

16. Thromboseforum 2026

Lunchsymposium Entzündungshemmung als Schlüssel zur Risikoreduktion

# Kardiovaskuläre Inflammation und Residualrisiko – warum Lipidkontrolle alleine nicht genügt

*Prof. Dr.med.*

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Kardiologie, Angiologie, Pulmologie  
Universitätsklinikum Heidelberg*



# Conflict of Interests

Vorsitzender des Zertifizierungsgremiums für Chest Pain Units der DGK

Associate Editor:

Clin Res Cardiol

Apontis:

Honorarium for lecture

BRAHMS Deutschland:

Honoraria for lectures and consultancy

Roche Diagnostics:

Honoraria for lectures, consultancy,  
research grant

Astra Zeneca:

Honoraria for lectures

Bayer Vital:

Honoraria for lectures

Daiichi Sankyo:

Honoraria for lectures, research grant

Amgen:

Honoraria for lectures

Boehringer Ingelheim:

Honoraria for lectures

Eli Lilly:

Honoraria for lectures

# Klinischer Fall

Mann, 59 Jahre, 67 kg, RR 129/78 mmHg  
CKD KDIGO IIIB, eGFR 45 ml/min, LV-EF 41%  
RF: aHTN, Chol↑, ex-Raucher, pos. FA (Vater mit 48 Jahren MI )

- 2023 NSTEMI bei 3 VD, PCI + DES der LAD  
PTA/DEB des Tractus tibiofibularis li  
bei pAVK IIb  
ca. 70% ACI Stenose links
- 2024 NSTEMI bei de novo Stenose der prox.  
LCX
- 2024 IAP bei Re-stenose im Stent der LCX
- 2025 positiver Ischämienachweis im Strom-  
gebiet der RCA mit PCI + DES

ASS 100 1-0-0  
Ticagrelor 60 1-0-1  
Candesartan 16 1-0-0  
Metoprolol 95 1-0-0  
Dapagliflozin 10 1-0-0  
Spironolacton 25 1-0-0  
Torasemid 5 1-0-0  
Rosuvastatin 20 0-0-1  
Nustendi 180/10 1-0-0  
Omega-3 1000mg 1-0-0

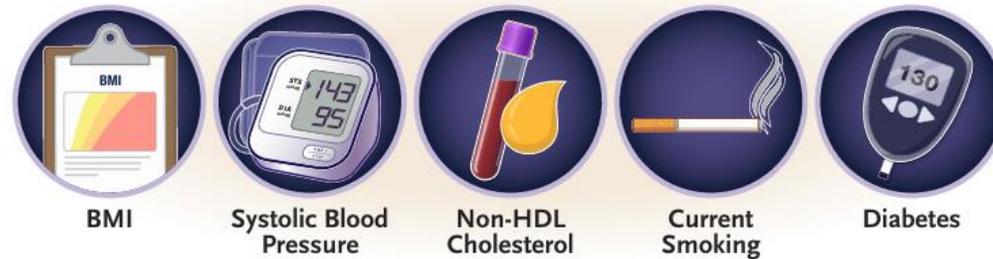
Serumkreatinin	1,4 mg/dl
eGFR	45 ml/min/1,73m <sup>2</sup>
Hs-cTnT	18 ng/L (stabil)
NT-pro BNP	175 ng/L (<125 ng/L)
Lp(a)	197 mg/dl (< 30 mg/dl)
LDL-C	170 → 75 → 56 → 32 mg/dl
Triglyzeride	149 mg/dl
<b>Hs-CRP</b>	<b>3,5 mg/dl (&lt; 5 mg/dl)</b>

# Global Effect of Modifiable Risk Factors on Cardiovascular Disease and Mortality

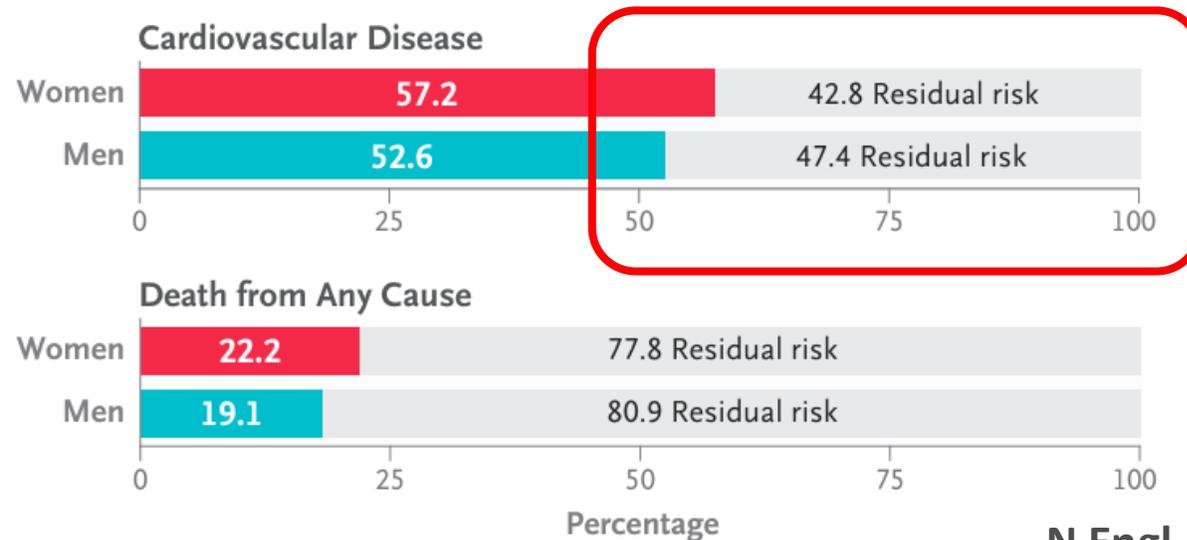
Global Cardiovascular Risk Consortium DOI: 10.1056/NEJMoa2206916

1,518,028 participants

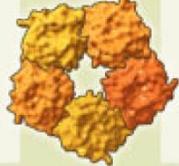
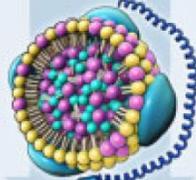
## Modifiable Risk Factors



## Population-Attributable Fractions for the Risk Factors Combined



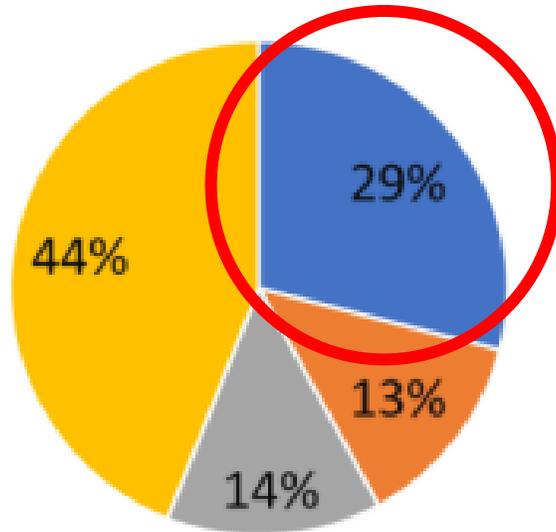
# Spektrum der behandelbaren Risikofaktoren

Biological Issue	Residual Cholesterol Risk 	Residual Inflammatory Risk 	Residual Thrombotic Risk 	Residual Triglyceride Risk 	Residual Lp(a) Risk 	Residual Diabetes Risk 
Critical Biomarker	LDL-C $\geq 100$ mg/dL	hsCRP $\geq 2$ mg/L	No simple biomarker	TG $\geq 150$ mg/dL	Lp(a) $\geq 50$ mg/dL	HbA1c Fasting glucose
Potential Intervention	Targeted LDL/Apo B Reduction	Targeted Inflammation Reduction	Targeted Antithrombotic Reduction	Targeted Triglyceride Reduction	Targeted Lp(a) Reduction	SGLT2 Inhibitors GLP-1 Agonists
Randomized Trial Evidence	IMPROVE-IT FOURIER SPIRE ODYSSEY	CANTOS COLCOT LoDoCo2 OASIS-9	PEGASUS COMPASS THEMIS	REDUCE-IT <i>PROMINENT</i>	Planned	EMPA-REG CANVAS DECLARE CREDENCE LEADER SUSTAIN-6 REWIND

# How Common is Residual Inflammatory Risk?

Following  
High-Intensity Statins

PROVE-IT

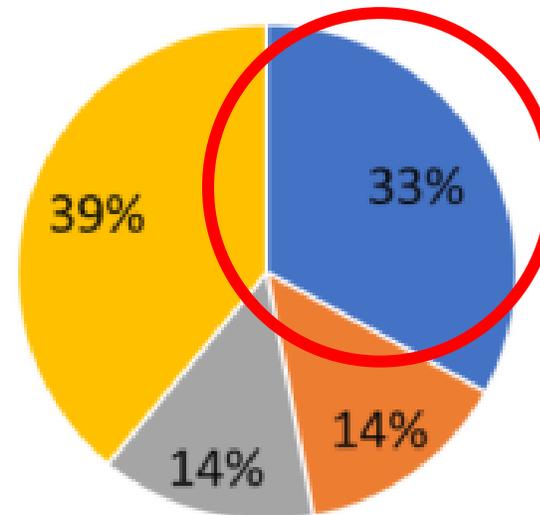


Residual Inflammatory Risk

hsCRP  $\geq$  2 mg/L  
LDLC < 1.8mmol/L

Following  
High-Intensity Statins  
Plus Ezetimibe

IMPROVE-IT

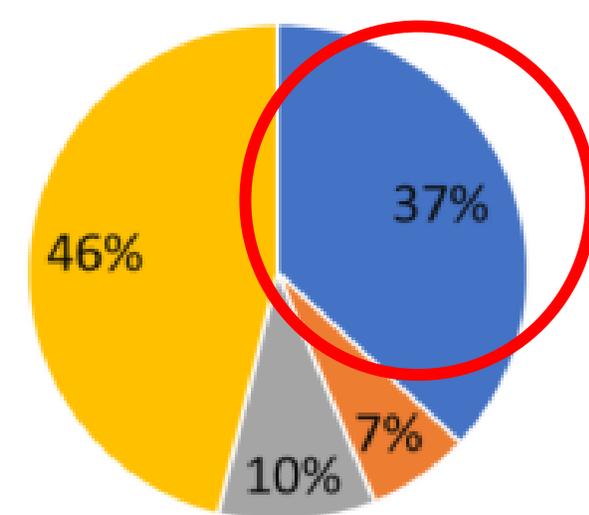


Residual Cholesterol Risk

hsCRP < 2 mg/L  
LDLC  $\geq$  1.8 mmol/L

Following  
High-Intensity Statins  
Plus PCSK9 Inhibition

SPIRE-1 / SPIRE-2



Both

hsCRP  $\geq$  2 mg/L  
LDLC  $\geq$  1.8mmol/L

Neither

hsCRP < 2 mg/L  
LDLC < 1.8mmol/L

Circulation Res 2017;120:617-9.

Pradhan et al Circulation 2018 (on line).

