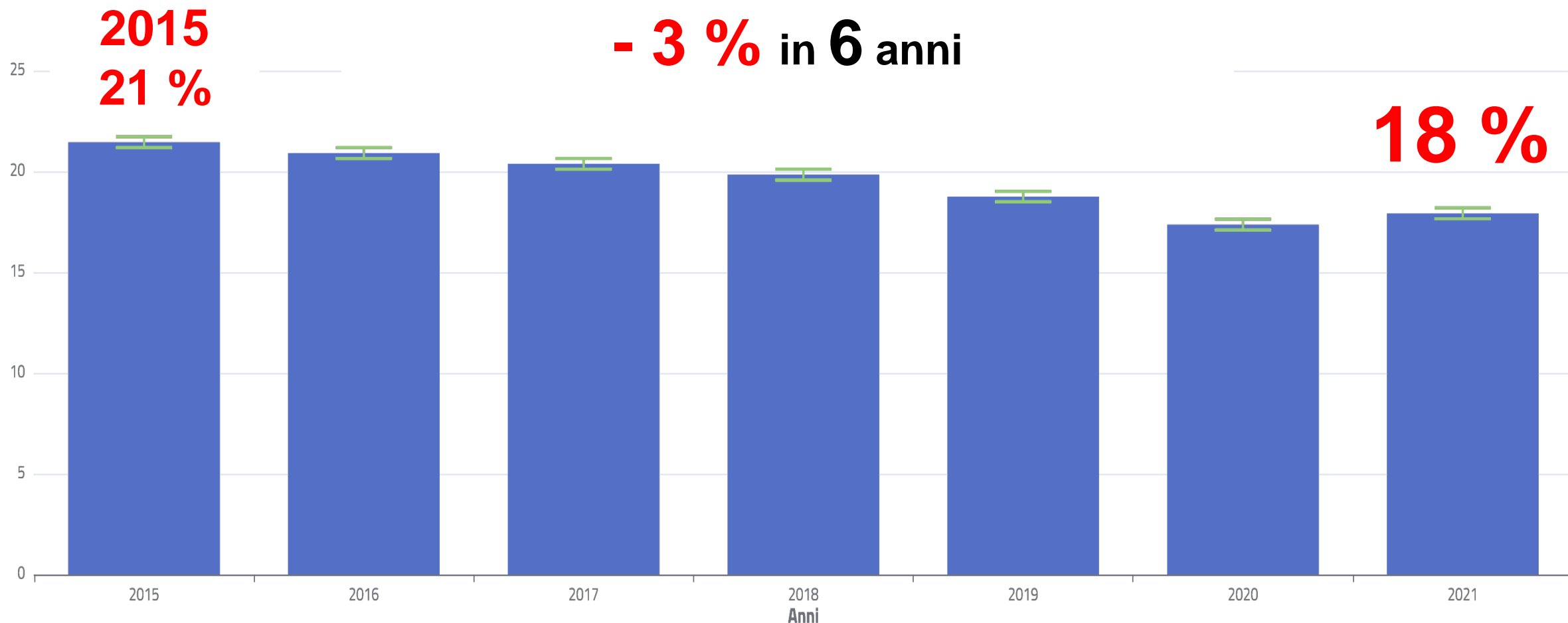


In-Hospital **Clinical Events**



IMA : MACCE a 1 anno

- 3 % in 6 anni



Programma Nazionale Esiti - PNE 2023



2

Ridurre il Rischio Residuo post – IMA

Come ?

Sealing Plaque Strategy

The Lipid Approach

The **NEW ENGLAND**
JOURNAL *of* **MEDICINE**

ESTABLISHED IN 1812

MAY 4, 2017

VOL. 376 NO. 18

**Evolocumab and Clinical Outcomes in Patients
with Cardiovascular Disease**

Marc S. Sabatine, M.D., M.P.H., Robert P. Giugliano, M.D., Anthony C. Keech, M.D.,
Narimon Honarpour, M.D., Ph.D., Stephen D. Wiviott, M.D., Sabina A. Murphy, M.P.H., Julia F. Kuder, M.A.,
Huei Wang, Ph.D., Thomas Liu, Ph.D., Scott M. Wasserman, M.D., Peter S. Sever, Ph.D., F.R.C.P.,
and Terje R. Pedersen, M.D., for the FOURIER Steering Committee and Investigators*

FOURIER
NEJM 2017

ODYSSEY OUTCOMES
NEJM 2018

The **NEW ENGLAND**
JOURNAL *of* **MEDICINE**

ESTABLISHED IN 1812

NOVEMBER 29, 2018

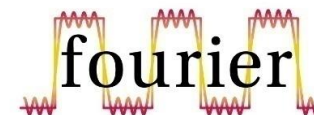
VOL. 379 NO. 22

**Alirocumab and Cardiovascular Outcomes after Acute
Coronary Syndrome**

G.G. Schwartz, P.G. Steg, M. Szarek, D.L. Bhatt, V.A. Bittner, R. Diaz, J.M. Edelberg, S.G. Goodman,
C. Hanotin, R.A. Harrington, J.W. Jukema, G. Lecorps, K.W. Mahaffey, A. Moryusef, R. Pordy, K. Quintero,
M.T. Roe, W.J. Sasiela, J.-F. Tamby, P. Tricoci, H.D. White, and A.M. Zeiher,
for the ODYSSEY OUTCOMES Committees and Investigators*

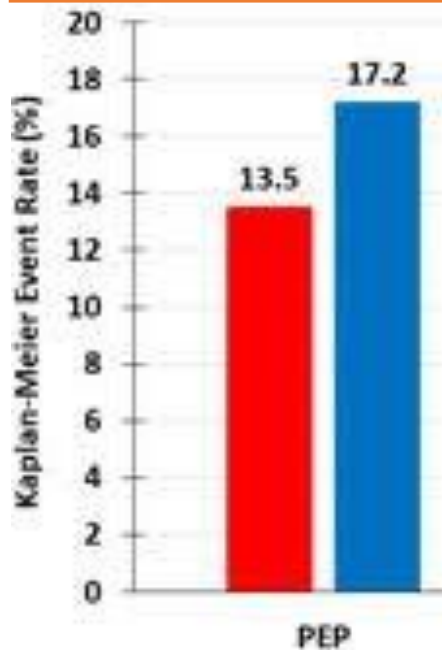
Early is Better

EVOLOCUMAB Post-AMI



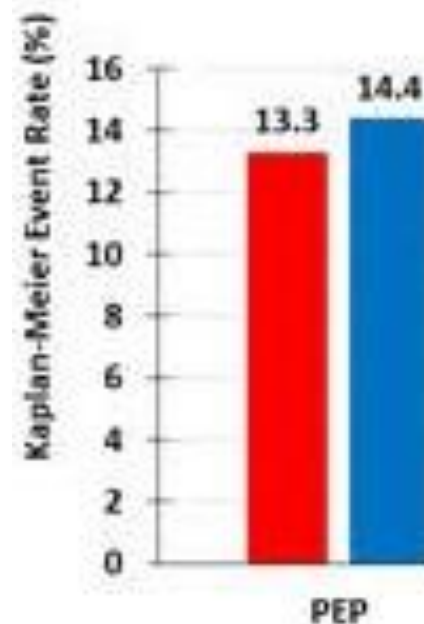
MI < 12 Months

N = 5.711
RRR: 19%
HR 0.81 (0.70 – 0.93) P = 0.004
ARR 3.7%
NNT 27



MI > 12 Months

N = 16.609
RRR: 8%
HR 0.92 (0.84 – 1.01) P = 0.075
ARR 1.1%
NNT 95



■ Evolocumab
■ Placebo

The **Primary Composite End Point (PEP)** was cardiovascular death, MI, stroke, hospitalization for unstable angina, or coronary revascularization