# 2025 ESC Dyslipidemias Update: Cardiovascular risk estimation: new recommendations

## Recommendation Table 1 — Recommendations for cardiovascular risk estimation in persons without known cardiovascular disease

Recommendations	Class <sup>a</sup>	Level <sup>b</sup>
SCORE2 is recommended in apparently healthy people <70 years of age without established ASCVD, DM, CKD, genetic/rare lipid or BP disorders for estimation of 10-year fatal and non-fatal CVD risk. <sup>2 c</sup>	I	B
SCORE2-OP is recommended in apparently healthy people ≥70 years of age without established ASCVD, DM, CKD, genetic/rare lipid or BP disorders for estimation of 10-year fatal and non-fatal CVD risk. <sup>3 c</sup>	I	B
Presence of subclinical coronary atherosclerosis by imaging or increased CAC score by CT should be considered as risk modifiers in individuals at moderate risk or individuals around treatment decision thresholds to improve risk classification. <sup>24,27,28,36 d</sup>	IIa	B
Risk modifiers <sup>e</sup> should be considered in individuals at moderate risk or individuals around treatment decision thresholds to improve risk classification. <sup>17,27,37 f</sup>	IIa	B

### Box 1 Risk modifiers for consideration beyond the risk estimation based on the SCORE2 and SCORE2-OP algorithms

#### Demographic/clinical conditions

- Family history of premature CVD (men: <55 years; women: <60 years)
- High-risk ethnicity (e.g. Southern Asian)
- Stress symptoms and psychosocial stressors
- Social deprivation
- Obesity
- Physical inactivity
- Chronic immune-mediated/inflammatory disorders
- Major psychiatric disorders
- History of premature menopause
- Pre-eclampsia or other hypertensive disorders of pregnancy
- Human immunodeficiency virus infection
- Obstructive sleep apnoea syndrome

#### Biomarkers

- Persistently elevated hs-CRP (>2 mg/L)
- Elevated Lp(a) [>50 mg/dL (>105 nmol/L)].

CVD, cardiovascular disease; hs-CRP, high sensitivity C-reactive protein; Lp(a), lipoprotein(a).

# hsCRP measurement is guideline-recommended for primary prevention (Canada/USA) and in suspected ASCVD (ESC)

Guideline	Year	Categorization of hsCRP
ACC/AHA <i>"Primary Prevention of Cardiovascular Disease"</i> 	2018 2019	<b>Risk-enhancing factor</b> (hsCRP $\geq$ 2.0 mg/L)
CCS <i>"Management of Dyslipidemia for the Prevention of Cardiovascular Disease"</i>  Canadian Cardiovascular Society	2021	<b>Risk modifier</b> (hsCRP $\geq$ 2.0 mg/L)
ESC <i>"Cardiovascular Disease Prevention in Clinical Practice"</i>  ESC European Society of Cardiology	2021	<b>Circulating biomarker</b> (potential risk modifier) <b>But: no biomarkers recommended</b>
ESC <i>"Management of Chronic Coronary Syndromes"</i>  ESC European Society of Cardiology	2024	<b>Class IIa recommendation</b> for measurement of hsCRP in the initial diagnostic workup in suspected CCS

# Inflammation and Cardiovascular Disease: 2025 ACC Scientific Statement

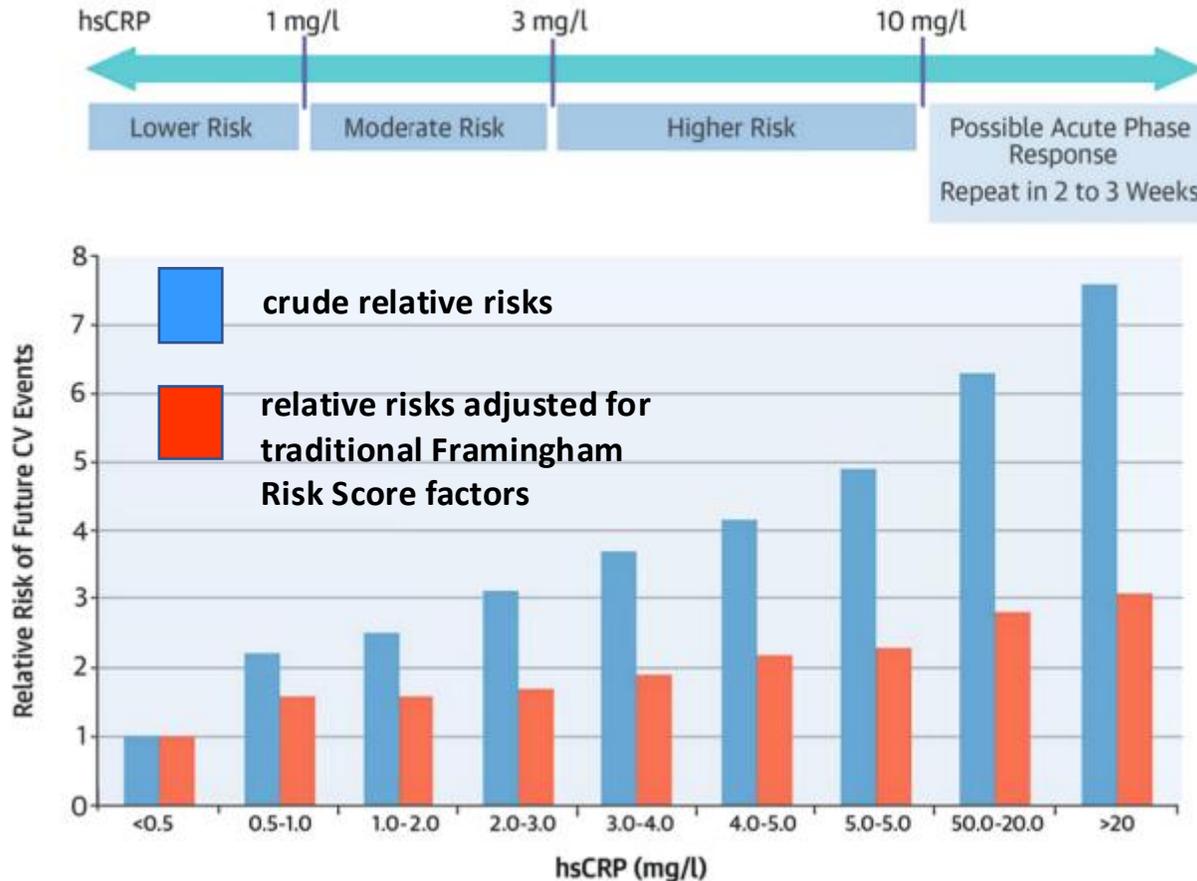
A Report of the American College of Cardiology

Writing  
Committee  
Members

George A. Mensah, MD, FACC, *Chair*  
Natalie Arnold, MD  
Sumanth D. Prabhu, MD, FACC

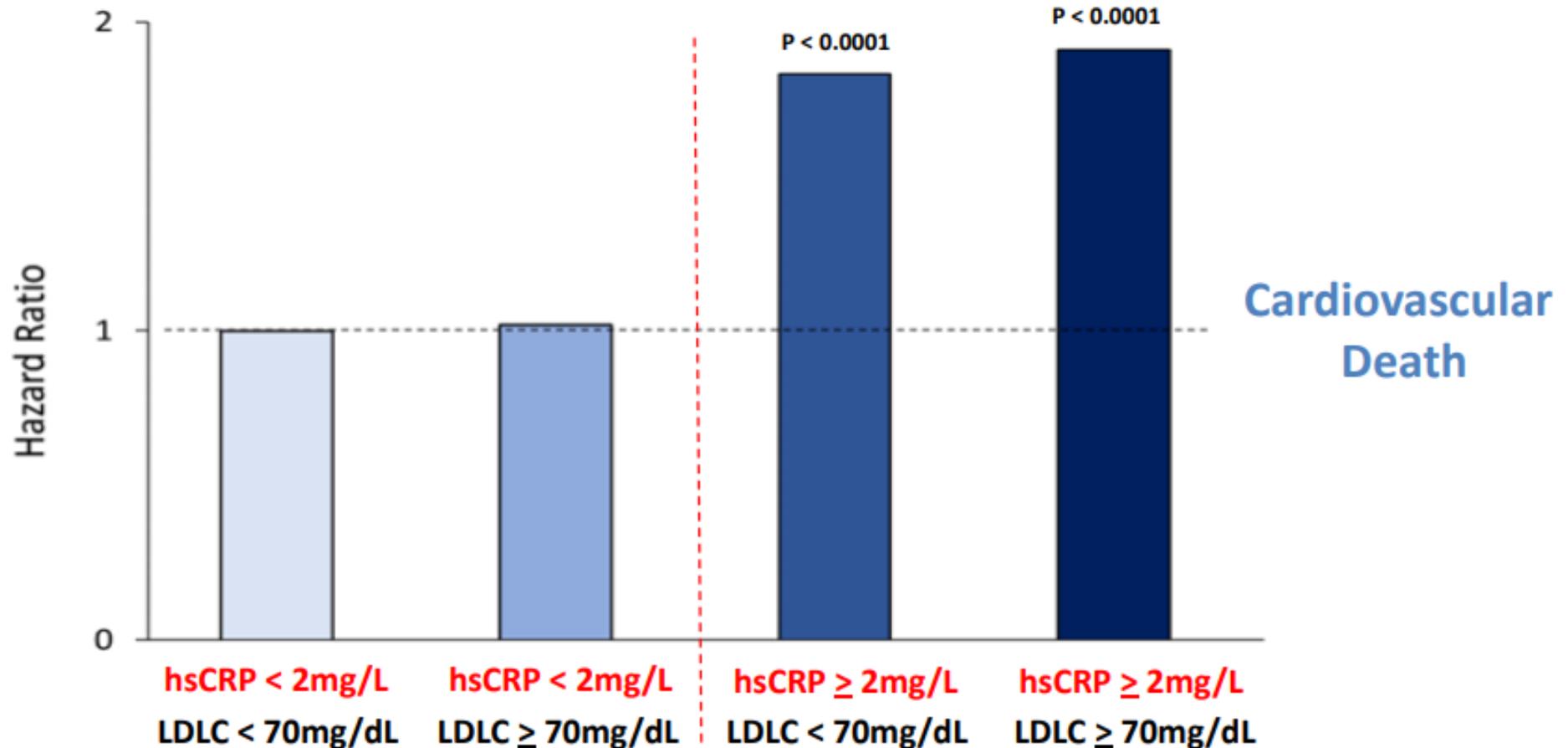
Paul M. Ridker, MD, MPH, FACC  
Francine K. Welty, MD, PhD, FACC

The relationship of inflammation to cardiovascular (CV) risk is linear across a wide range of high-sensitivity C-reactive protein (hsCRP) values

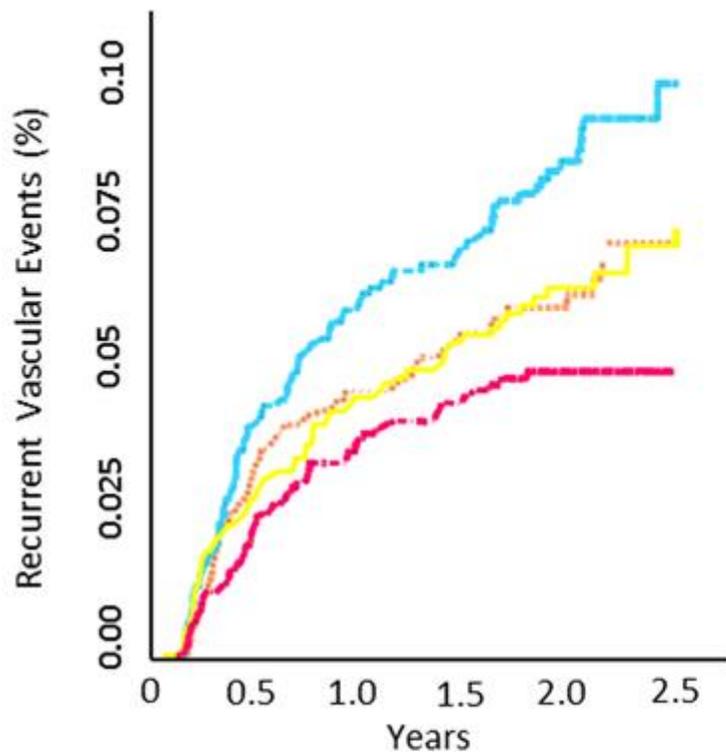


# Rolle der Inflammation in Relation zu LDL-Cholesterin

hsCRP is a Powerful Determinant of Cardiovascular Death Irrespective of LDLC Among 31,245 Contemporary Statin Treated Secondary Prevention Patients