ALIROCUMAB and CV Outcomes After ACS

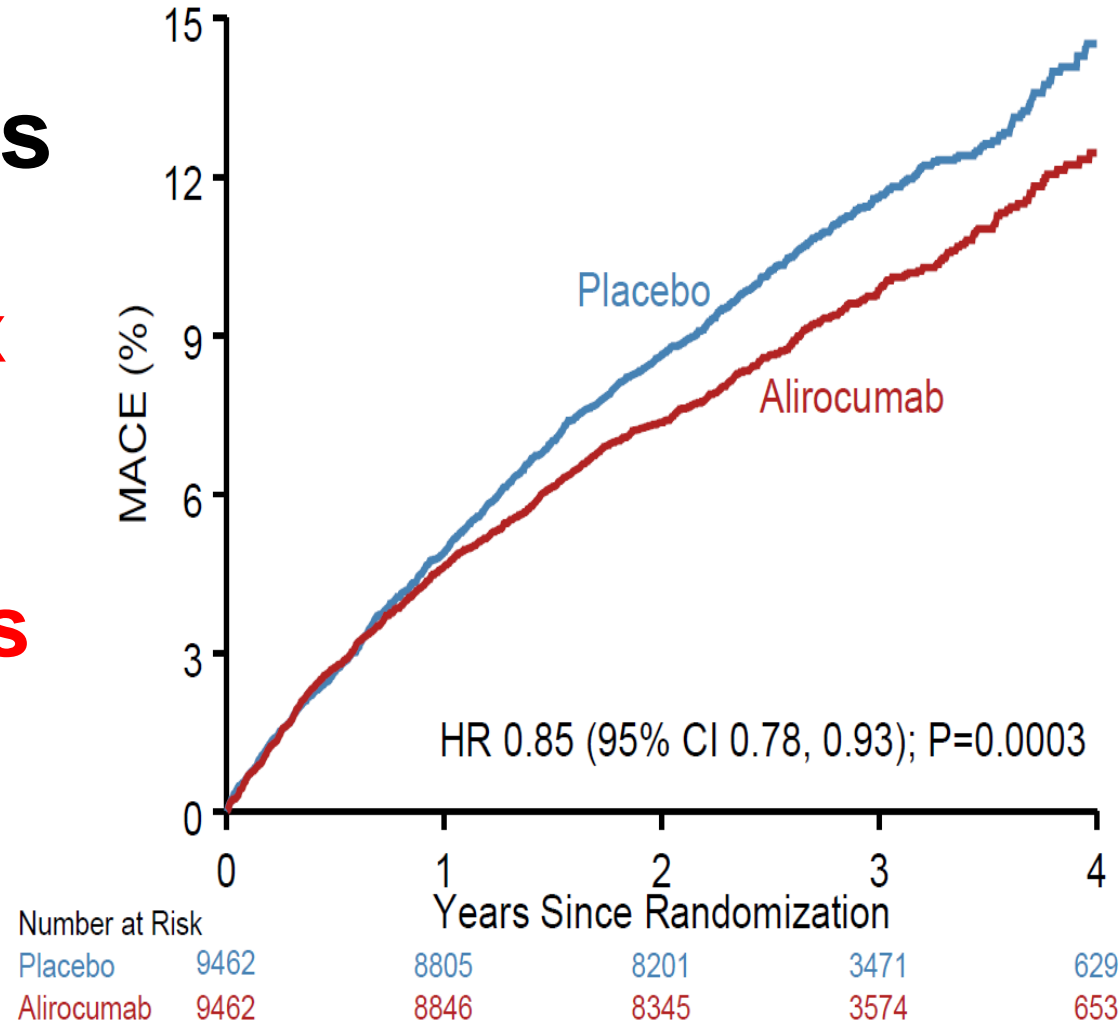
Primary Efficacy Endpoint: **MACE**



18,924 Patients

Time from **Index ACS** to Randomization

Median **2.6 months**
(1.7 – 4.4)



RRR - 15 %
ARR - 1.6 %


MACE: CHD death, non-fatal MI, ischemic stroke, or unstable angina requiring hospitalization

Early is Better

ALIROCUMAB

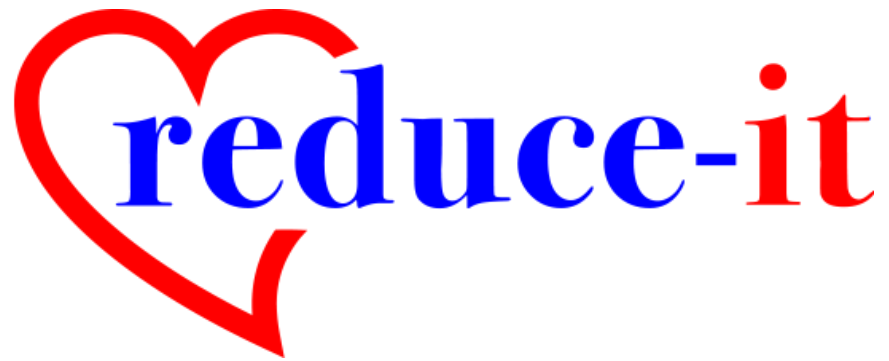
Greater Benefit When Starting Early After ACS

Subgroup	Patients	Incidence (%)		HR (95% CI)
		Alirocumab	Placebo	
Index to randomization				
<2 months	6178	10.3	12.3	0.83 (0.71–0.96)
2 to <6 months	9518	9.6	11.1	0.85 (0.75–0.96)
≥6 months	3228	8.0	8.7	0.90 (0.71–1.14)



Starting Alirocumab < 2 months After ACS

↓ RRR 17 %



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

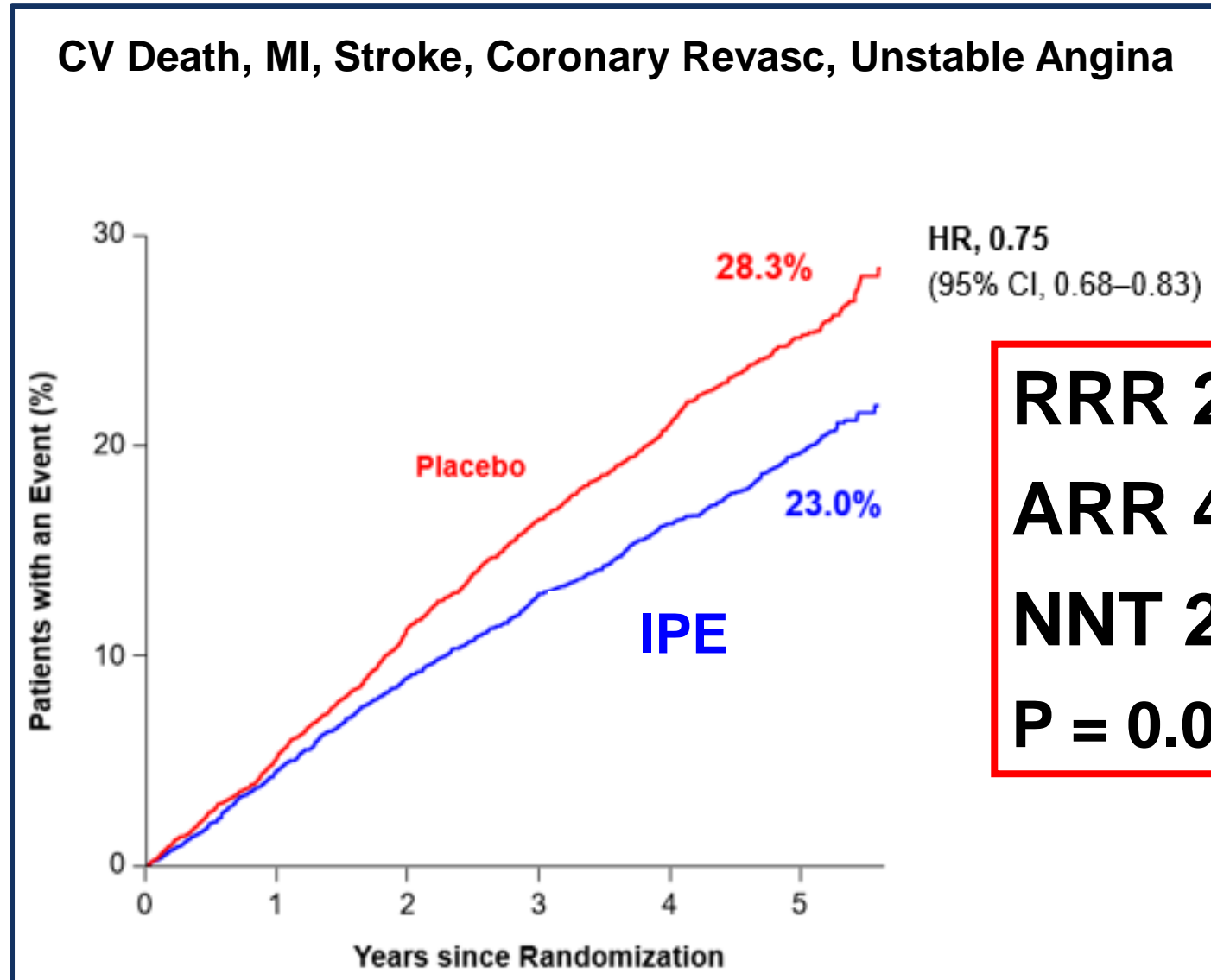
Cardiovascular Risk Reduction with Icosapent Ethyl for Hypertriglyceridemia

Deepak L. Bhatt, M.D., M.P.H., P. Gabriel Steg, M.D., Michael Miller, M.D., Eliot A. Brinton, M.D., Terry A. Jacobson, M.D., Steven B. Ketchum, Ph.D., Ralph T. Doyle, Jr., B.A., Rebecca A. Juliano, Ph.D., Lixia Jiao, Ph.D., Craig Granowitz, M.D., Ph.D., Jean-Claude Tardif, M.D., and Christie M. Ballantyne, M.D., for the REDUCE-IT Investigators*

Reduction of Cardiovascular Events with Icosapent Ethyl Intervention Trial

2019

REDUCE-IT: 25 % Endpoint Primario



RRR 24.8 %
ARR 4.8 %
NNT 21
P = 0.00000001



JACC, Marzo 2023



Journal of the American College of
Cardiology

Volume 81, Issue 8, Supplement, 7 March 2023, Page 1113

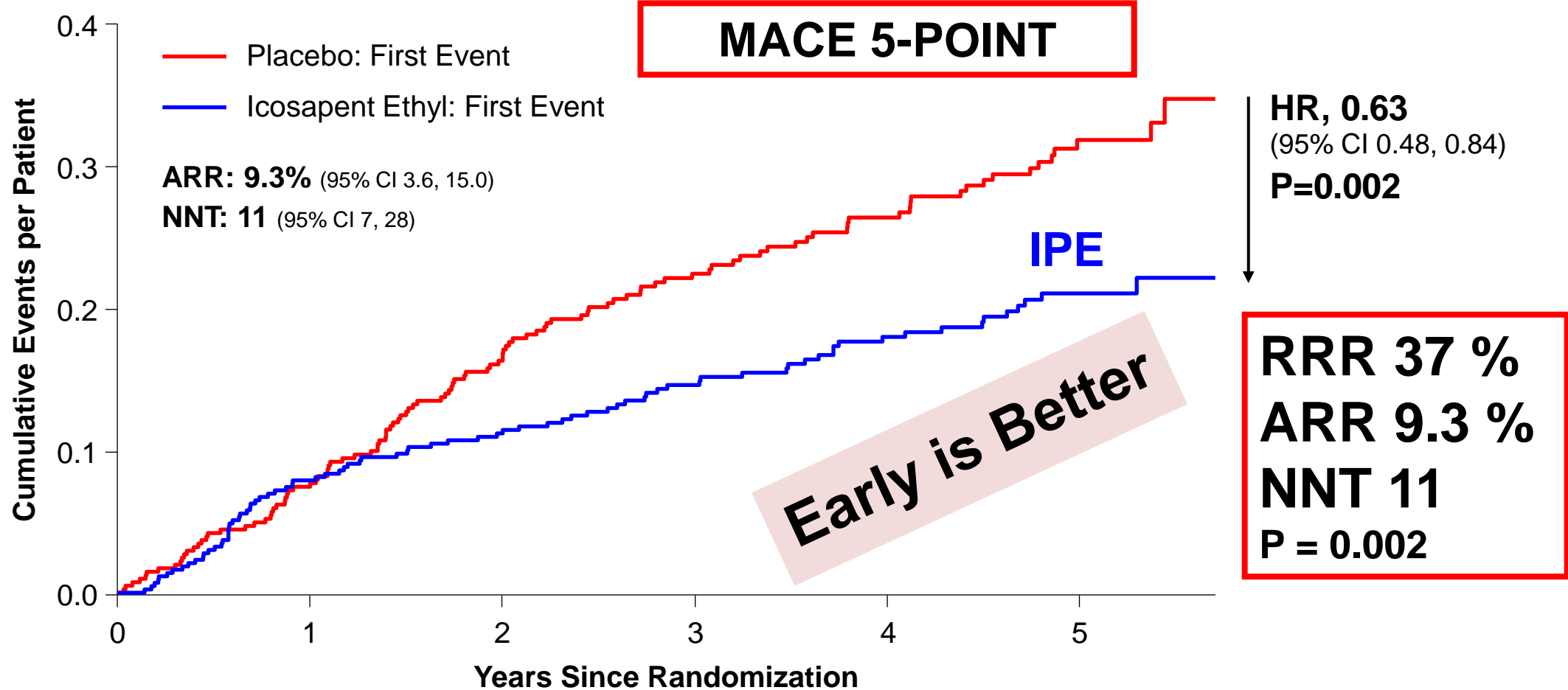


Ischemic Heart Disease

BENEFITS OF ICOSAPENT ETHYL IN PATIENTS WITH RECENT ACUTE CORONARY SYNDROME (ACS): REDUCE-IT ACS

Philippe Gabriel Steg, Deepak L. Bhatt, Michael Miller, Eliot A. Brinton, Terry A. Jacobson, Steven Ketchum, Lixia Jiao, Armando Lira Pineda, Ralph T. Doyle JR, Jean Claude Tardif, Christie M. Ballantyne, the REDUCE-IT Investigators

Time to First Event, Primary Composite Endpoint in Patients with Recent ACS < 12 Months



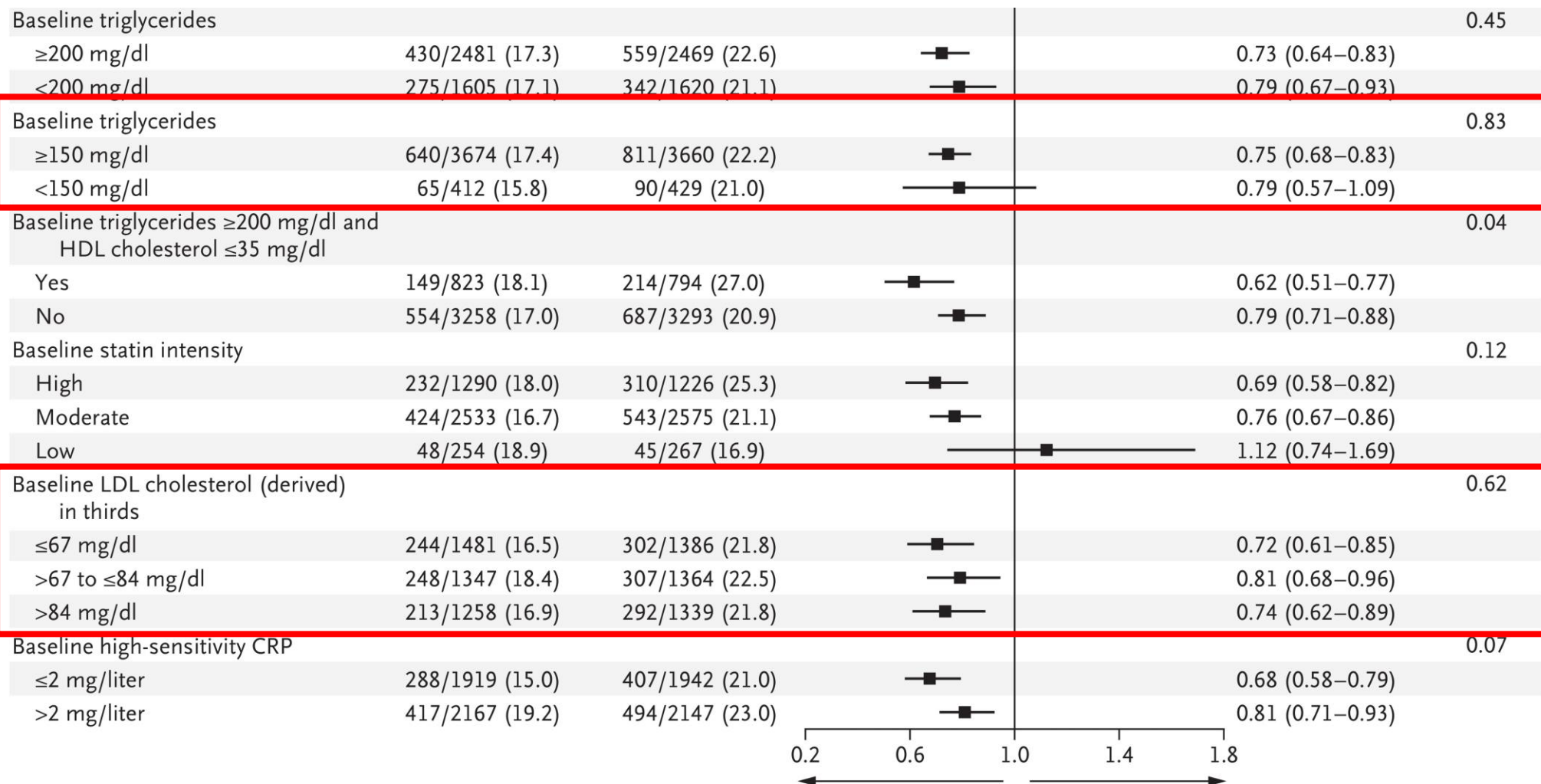
No. at Risk:

Placebo	407	395	373	311	253	150
Icosapent Ethyl	433	425	402	338	284	142

REDUCE-IT: Beneficio Indipendente dai livelli di LDLc

TG

LDL-c





Instagram

PCSK9-i post - ACS

Modificano il

Fenotipo di Placca

Lessons from HUYGENS & PACMAN-AMI

Assessing the Impact of PCSK9 Inhibition on Coronary Plaque Phenotype with Optical Coherence Tomography: Primary results of the HUYGENS Study

HUYGENS Study
ESC 2021

Stephen J Nicholls, Thomas Hucko, Steven E. Nissen, Francesco Prati, Stephan Windecker, Yu Kataoka, Rishi Puri, Bei Wang, Julie Butters, Giuseppe Di Giovanni, Stephen Jones and Peter J Psaltis.

PACMAN-AMI Trial
JAMA, Apr 2022

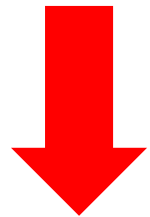
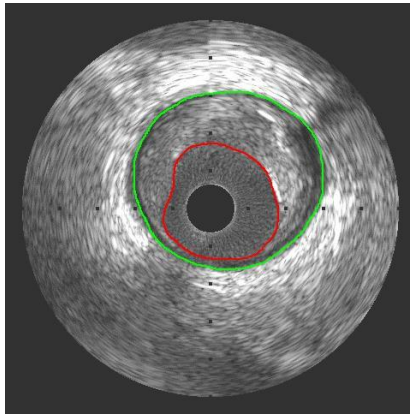
Research

JAMA | **Original Investigation**

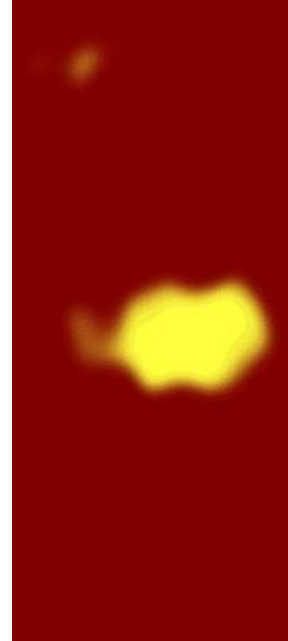
Effect of Alirocumab Added to High-Intensity Statin Therapy on Coronary Atherosclerosis in Patients With Acute Myocardial Infarction
The PACMAN-AMI Randomized Clinical Trial

Lorenz Räber, MD, PhD; Yasushi Ueki, MD, PhD; Tatsuhiko Otsuka, MD; Sylvain Losdat, PhD; Jonas D. Häner, MD; Jacob Lonborg, MD; Gregor Fahrni, MD; Juan F. Iglesias, MD; Robert-Jan van Geuns, MD, PhD; Anna S. Ondracek, MSc; Maria D. Radu Juul Jensen, MD, PhD; Christian Zanchin, MD, PhD; Stefan Stortecky, MD; David Spirk, MD; George C. M. Siontis, MD, PhD; Lanja Saleh, PhD; Christian M. Matter, MD; Joost Daemen, MD, PhD; François Mach, MD; Dik Heg, PhD; Stephan Windecker, MD; Thomas Engstrøm, MD, PhD; Irene M. Lang, MD; Konstantinos C. Koskinas, MD, MSc; for the PACMAN-AMI collaborators

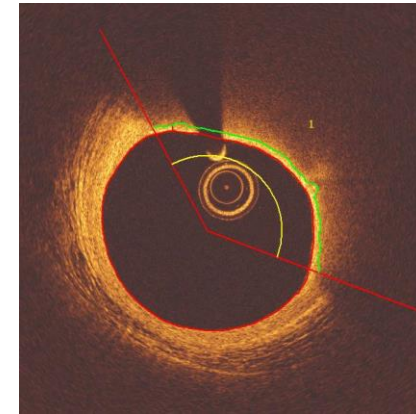
Utilizzo precoce di PCSK9-i dopo SCA e PCI