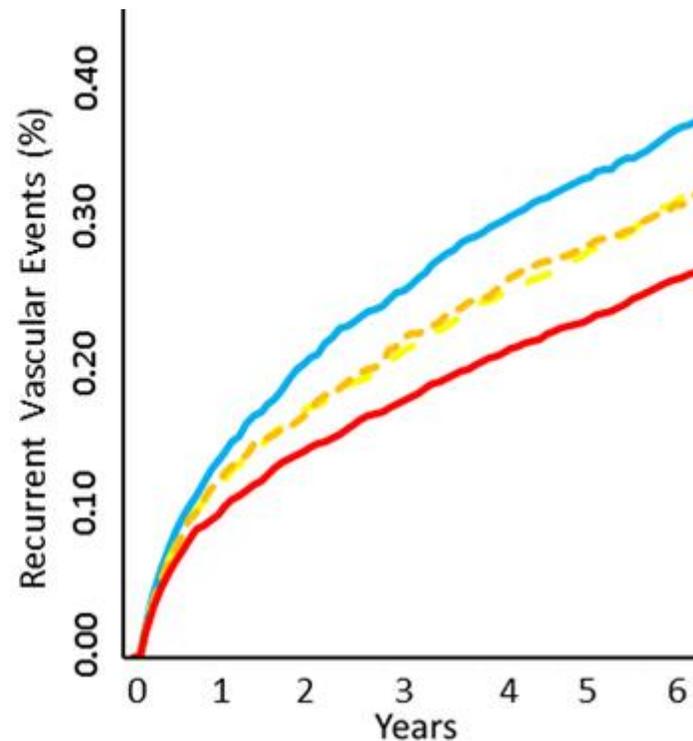


# “Dual targets” of low cholesterol and low inflammation maximizes benefit in terms of absolute risk reduction



**PROVE-IT**

NEJM 2005;352:20-8



**IMPROVE-IT**

Bohula et al, Circulation 2015;132:1224-33

■ LDL >70 mg/dL  
hsCRP > 2mg/L

■ LDL <70 mg/dL  
hsCRP > 2mg/L

■ LDL > 70 mg/dL  
hsCRP < 2mg/L

■ LDL <70 mg/dL  
hsCRP < 2mg/L

Neither Goal  
Achieved

LDL Goal  
Achieved

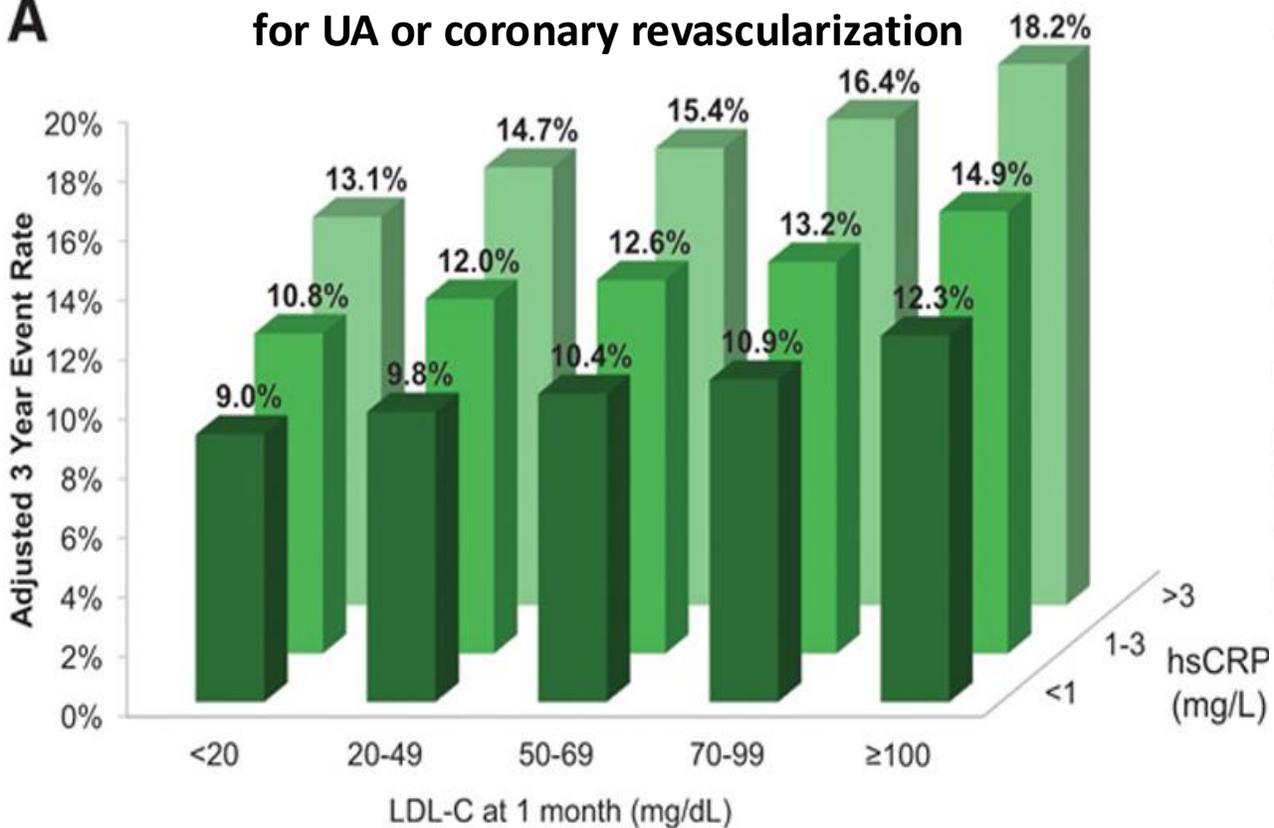
hsCRP Goal  
Achieved

Dual Goals  
Achieved

# FOURIER: Residual Inflammatory Risk is Present Irrespective of On-Treatment LDL-C

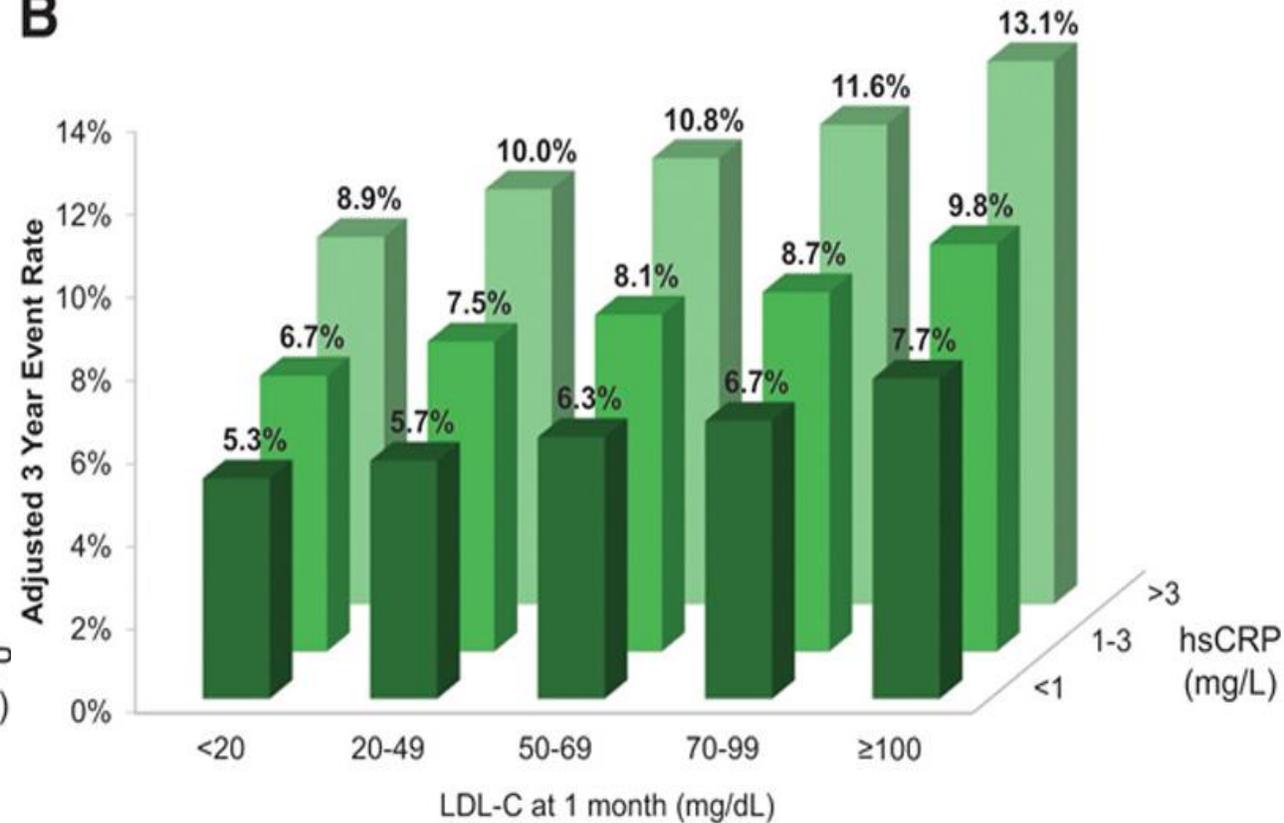
**1°EP: CV death, MI, stroke, hospitalization for UA or coronary revascularization**

**A**

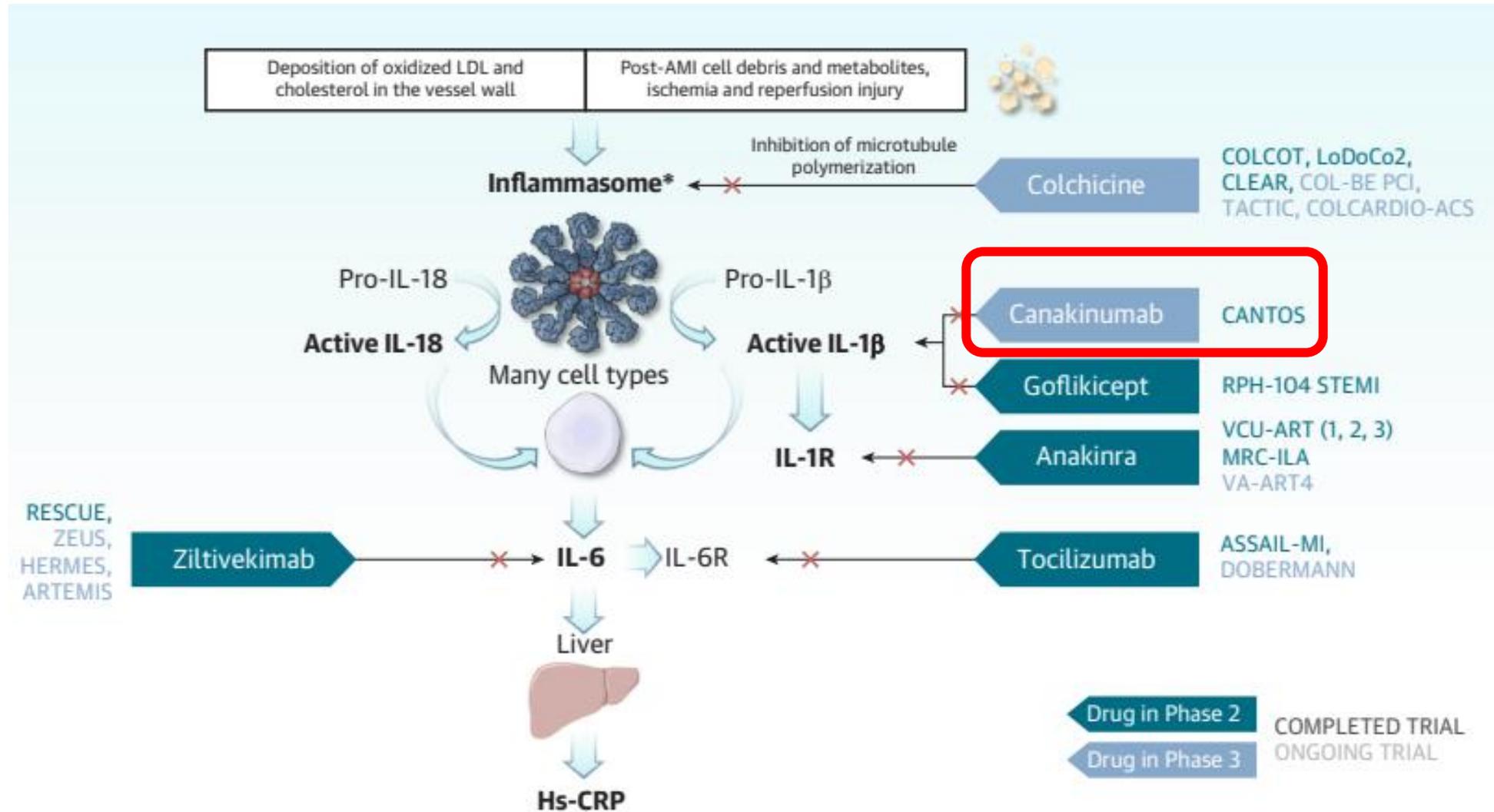


**2°EP: CV death, MI, stroke**

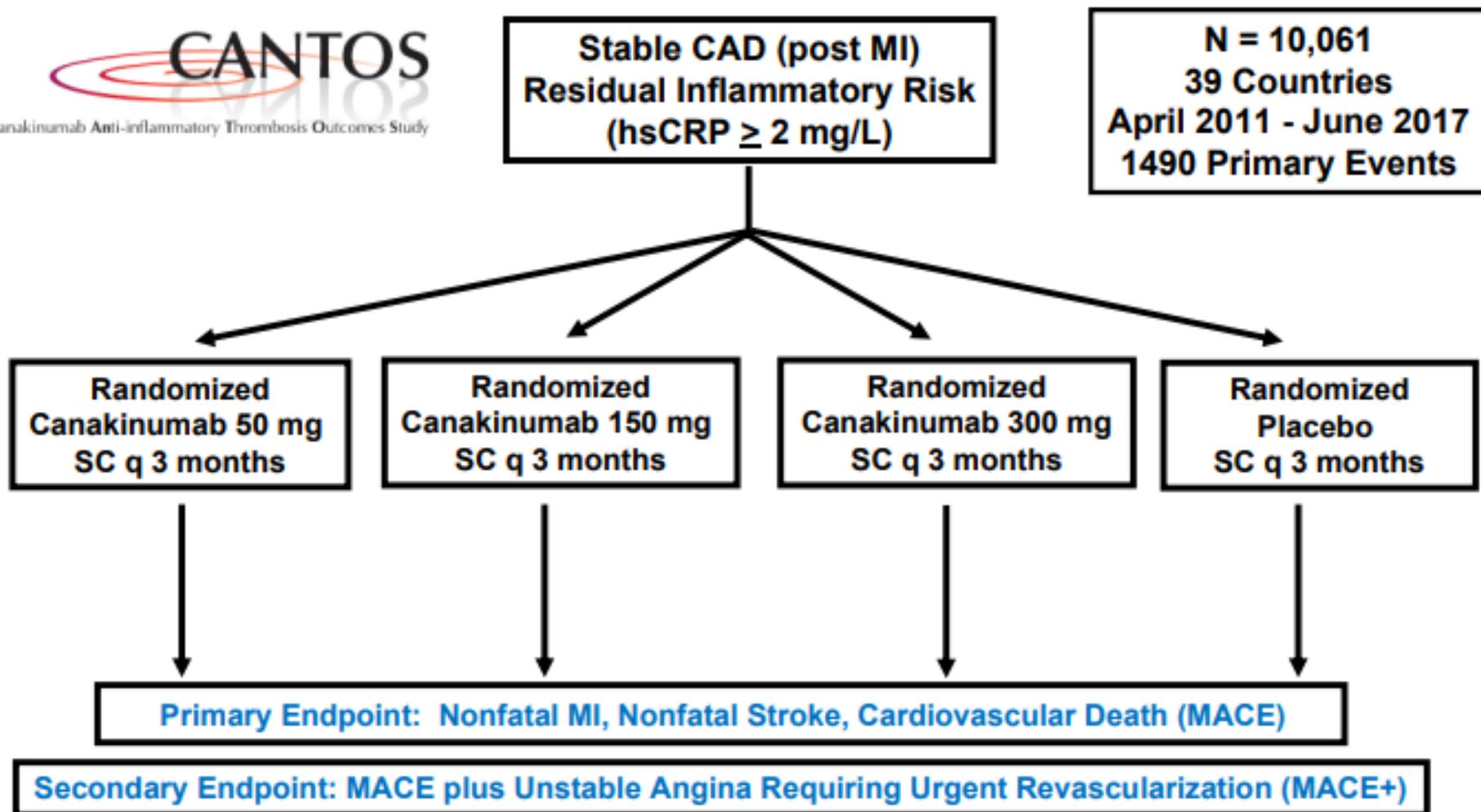
**B**



# Molecular Targets of Inflammation in AMI and Investigational Anti-Inflammatory Drugs



## Canakinumab Anti-inflammatory Thrombosis Outcomes Study (CANTOS)

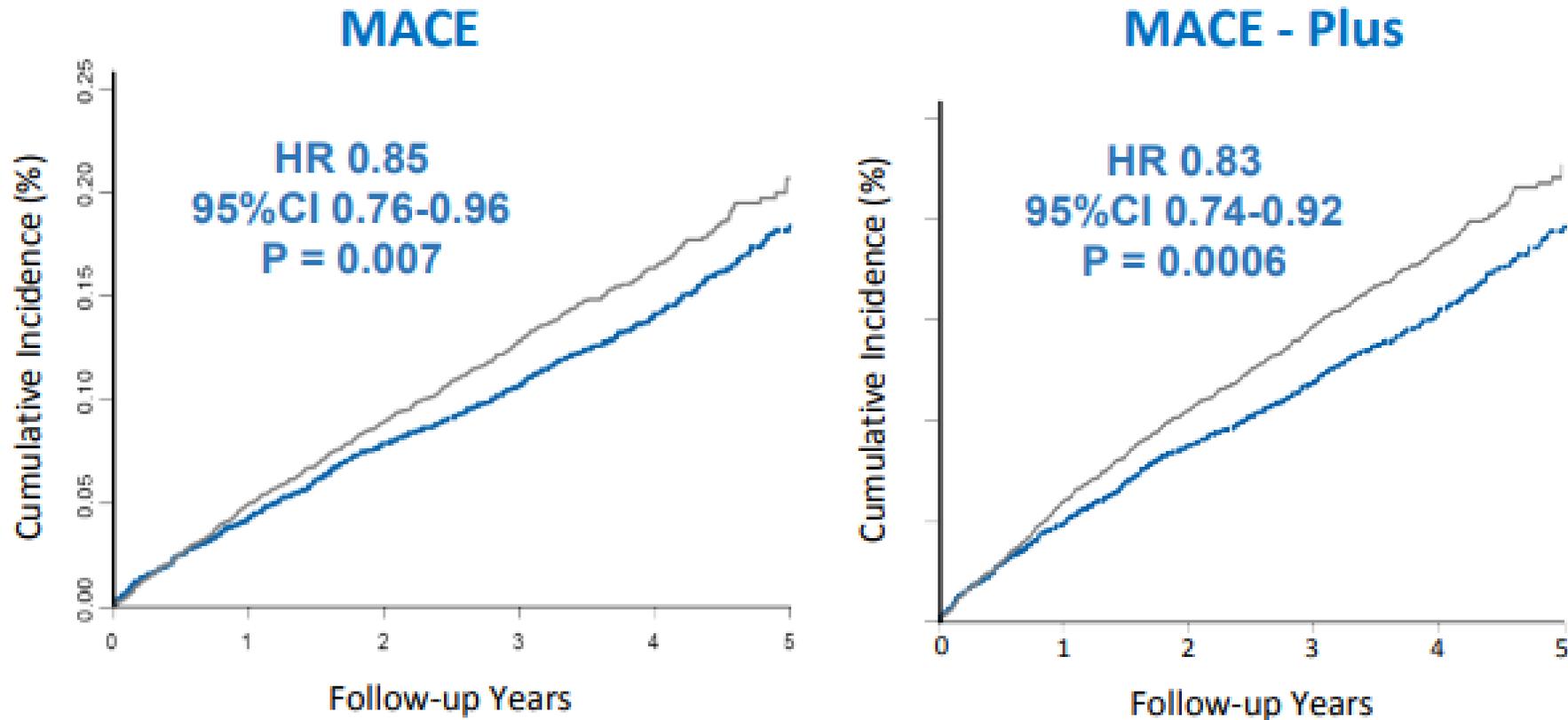


**“Residual Inflammatory Risk”**

Baseline LDLC 82mg/dL (2.1mmol/L) but hsCRP 4.1 mg/L

# CANTOS: Primary Cardiovascular Endpoints

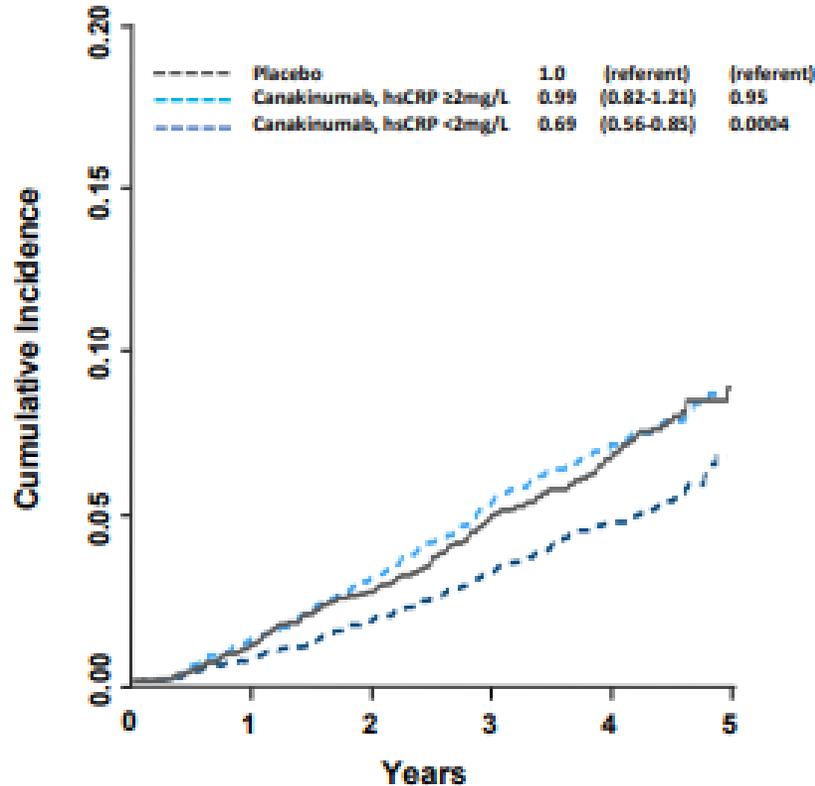
- Placebo SC q 3 months
- Canakinumab 150/300 mg SC q 3 months