***Percent
Atheroma
Volume***



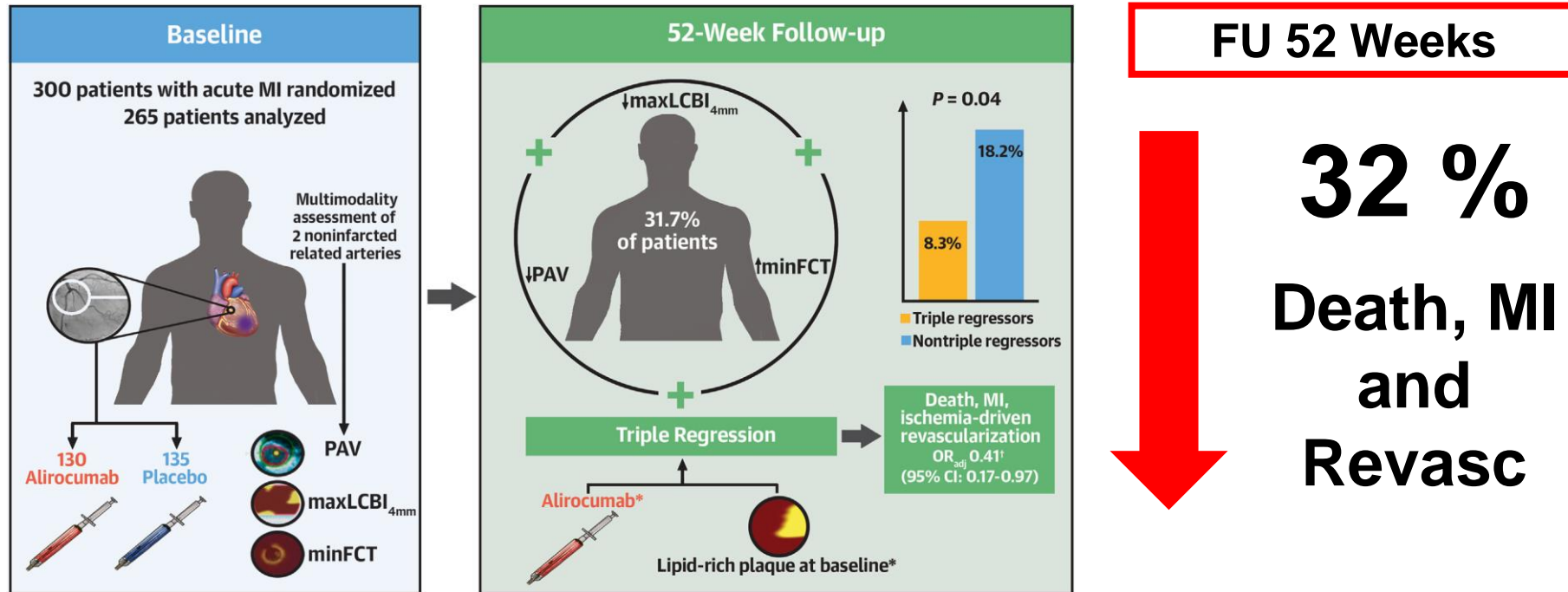
***Maximal
Lipid-Core
Burden Index***



***Minimal
Fibrous Cap
Thickness***

PACMAN-AMI

the **Triple Regression** Was Associated With a Reduced Risk of Cardiovascular Events



Coronary Plaque **Triple Regression**

SAVE LIFE



3

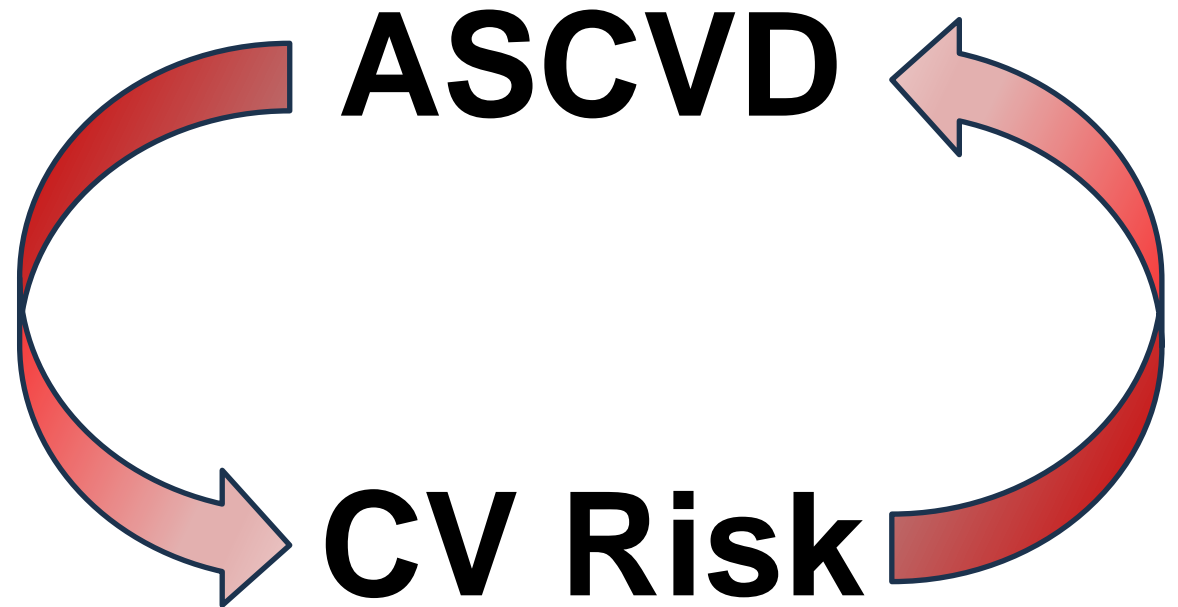
Ridurre il Rischio Residuo post – IMA

Come ?

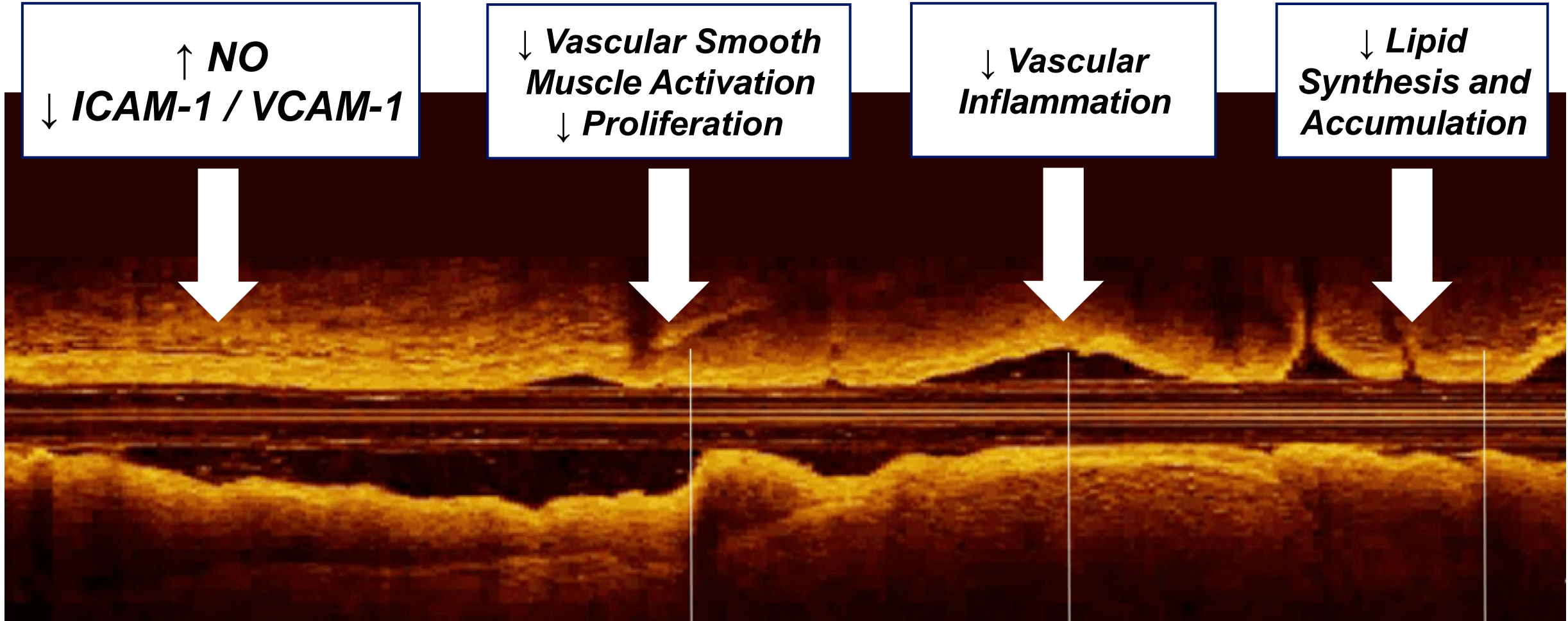
Sealing Plaque Strategy

The Glucometabolic Approach

GLP1-RA 4 Shields Defender



Direct Effects of GLP-1 on Atherosclerotic Plaque





THE LANCET Diabetes & Endocrinology

Oct 2021

Naveed Sattar

Cardiovascular, mortality, and kidney outcomes with GLP-1 receptor agonists in patients with type 2 diabetes: a systematic review and meta-analysis of randomised trials

Naveed Sattar, Matthew M Y Lee*, Søren L Kristensen*, Kelley R H Branch, Stefano Del Prato, Nardev S Khurmi, Carolyn S P Lam, Renato D Lopes, John J V McMurray, Richard E Pratley, Julio Rosenstock, Hertzfel C Gerstein*