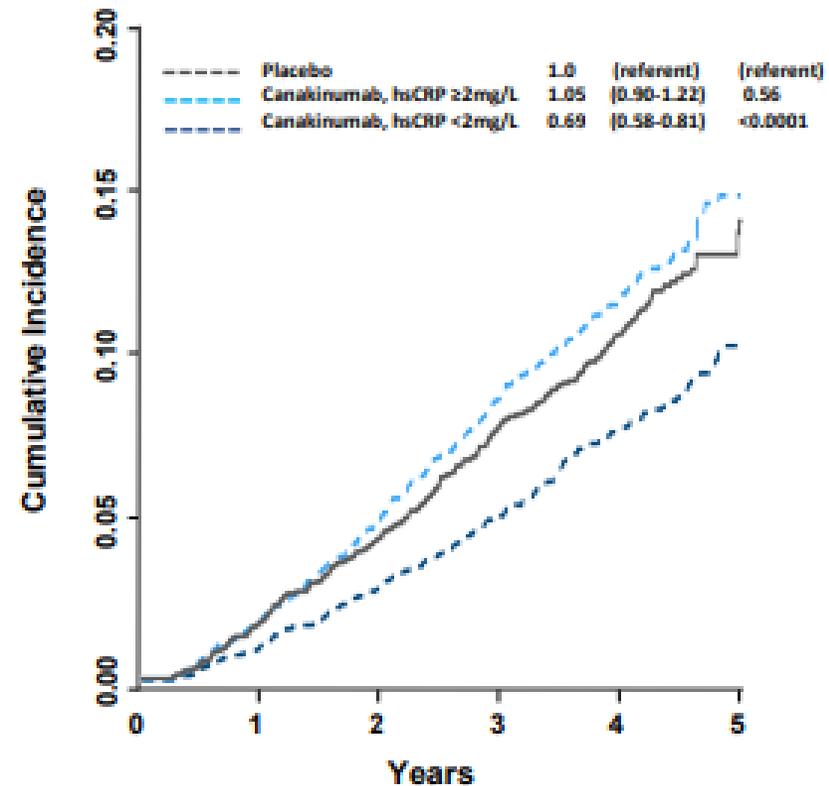
**35 - 40% reductions in hsCRP and IL-6**  
**No change in LDLC**

## CANTOS : 31% Reduction in Cardiovascular Mortality and All-Cause Mortality Among Participants with Robust Inhibition of the Inflammatory Response

### CANTOS - Cardiovascular Mortality



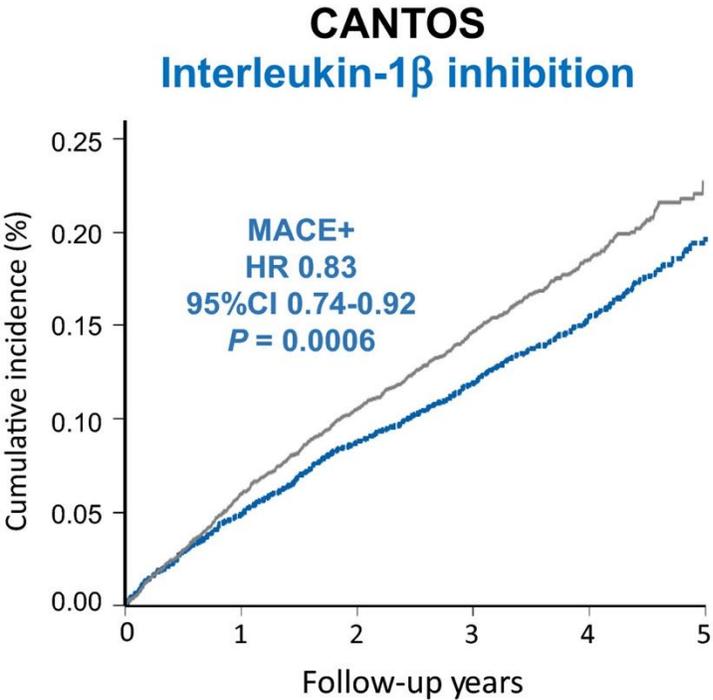
### CANTOS - All Cause Mortality



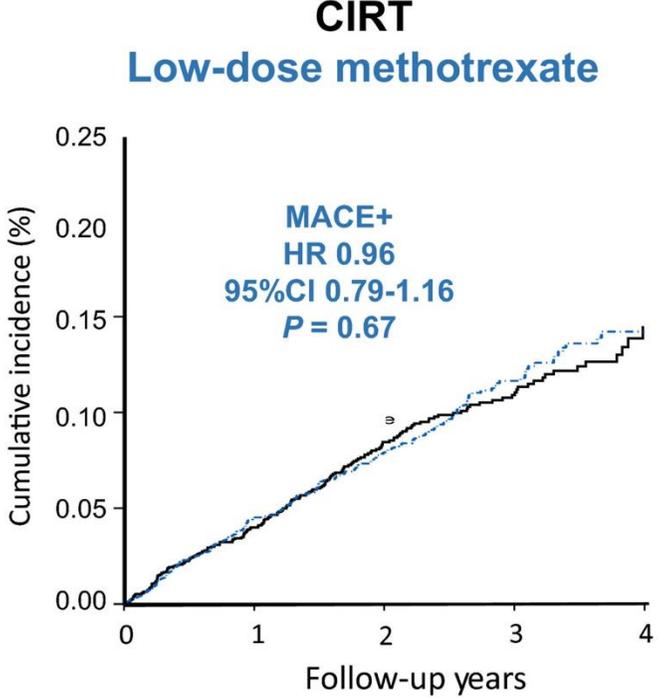
35 - 40% reductions in hsCRP and IL-6  
No change in LDLC

# Anti-inflammatory therapy for atherosclerosis: interpreting divergent results from the CANTOS and CIRT clinical trials

Recurrent MI, stroke, need for urgent revascularization, or CV death (MACE-plus)



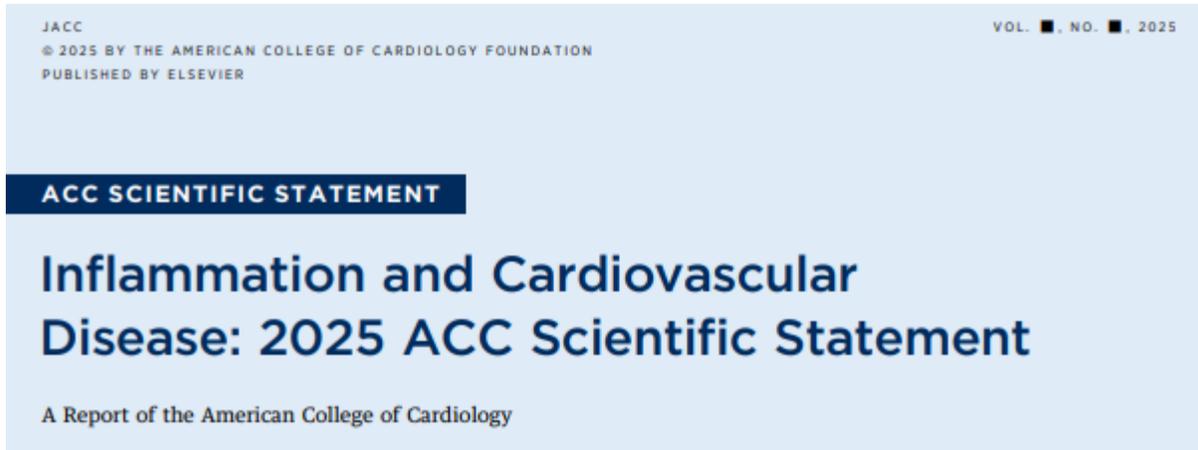
35 – 40% reductions in IL-6 and hsCRP  
17% reduction in CV Events



No reduction in IL-1 $\beta$ , IL-6 nor hsCRP  
No reduction in CV Events

The CIRT data suggest that the mechanism of low-dose methotrexate, likely mediated through adenosine signalling [13](#), [14](#), comprises an entirely different pathway for inflammation inhibition that is less relevant for atherothrombosis.

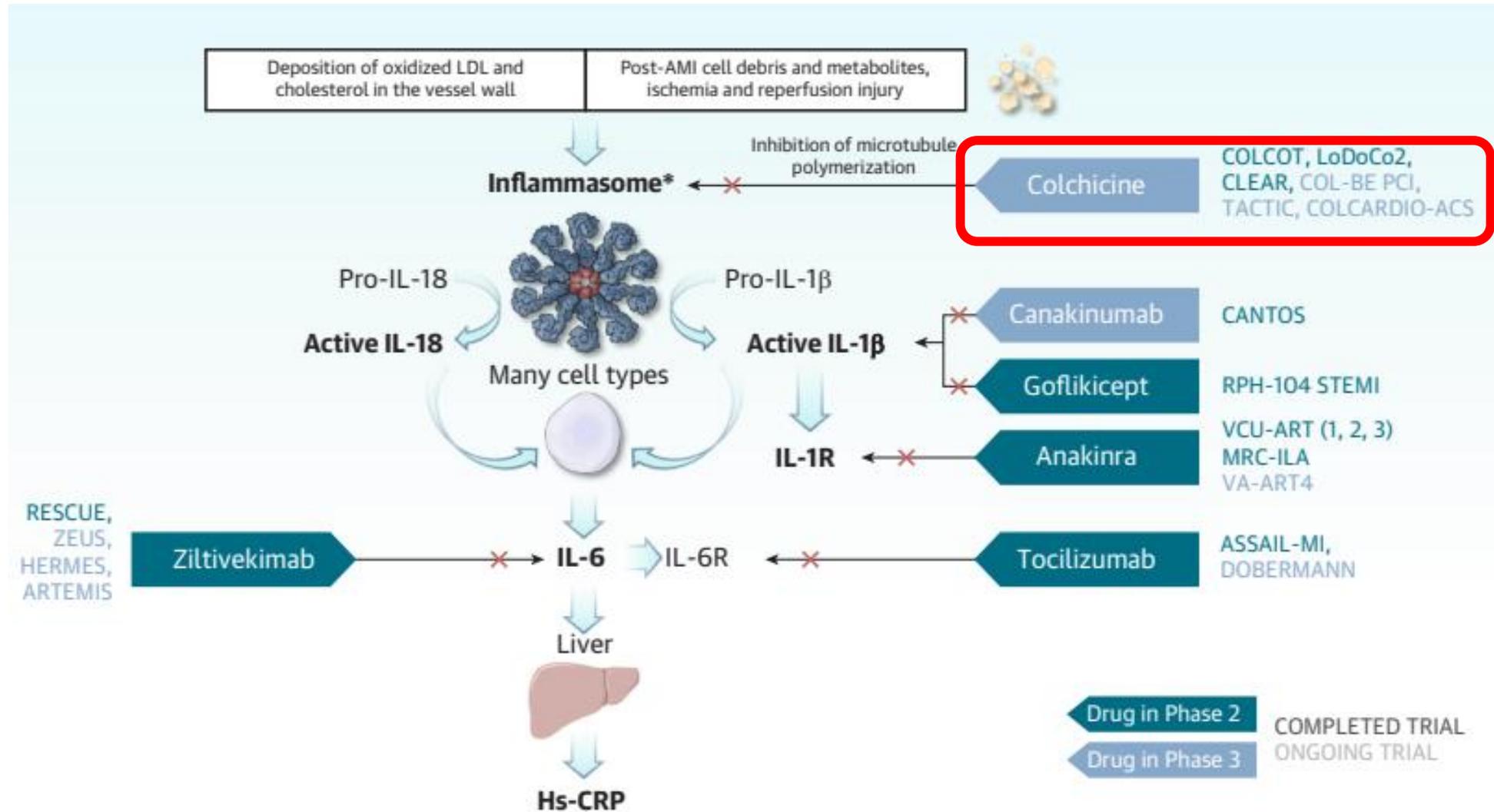
# 2025 ACC Scientific Statement Consensus Recommendations on hsCRP screening and anti-inflammatory approaches in secondary prevention