**GLP1-RA
Metanalysis:
*Outcome Results***

**8 RCTs
60.080 T2DM PTS**

3-P MACE
CV Death, MI, Stroke

- 14 %

CV Death

- 13 %

HF H

- 11 %

GLP1-RA

**All Cause
Mortality**

- 12 %

**Composite
Kidney
Outcome**

- 21 %



NEJM, Nov 2023



A. Michael Lincoff

ORIGINAL ARTICLE

Semaglutide and Cardiovascular Outcomes in Obesity without Diabetes

A. Michael Lincoff, M.D., Kirstine Brown-Frandsen, M.D., Helen M. Colhoun, M.D.,
John Deanfield, M.D., Scott S. Emerson, M.D., Ph.D., Sille Esbjerg, M.Sc.,
Søren Hardt-Lindberg, M.D., Ph.D., G. Kees Hovingh, M.D., Ph.D.,
Steven E. Kahn, M.B., Ch.B., Robert F. Kushner, M.D., Ildiko Lingvay, M.D., M.P.H.,
Tugce K. Oral, M.D., Marie M. Michelsen, M.D., Ph.D., Jorge Plutzky, M.D.,
Christoffer W. Tornøe, Ph.D., and Donna H. Ryan, M.D.,
for the SELECT Trial Investigators*

SELECT Trial

SELECT Trial Overview

Semaglutide 2.4 mg Weekly vs Placebo

PRIMARY OBJECTIVE

To demonstrate that s.c. semaglutide 2.4 mg Weekly lowers the incidence of MACE versus placebo, both added to SoC, in people with established CVD and overweight or obesity



no T2DM

TRIAL DESIGN

- Overweight or obesity
- Established CVD*
- No prior history of diabetes

Semaglutide 2.4 mg Weekly

Placebo

Event driven

Mean Follow-Up: **40** months

KEY TRIAL NUMBERS

41

countries

804

sites

17,604

patients

Previous CVD and
Overweight / Obesity

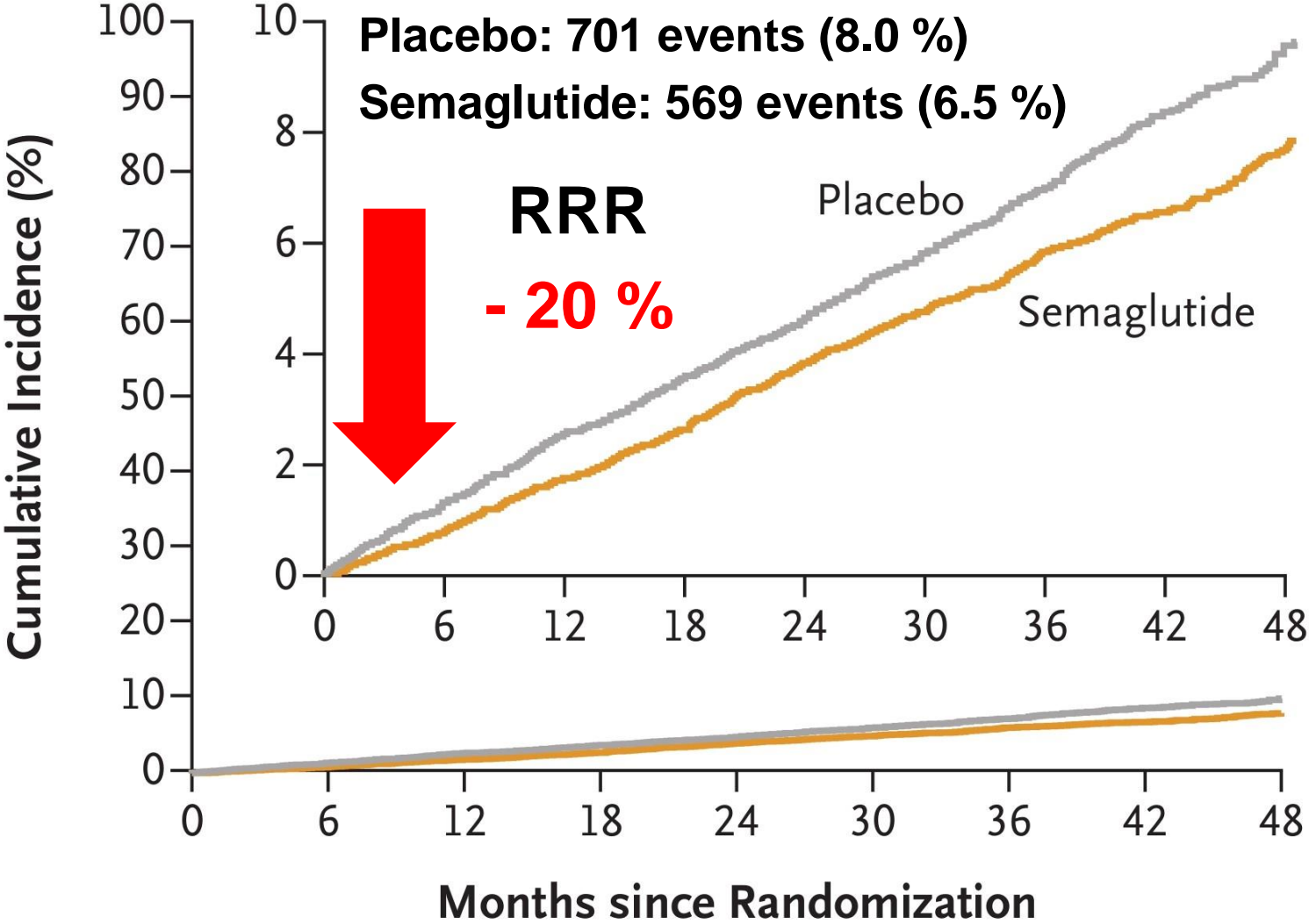
SELECT-LIFE

10-year post-trial observational follow-up to assess potential long-term effects of anti-obesity medication



SELECT Trial: Primary CV Composite End Point

CV Death, Nonfatal MI, or Nonfatal Stroke



17,604 PTS

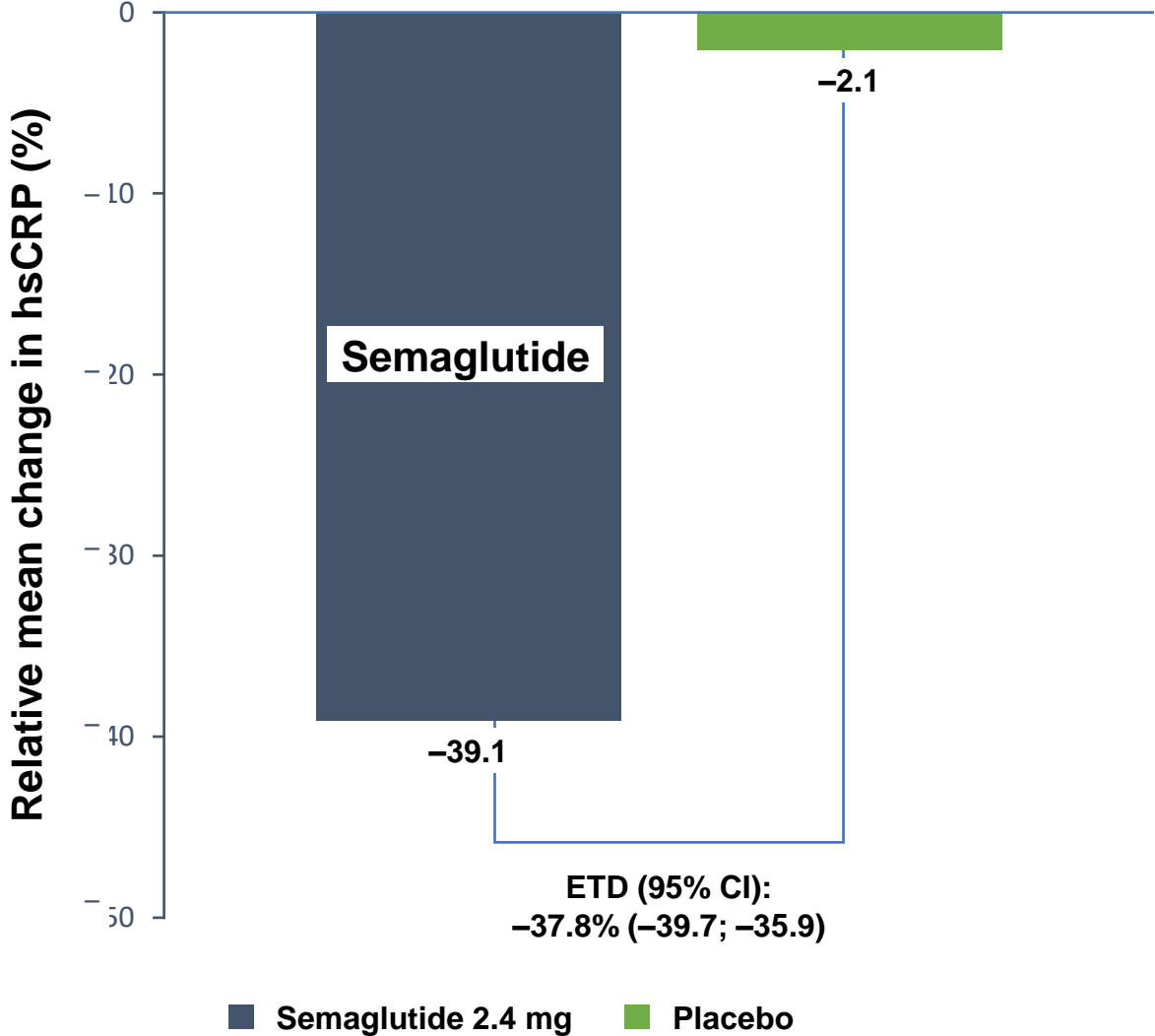
RRR - 20 %
(95% CI, 0.72 - 0.90)
p < 0.001

ARR - 1.5 %

NNT 67

Linkoff AM et Al.; NEJM; November 11, 2023

SELECT Trial: Change in hsCRP



**hsCRP
Reduction
- 38 %**

Waiting for **SOUL** Trial

Oral Semaglutide vs Placebo in T2DM Patients With ASCVD or CKD



- International, randomized, double-blind, placebo-controlled phase III trial with dose escalations at Wk 4, 8

Patients with T2D with
CVD or CKD; age ≥ 50 yr;
A1C 6.5%-10.0%

Enrollment complete:

N = 9.642

**Oral SEMAGLUTIDE
up to 14 mg QD**

Oral Placebo QD

3-Point MACE
CV Death / MI / Stroke

Follow Up

RCT Event Driven Up To 5 Years – Until 1.225 First Events

Waiting for **SOUL** Trial

Oral Semaglutide vs Placebo
in T2DM Patients With ASCVD or CKD



3-Point MACE
CV Death / MI / Stroke



RRR
- 14 %

company announcement **Bagsværd (Denmark)**
21 October 2024

Oral semaglutide demonstrates a 14% reduction in risk of major adverse cardiovascular events in adults with type 2 diabetes in the SOUL trial

MARCH 29 - 31, 2025
CHICAGO

TRANSFORMING
CARDIOVASCULAR
CARE FOR ALL

The American College of Cardiology logo, featuring a circular emblem with a figure, is positioned to the left of the text "AMERICAN COLLEGE of CARDIOLOGY". To the right of the logo is a stylized illustration of a human heart and its major blood vessels in white and blue.