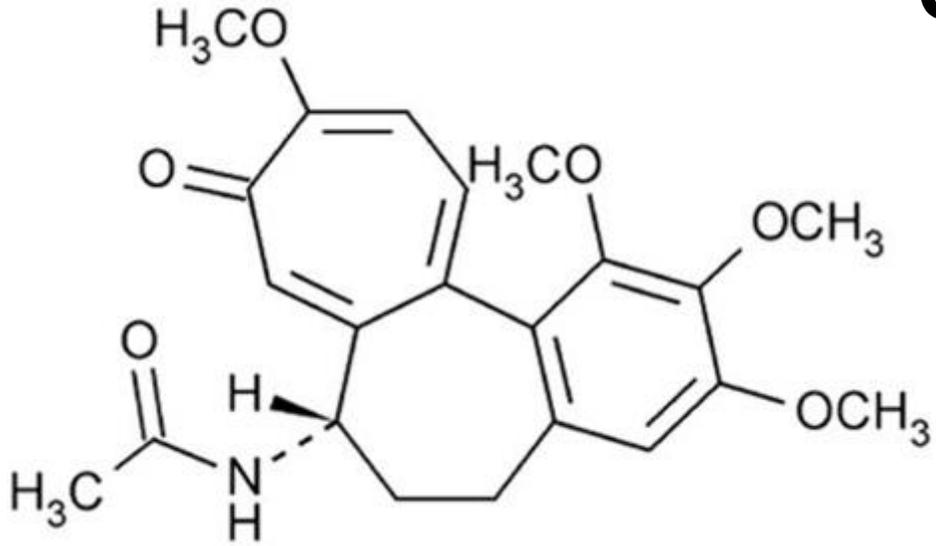
### hsCRP screening and anti-inflammatory approaches in secondary prevention

- Among individuals with known cardiovascular disease both treated and not treated with statins, hsCRP is **at least as powerful** a predictor of recurrent vascular events **as** that of **LDL cholesterol**, demonstrating the importance of “residual inflammatory risk” in contemporary practice.
- Among individuals taking statin therapy, consideration should be given to increase dosage into the **higher intensity range** if **hsCRP** levels remain **>2 mg/L**, irrespective of LDL cholesterol.
- **Low-dose colchicine** reduces cardiovascular events among individuals with chronic stable atherosclerosis and is **the first FDA approved anti-inflammatory agent** for this purpose.
- **Low-dose colchicine** is intended to be used as an **adjunct to lipid lowering**; however, colchicine has not proven effective when initiated at the time of acute ischemia and should be avoided among individuals with significant liver or renal disease.
- Several **novel anti-inflammatory agents**, including IL-6 inhibitors, are now being evaluated in **ongoing randomized trials** in the settings of chronic kidney disease, dialysis, HFpEF, and acute coronary syndrome

# Molecular Targets of Inflammation in AMI and Investigational Anti-Inflammatory Drugs



# Colchicine



- Extracted from the autumn crocus („Herbstzeitlose“)
- Relatively inexpensive
- Oral administered
- Historically indicated for the treatment of gout, familial Mediterranean Fever, and pericarditis

## Caveats

- Potential for drug-to drug interactions, particularly with strong CYP3A4 and P-glycoprotein inhibitors
- Most common AE are diarrhea, nausea, abdominal pain in up to 10% of those initiating therapy
- Renally and hepatically metabolized

# Key Publications on Colchicine in CAD with MI

COLCOT

LoDoCo

CLEAR

*The* NEW ENGLAND  
JOURNAL *of* MEDICINE

ESTABLISHED IN 1812      DECEMBER 26, 2019      VOL. 381 NO. 26

## Efficacy and Safety of Low-Dose Colchicine after Myocardial Infarction

Jean-Claude Tardif, M.D., Simon Kouz, M.D., David D. Waters, M.D., Olivier F. Bertrand, M.D., Ph.D., Rafael Diaz, M.D., Aldo P. Maggioni, M.D., Fausto J. Pinto, M.D., Ph.D., Reda Ibrahim, M.D., Habib Gamra, M.D., Ghassan S. Kiwan, M.D., Colin Berry, M.D., Ph.D., José López-Sendón, M.D., Petr Ostadal, M.D., Ph.D., Wolfgang Koenig, M.D., Denis Angoulvant, M.D., Jean C. Grégoire, M.D., Marc-André Lavoie, M.D., Marie-Pierre Dubé, Ph.D., David Rhainds, Ph.D., Mylène Provencher, Ph.D., Lucie Blondeau, M.Sc., Andreas Orfanos, M.B., B.Ch., Philippe L. L'Allier, M.D., Marie-Claude Guertin, Ph.D., and François Roubille, M.D., Ph.D.

N Engl J Med 2019;381:2497-505

*The* NEW ENGLAND JOURNAL *of* MEDICINE

ORIGINAL ARTICLE

## Colchicine in Patients with Chronic Coronary Disease

S.M. Nidorf, A.T.L. Fiolet, A. Mosterd, J.W. Eikelboom, A. Schut, T.S.J. Opstal, S.H.K. The, X.-F. Xu, M.A. Ireland, T. Lenderink, D. Latchem, P. Hoogslag, A. Jerzewski, P. Nierop, A. Whelan, R. Hendriks, H. Swart, J. Schaap, A.F.M. Kuijper, M.W.J. van Hessen, P. Saklani, I. Tan, A.G. Thompson, A. Morton, C. Judkins, W.A. Bax, M. Dirksen, M. Alings, G.J. Hankey, C.A. Budgeon, J.G.P. Tijssen, J.H. Cornel, and P.L. Thompson, for the LoDoCo2 Trial Investigators\*

N Engl J Med 2020;383:1838-47.

*The* NEW ENGLAND  
JOURNAL *of* MEDICINE

ESTABLISHED IN 1812      FEBRUARY 13, 2025      VOL. 392 NO. 7

## Colchicine in Acute Myocardial Infarction

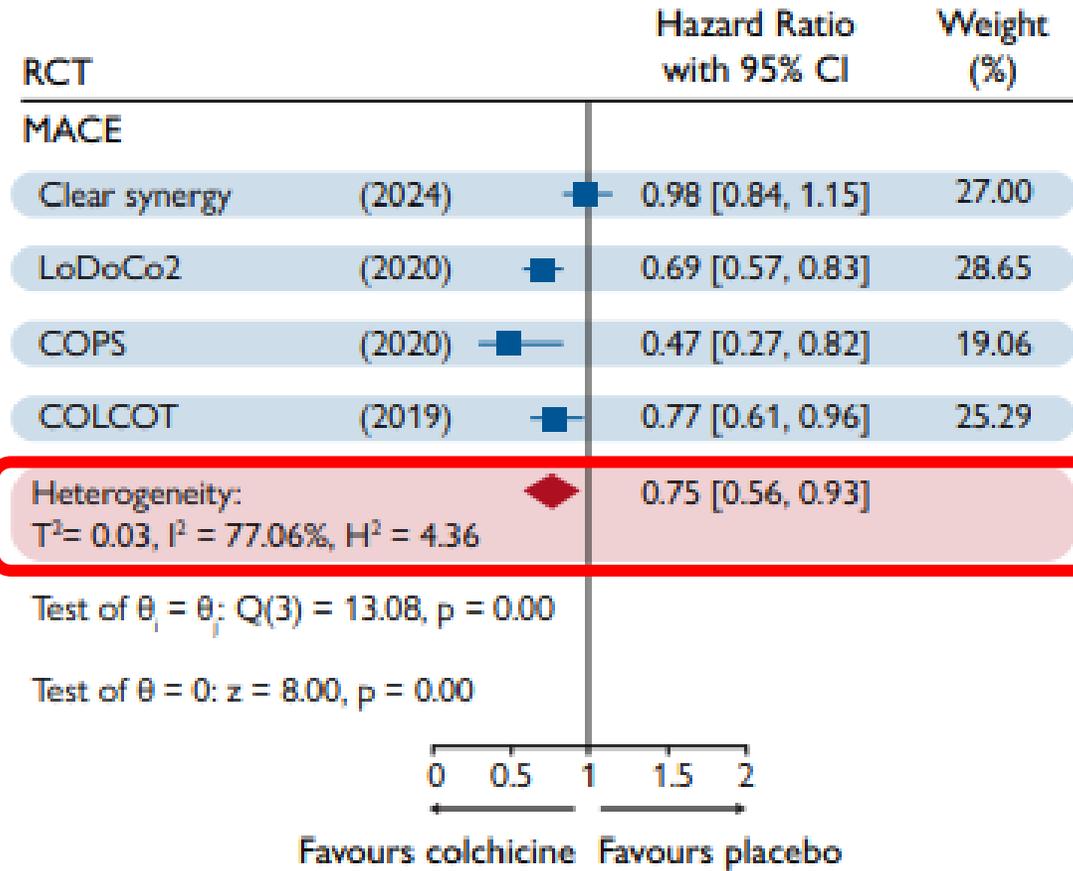
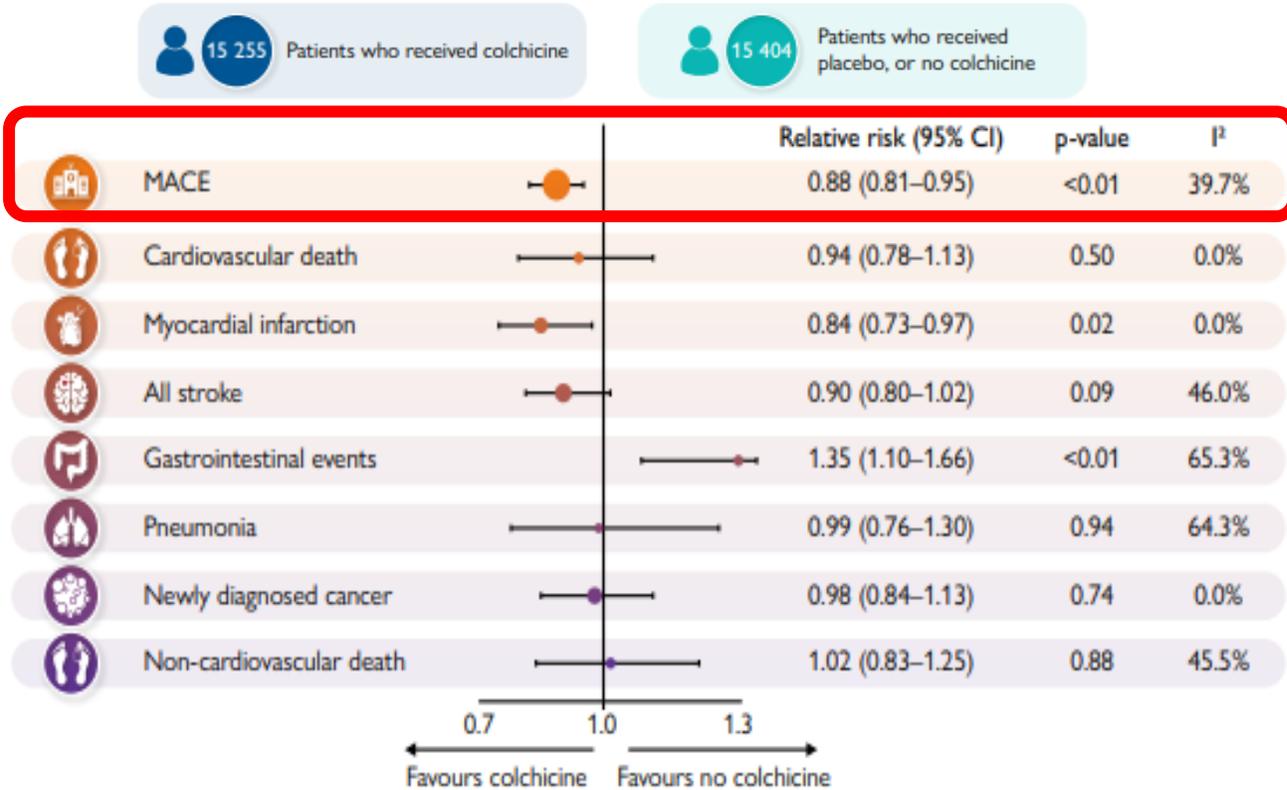
S.S. Jolly,<sup>1,2</sup> M.-A. d'Entremont,<sup>1,2,3</sup> S.F. Lee,<sup>1,2</sup> R. Mian,<sup>1,2</sup> J. Tyrwhitt,<sup>1</sup> S. Kedev,<sup>4</sup> G. Montalescot,<sup>5</sup> J.H. Cornel,<sup>6,7,8</sup> G. Stanković,<sup>9</sup> R. Moreno,<sup>10</sup> R.F. Storey,<sup>11,12</sup> T.D. Henry,<sup>13</sup> S.R. Mehta,<sup>1,2</sup> M. Bossard,<sup>14</sup> P. Kala,<sup>15</sup> J. Layland,<sup>16,17</sup> B. Zafirovska,<sup>4</sup> P.J. Devereaux,<sup>1,2</sup> J. Eikelboom,<sup>1,2</sup> J.A. Cairns,<sup>18</sup> B. Shah,<sup>19,20</sup> T. Sheth,<sup>1,2</sup> S.K. Sharma,<sup>21</sup> W. Tarhuni,<sup>22</sup> D. Conen,<sup>1,2</sup> S. Tawadros,<sup>1</sup> S. Lavi,<sup>23</sup> and S. Yusuf,<sup>1</sup> for the CLEAR Investigators\*