4

Ridurre il Rischio Residuo post – IMA

Come ?

IVI – guided PCI

New Indication ACS ESC Guidelines 2023



ESC

European Society
of Cardiology

2023

Intra **Vascular **I**maging should be considered to guide PCI.**

IIa

A

Intravascular Imaging PCI **IVI-PCI**



Circulation Feb 2024

Circulation

ORIGINAL RESEARCH ARTICLE



Coronary Angiography, Intravascular Ultrasound, and Optical Coherence Tomography for Guiding of Percutaneous Coronary Intervention: A Systematic Review and Network Meta-Analysis

Daniele Giacoppo, MD, MSc, PhD; Claudio Laudani, MD, MSc; Giovanni Occhipinti, MD; Marco Spagnolo, MD; Antonio Greco, MD; Carla Rochira, MD; Federica Agnello, MD; Davide Landolina, MD; Maria Sara Mauro, MD; Simone Finocchiaro, MD; Placido Maria Mazzone, MD; Nicola Ammirabile, MD; Antonino Imbesi, MD; Carmelo Raffo, MD; Sergio Buccheri, MD; Davide Capodanno, MD, PhD

24 RCTs

15,489 Patients
IVUS vs ICA (46.4%)
OCT vs ICA (32.1%)
OCT vs IVUS (21.4%)



CV Death & MACE

IVUS
OCT



Lancet Mar 2024



Intravascular imaging-guided coronary drug-eluting stent implantation: an updated network meta-analysis

Gregg W Stone, Ewald H Christiansen, Ziad A Ali, Lene N Andreasen, Akiko Maehara, Yousif Ahmad, Ulf Landmesser, Niels R Holm

18 RCTs

12,913 Patients



CV Death & All Cause Death



Instagram

Searching for High Risk Plaque by

Intra Vascular Imaging

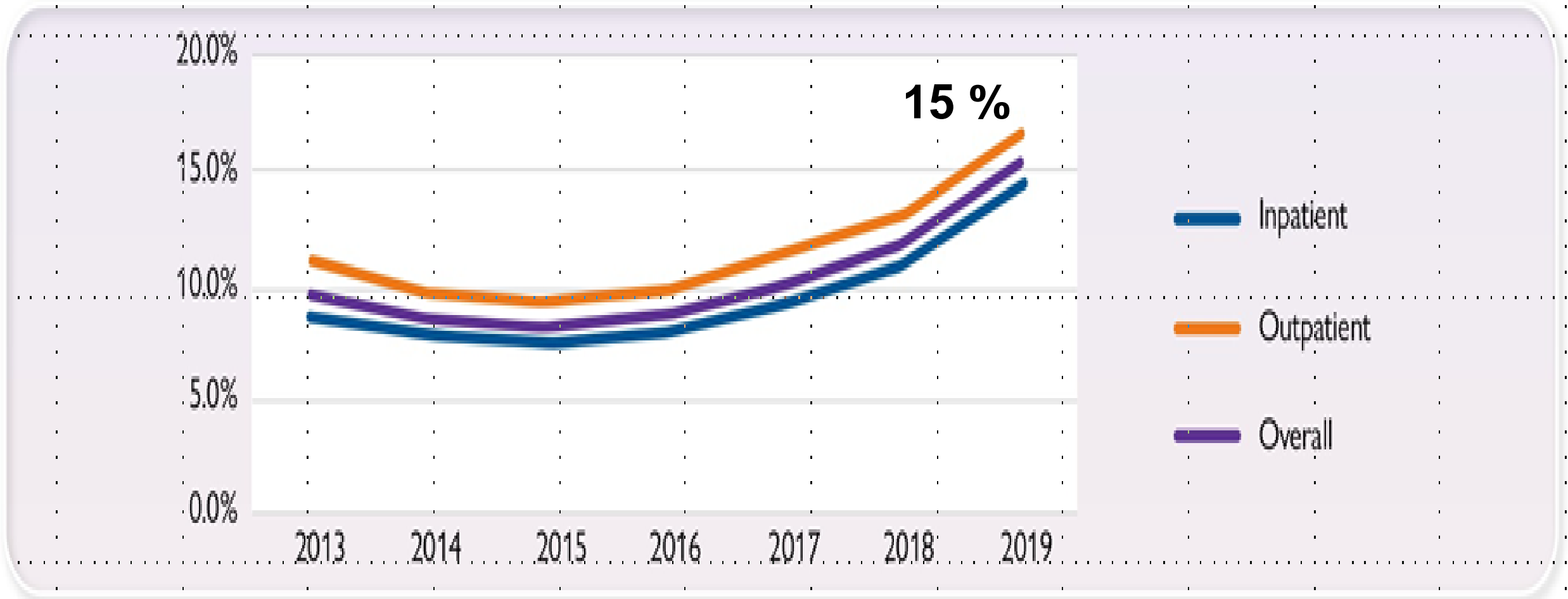
We Do It ?