N Engl J Med 2025;392:633-42

# Colchicine for secondary prevention of vascular events: 2 new meta-analyses

Colchicine for secondary prevention of vascular events: a meta-analysis on 9 trials, 30 659 patients

Long-term trials of colchicine for secondary prevention of vascular events: a meta-analysis on 6 RCTs, 21 800 patients, FU 12–34 months



## COLCOT: good tolerance

## Adverse events

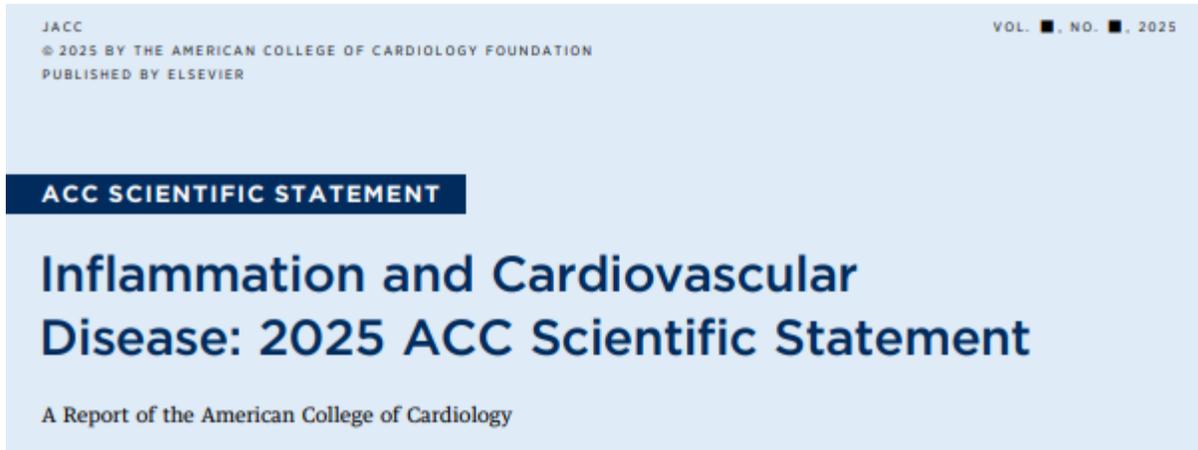


Safety population	Colchicine (N=2330)	Placebo (N=2346)	P Value
Any related AE - no. (%)	372 (16.0%)	371 (15.8%)	0.89
Any SAE - no. (%)	383 (16.4%)	404 (17.2%)	0.47
Gastro-intestinal AE - no. (%)	408 (17.5%)	414 (17.6%)	0.90
Gastro-intestinal SAE - no. (%)	46 (2.0%)	36 (1.5%)	0.25
Diarrhea AE - no. (%)	225 (9.7%)	208 (8.9%)	0.35
Nausea AE - no. (%)	43 (1.8%)	24 (1.0%)	0.02
Flatulence AE - no. (%)	15 (0.6%)	5 (0.2%)	0.02
GI haemorrhage AE - no. (%)	7 (0.3%)	5 (0.2%)	0.56
Infection SAE - no. (%)	51 (2.2%)	38 (1.6%)	0.15
Pneumonia SAE - no. (%)	21 (0.9%)	9 (0.4%)	0.03
Septic shock SAE - no. (%)	2 (0.1%)	2 (0.1%)	0.99
HF hospitalization - no. (%)	25 (1.1%)	17 (0.7%)	0.21
Cancer - no. (%)	43 (1.8%)	46 (2.0%)	0.77
Anemia - no. (%)	14 (0.6%)	10 (0.4%)	0.40
Leukopenia - no. (%)	2 (0.1%)	3 (0.1%)	0.66
Thrombocytopenia - no. (%)	3 (0.1%)	7 (0.3%)	0.21

Tardif, J.C.,... Roubille, F.

*N Engl J Med.* 2019 Dec 26;381(26):2497-2505.

# 2025 ACC Scientific Statement Consensus Recommendations on hsCRP screening and anti-inflammatory approaches in secondary prevention



### hsCRP screening and anti-inflammatory approaches in secondary prevention

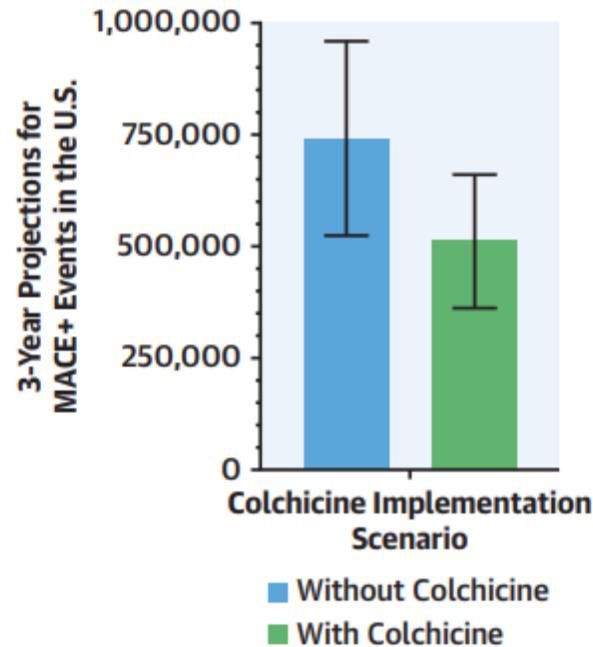
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# Potential Impact of Colchicine on ACVD in the United States

## Underuse of Colchicine

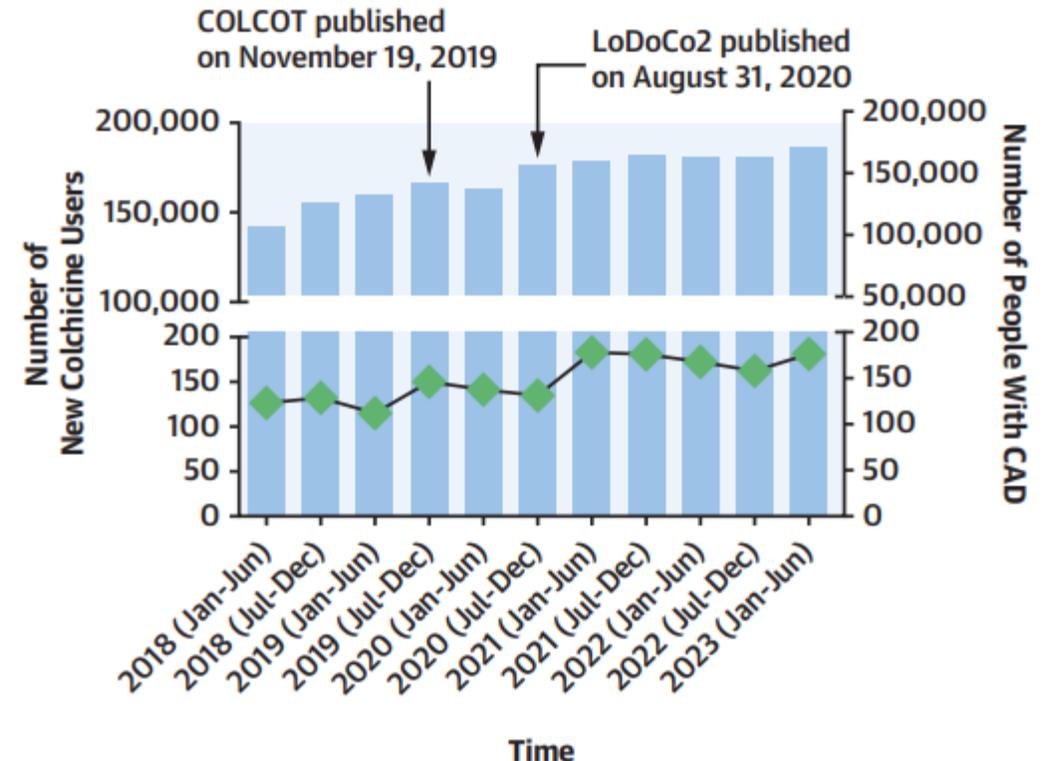
Numbers of potentially avoidable MACEs calculated by extrapolation of the risk reduction from the **LoDoCo2 trial** and the nationally representative **National Health And Nutrition Examination Survey study**

**Routine Colchicine Use May Prevent 226,000 Major Adverse Cardiovascular Events in the United States Over a 3-Year Period**



Data on Colchicine use before and after major publications in an integrated health care system in **southeastern New England** from 2018 to 2023

**<1% of Patients With Coronary Artery Disease at an Academic Health System**



## FDA Approval of low dose colchicine 0.5 mg po

**FDA approves colchicine, the first anti-inflammatory drug for treating cardiovascular disease**

### -----INDICATIONS AND USAGE-----

**LODOCO** is an alkaloid indicated:

- to reduce the risk of myocardial infarction (MI), stroke, coronary revascularization, and cardiovascular death in adult patients with established atherosclerotic disease or with multiple risk factors for cardiovascular disease (1).

### -----DOSAGE AND ADMINISTRATION-----

The recommended dosage is 0.5 mg orally once daily. (2.1).

# Zulassung Colchicin 0,5 mg QD für Sekundärprävention

BfArM: AMIce-ÖFF/ Arzneimittel © BfArM

## Allgemeine Angaben

Eingangsnummer	7010105
Arzneimittelbezeichnung	Colxi 0,5 mg Filmtabletten
Anzahl der Wirkstoffe im AM	1
Berechnete Stärke	0.5 mg
Darreichungsform	Filmtablette
Zielgruppe (Domain)	Mensch
Status der Version	CURRENT
Hauptversionsnummer	7.0.0
Regulatorische Aktivität	Änderung Typ IAIN
Datensatz zuletzt aktualisiert am	08.01.2026

## Anwendungsgebiete

Anwendungsgebiete	Erwachsene Prophylaxe von ischämischen kardiovaskulären Ereignissen bei Patienten mit atherosklerotischer koronarer Herzerkrankung und vor kurzem stattgefundenem Myokardinfarkt (MI) zusätzlich zu Standardtherapien.
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## Zulassungsinformationen

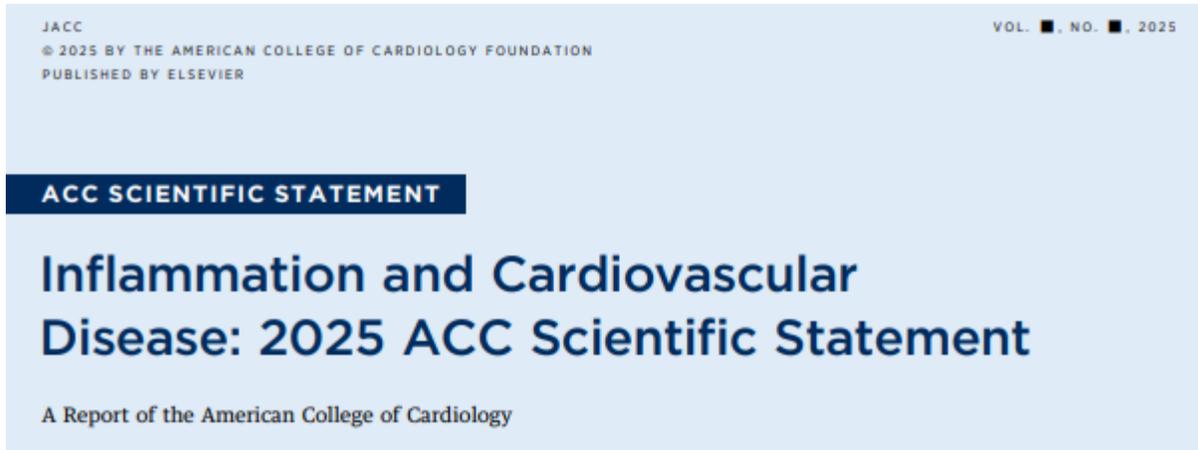
Zulassungsnummer/ Registrierungsnummer	7010105.00.00
Datum der Zulassung/Registrierung (Wirksamkeitsdatum)	02.08.2025
Verfahrenstyp	DCP - europäisches dezentrales Verfahren
Antragsart	Zulassung gem. Art. 8(3) RL 2001/83 ("Full Dossier")
Arzneimitteltyp	Chemisches Arzneimittel
Status	zugelassen

Bei Patienten mit bestätigter koronarer Herzerkrankung wird die Behandlung innerhalb von 3 Tagen, spätestens jedoch 30 Tage nach einem Myokardinfarkt eingeleitet. Die Höchstdosis ist 0,5 mg täglich\*.