USA Temporal Trend **IVI-Guided PCI**

2023

MEDICARE Data > 1 Million pts undergoing PCI

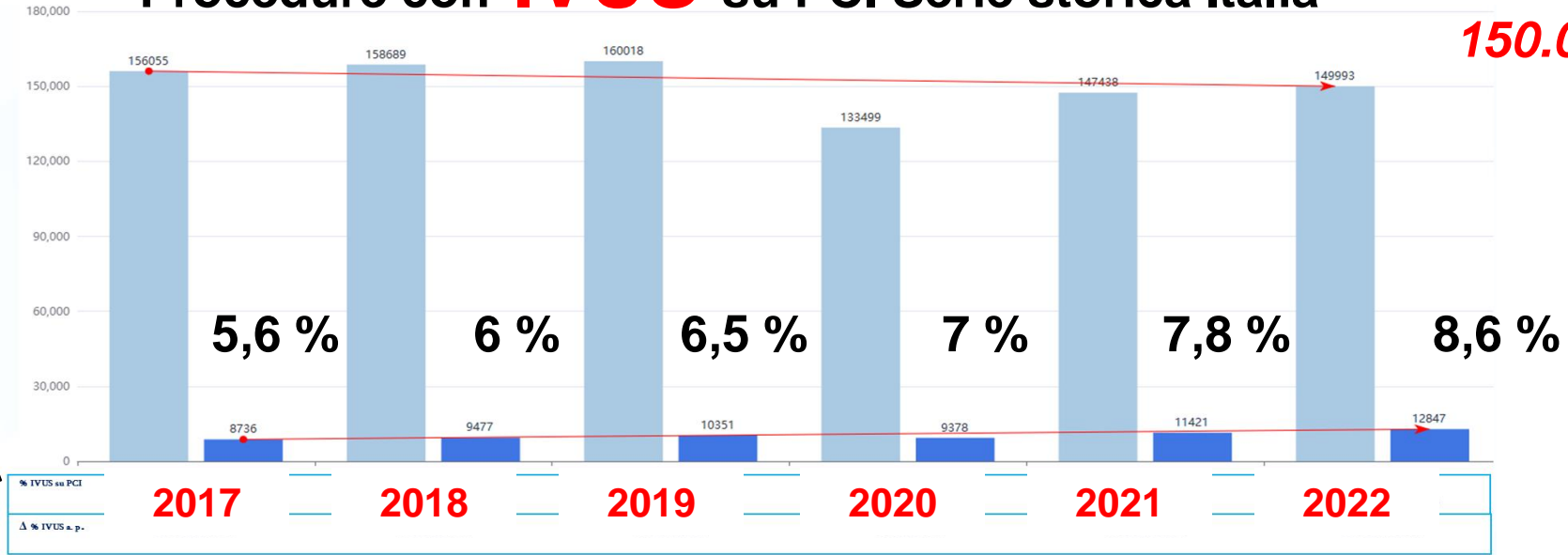


ITALY Temporal Trend **IVI-Guided PCI**

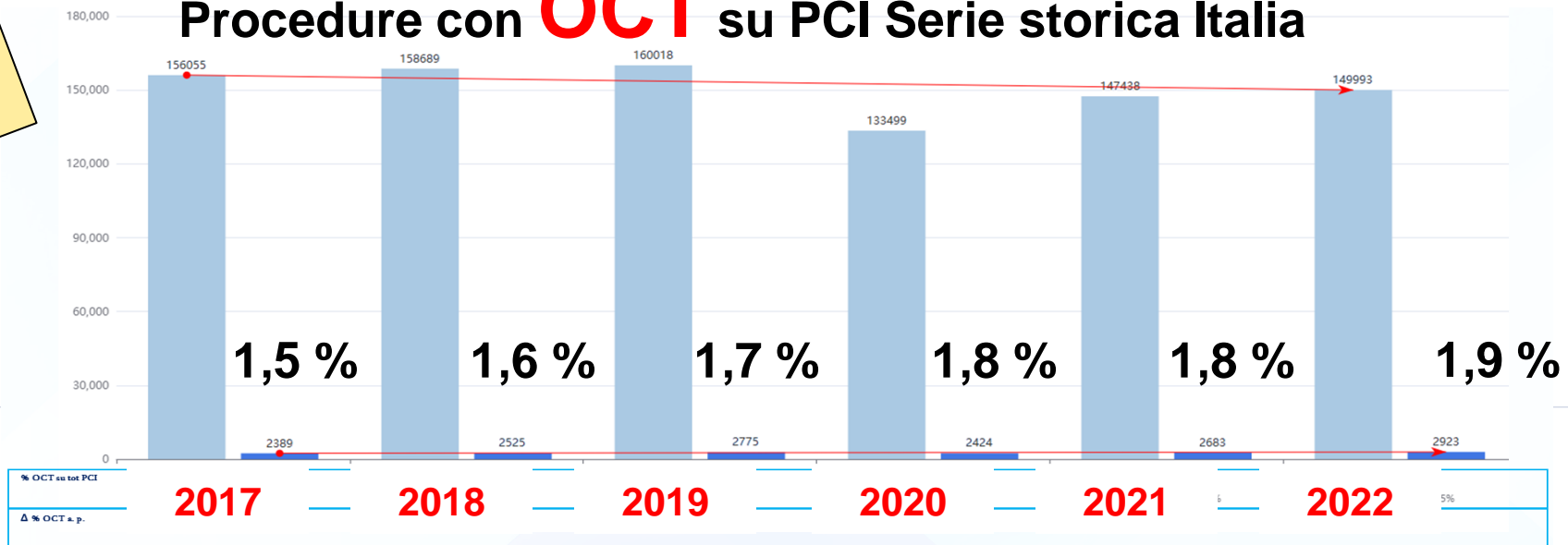
2023

Procedure con **IVUS** su PCI Serie storica Italia

150.000 PCI / Anno



Procedure con **OCT** su PCI Serie storica Italia



**IVI - PCI
10,4 %**

**No Outcome
Data**

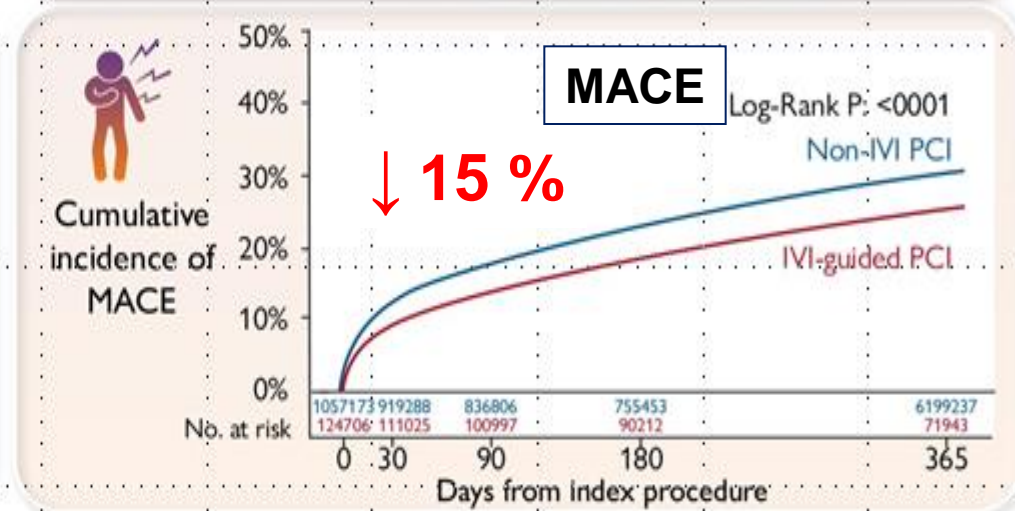
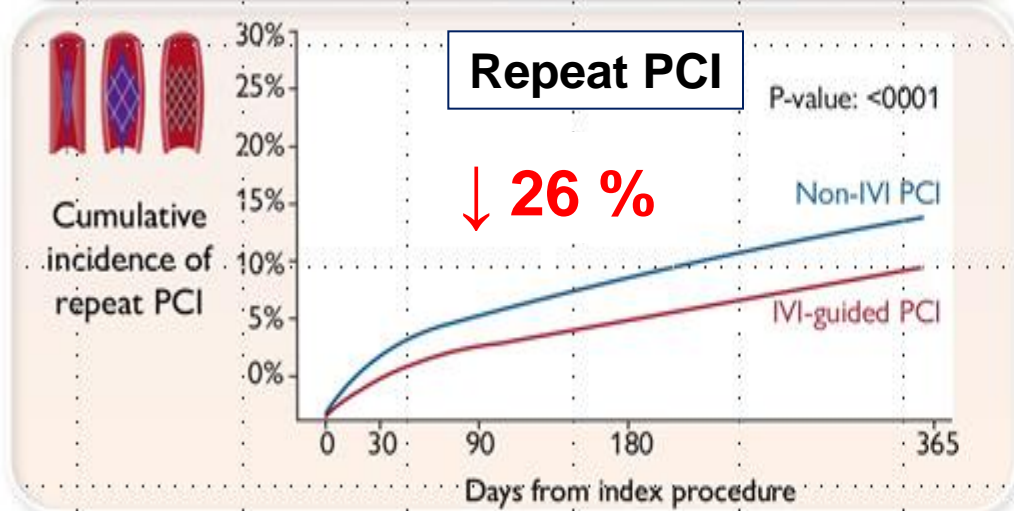
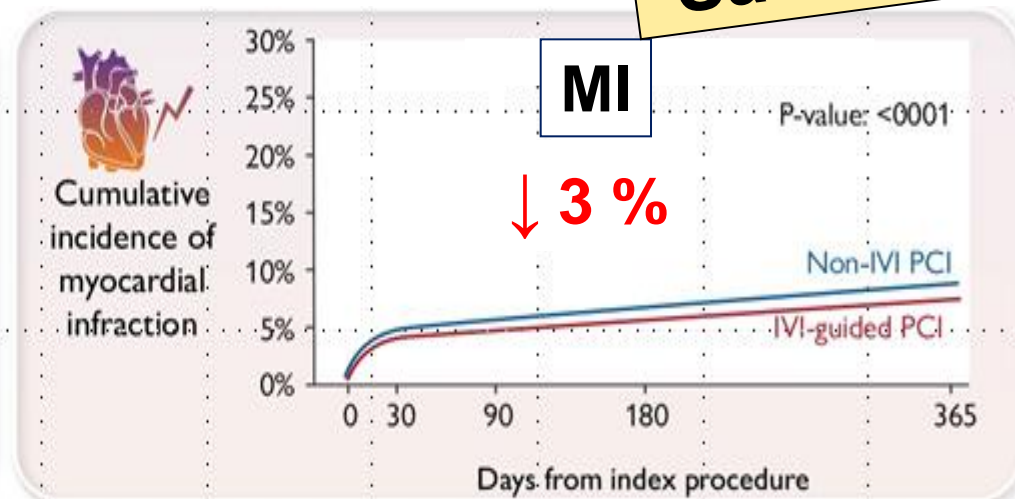
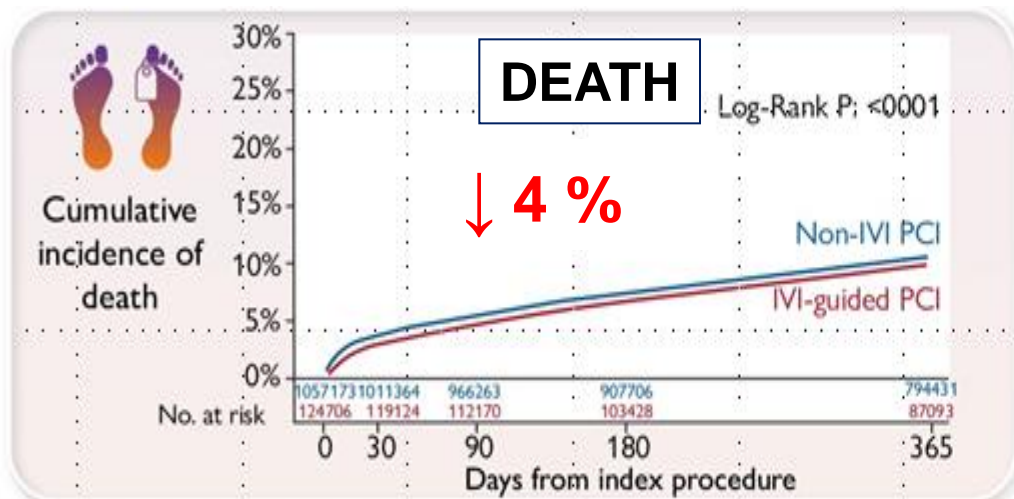


USA Temporal Trend **IVI-Guided PCI**

2023

IVI PCI 1-y Outcomes

**IVI PCI
Saves Lives**





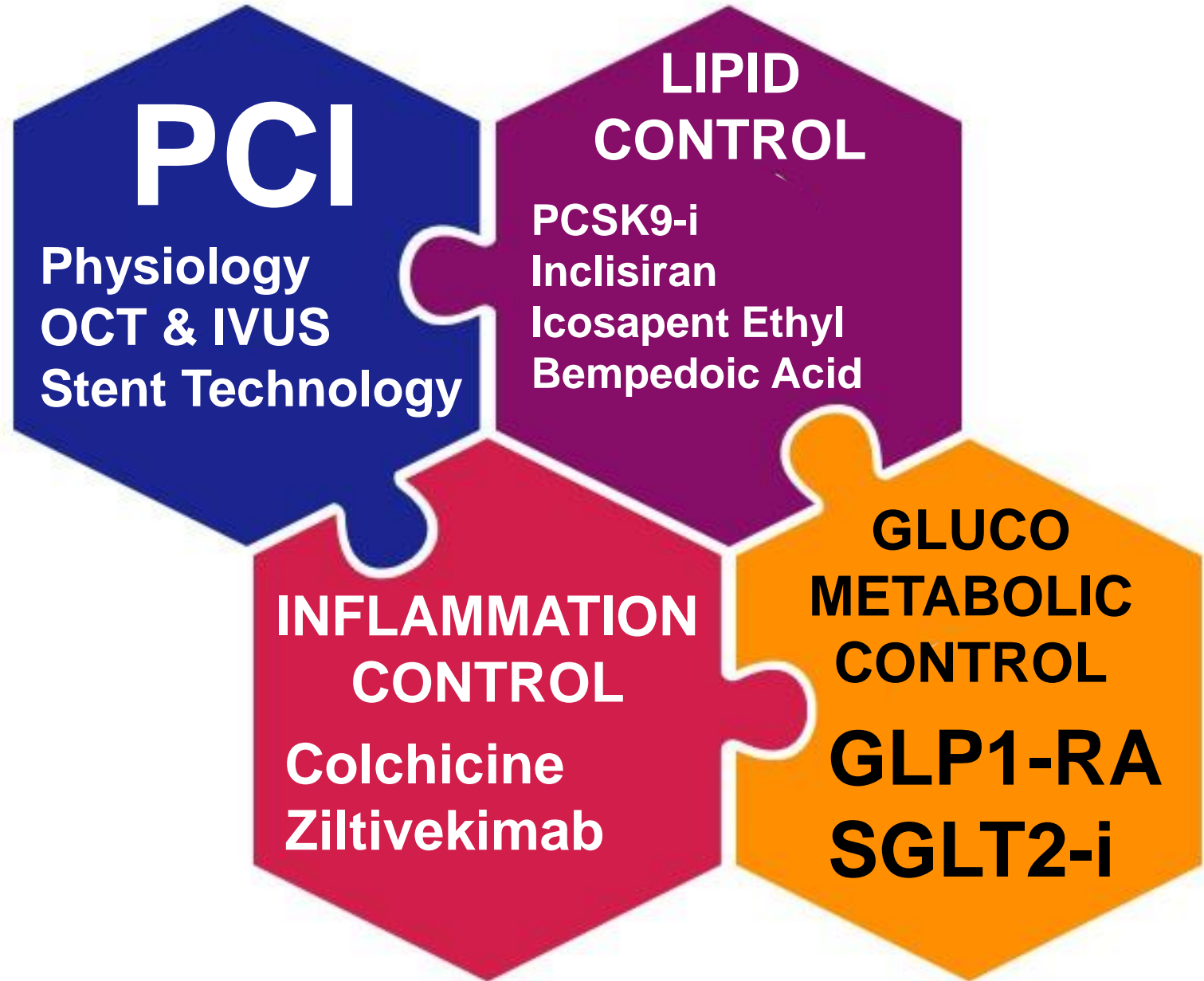
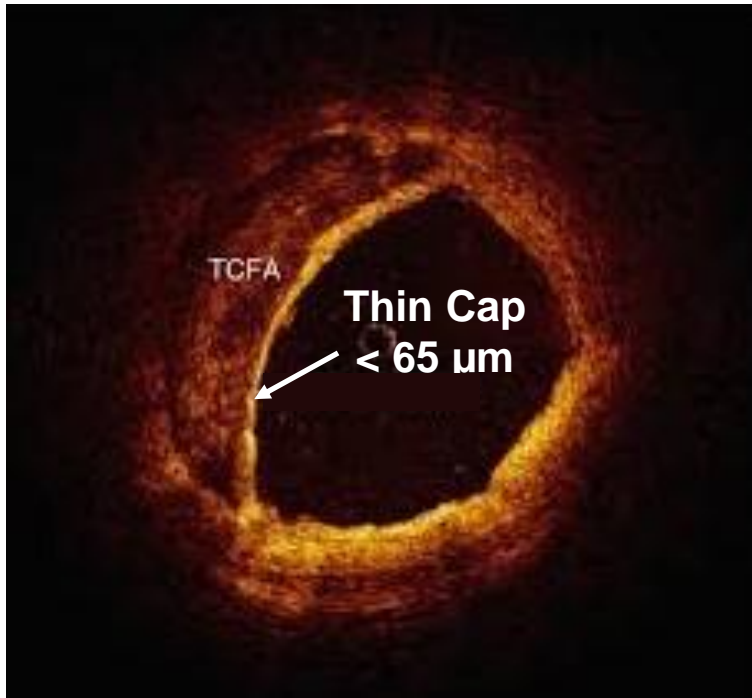
TAM - TAM

Take Away Message

“ From Paper to Patient ”

**Che Cosa è Utile Fare
nella Pratica Clinica**

Post - ACS Sealing HR Plaque Strategy



Interventional Drug Therapy

IVI Guided PCI & Drug Sealing Plaque

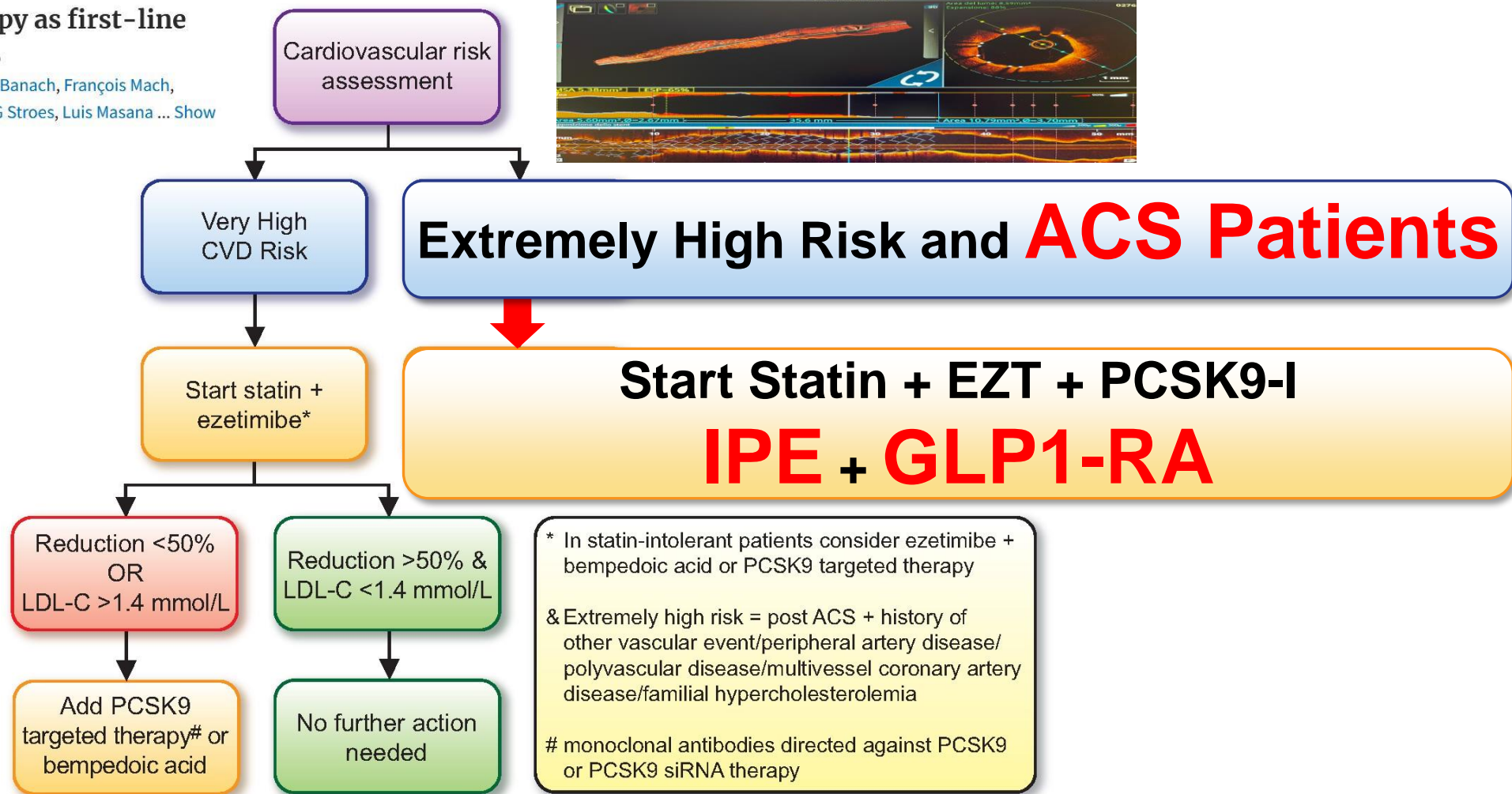
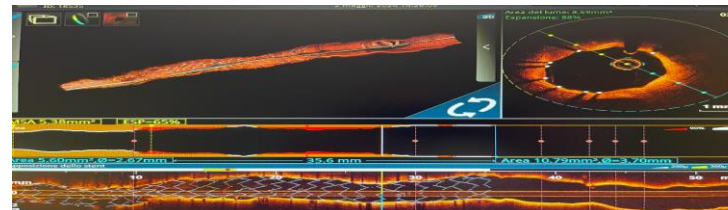
Fast Track

Strike Early & Strike Strong in ACS Patients With T2DM

Combination lipid-lowering therapy as first-line strategy in very high-risk patients

Kausik K Ray ✉, Laurens F Reeskamp, Ulrich Laufs, Maciej Banach, François Mach, Lale S Tokgözoğlu, Derek L Connolly, Anja J Gerrits, Erik S G Stroes, Luis Masana ... Show more

Eur Heart J, 2021



**FOR THOSE... 'ITS
NOT MY JOB'**



**AZIENDA
OSPEDALIERA
SAN PIO
BENEVENTO**

UOC CARDIOLOGIA INTERVENTISTICA
Unità di Terapia Intensiva Cardiologica
Direttore: Dr. Marino SCHERILLO