\*<https://www.fachinfo.de/fi/pdf/025606/colxi-0-5-mg-filmtabletten>

<https://portal.dimdi.de/amguifree/am/docoutput/jpadocdisplay.xhtml?globalDocId=820F9F50389C43238F4DE5FBB9523ACA&directdisplay=true&docid=1>

# 2025 ACC Scientific Statement Consensus Recommendations on hsCRP screening and anti-inflammatory approaches in secondary prevention



## hsCRP screening and anti-inflammatory approaches in secondary prevention

- Among individuals with known cardiovascular disease both treated and not treated with statins, hsCRP is **at least as powerful** a predictor of recurrent vascular events **as** that of **LDL cholesterol**, demonstrating the importance of “residual inflammatory risk” in contemporary practice.
- Among individuals taking statin therapy, consideration should be given to increase dosage into the **higher intensity range** if **hsCRP** levels remain **>2 mg/L**, irrespective of LDL cholesterol.
- **Low-dose colchicine** reduces cardiovascular events among individuals with chronic stable atherosclerosis and is **the first FDA approved anti-inflammatory agent** for this purpose.
- **Low-dose colchicine** is intended to be used as an **adjunct to lipid lowering**; however, colchicine has not proven effective when initiated at the time of acute ischemia and should be avoided among individuals with significant liver or renal disease.
- Several **novel anti-inflammatory agents**, including IL-6 inhibitors, are now being evaluated in **ongoing randomized trials** in the settings of chronic kidney disease, dialysis, HFpEF, and acute coronary syndrome

# Overview of Ongoing Randomized Controlled Trials of Anti-Inflammatory Drugs Across the Spectrum of CAD

Trial (Phase)	Population	Sample Size	Time of Intervention	Primary Endpoint	Follow-Up	Study Completion
<b>Colchicine (Microtubules)</b>						
COL BE PCI (phase 3)	PCI-treated CAD patients	2,770 ●	From 2 hours up to 5 days post-PCI	Death, nonfatal MI, nonfatal stroke, or coronary revascularization	44 months	2028
TACTIC (phase 3)	ACS	6,574 ●	<48 h	CVD, nonfatal MI, nonfatal stroke, ACS rehospitalization, ID-revascularization	12 months	2028
COLCARDIO-ACS (phase 3)	ACS	3,000 ●	4-52 weeks	CVD, non fatal stroke, MI, urgent revascularization	36 months	2029
<b>Anakinra (IL-1RA)</b>						
VA-ART4 (phase 2)	STEMI	84 ●	<12 h	Peak oxygen consumption	1.5 months	2027
<b>Ziltivekimab (IL-6)</b>						
ARTEMIS (phase 3)	AMI	10,000 ●	<36 h STEMI, <72 h NSTEMI	CVD, nonfatal myocardial infarction, nonfatal stroke	25 months	2026
ZEUS (phase 3)	ASCVD	6,200 ●		CVD, nonfatal myocardial infarction, nonfatal stroke	48 months	2026
<b>Tocilizumab (IL-6R)</b>						
DOBERMANN (phase 2)	AMI	100 ●	<24 h	NT-proBNP	48 hours	2025
<b>Golocdacimab (LOX-1)</b>						
GOLDILOX-TIMI 69 (phase 2b)	Prior AMI	423 ●	30-365 days	Non-calcified plaque volume by CCTA	8.4 months	2025
<b>Doxycycline (MMP-2)</b>						
DOXY-STEMI (phase 2)	STEMI	170 ●	<12 h	LVESVi by CMR	3 months	2025
<b>Rituximab (CD20)</b>						
RITA-MI2 (phase 2b)	STEMI	558 ●	<48 h	LVEF by CMR	6 months	2027

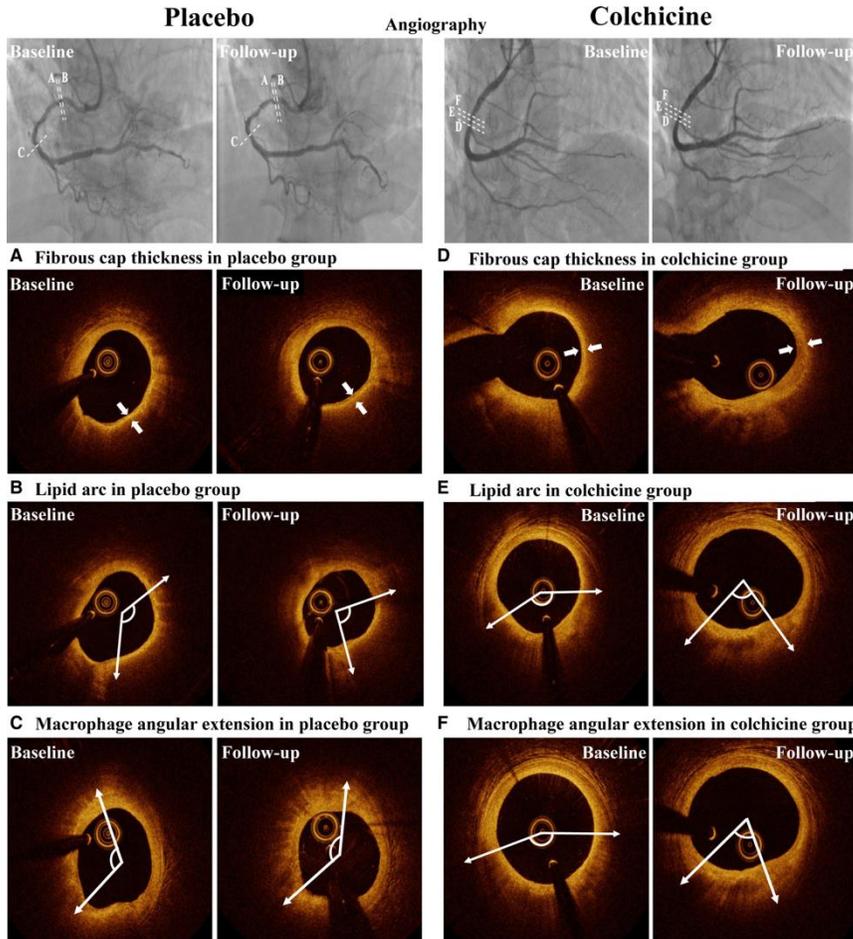


**Backup**

ORIGINAL RESEARCH ARTICLE

**Effect of Colchicine on Coronary Plaque Stability in Acute Coronary Syndrome as Assessed by Optical Coherence Tomography: The COLOCT Randomized Clinical Trial**

N=104; Placebo=52



	Baseline		12-Mo follow-up		Change from baseline to 12 mo		Difference in change	P value
	Placebo (n=64)	Colchicine (n=64)	Placebo (n=52)	Colchicine (n=52)	Placebo (n=52)	Colchicine (n=52)		
Plaque numbers	138	167	108	131	108	131		
<b>Primary end point</b>								
Minimal fibrous cap thickness, $\mu\text{m}^*$	130.9 $\pm$ 70.2	139.6 $\pm$ 76.0	185.4 $\pm$ 90.6	227.8 $\pm$ 124.4	51.9 (32.8 to 71.0)	87.2 (69.9 to 104.5)	34.2 (9.7 to 58.6)	0.006
<b>Secondary end point</b>								
Minimum lumen area, $\text{mm}^2$	5.1 $\pm$ 2.5	4.5 $\pm$ 2.3	4.5 $\pm$ 2.3	4.2 $\pm$ 2.4	-0.3 (-0.5 to -0.1)	-0.2 (-0.4 to -0.1)	0.1 (-0.1 to 0.4)	0.387
Average lipid arc, $^\circ$	105.1 $\pm$ 28.6	109.0 $\pm$ 29.6	79.8 $\pm$ 25.4	73.0 $\pm$ 31.5	-25.2 (-30.6 to -19.9)	-35.7 (-40.5 to -30.8)	-10.5 (-17.7 to -3.4)	0.004
Mean macrophage angular extension, $^\circ$	38.9 $\pm$ 25.7	43.2 $\pm$ 27.1	32.5 $\pm$ 16.6	30.1 $\pm$ 16.9	-8.9 (-13.3 to -4.6)	-14.0 (-18.0 to -10.0)	-6.0 (-11.8 to -0.2)	0.044
Thin-cap fibroatheroma incidence, n (%) <sup>†</sup>	32 (23.2%)	35 (21.0%)	14 (13.0%)	11 (8.4%)	-10.2% (-19.4 to -1.1)	-12.6% (-4.6 to -20.5)	OR, 0.8 (0.5 to 1.3)	0.367

favorable effects on coronary plaque stabilization at OCT

# Colchicine on Coronary Plaque Stability in Acute Coronary Syndrome

Optical Coherence Tomography - The COLOCT Randomized Clinical Trial

Inflammatory Biomarkers at Baseline and Follow-Up

	Baseline		12-Mo follow-up		Absolute value change from baseline to 12 mo		Difference in change	P value
	Placebo (n=64)	Colchicine (n=64)	Placebo (n=52)	Colchicine (n=52)	Placebo (n=52)	Colchicine (n=52)		
hsCRP, mg/L	1.1 (0.4, 4.4)	1.2 (0.5, 5.6)	0.6 (0.2, 1.3)	0.5 (0.2, 1.3)	0.6 (0.4 to 1.0)	0.3 (0.2 to 0.5)	0.5 (0.3 to 1.0)	0.046
IL-1RA, pg/mL	95.3 (62.4, 143.7)	105.6 (75.9, 148.7)	91.9 (55.0, 168.5)	62.4 (42.6, 136.8)	1.0 (0.9 to 1.2)	0.7 (0.6 to 0.9)	0.7 (0.6 to 0.9)	0.003
IL-18, pg/mL	24.6 (14.4, 59.3)	26.1 (16.2, 40.5)	20.5 (11.5, 46.7)	14.5 (9.3, 20.2)	1.0 (0.8 to 1.3)	0.6 (0.4 to 0.7)	0.6 (0.4 to 0.8)	0.001
IL-6, pg/ml	5.8 (2.7, 17.2)	6.5 (3.0, 12.2)	4.5 (3.0, 11.5)	2.5 (2.1, 3.6)	0.8 (0.6 to 1.1)	0.5 (0.4 to 0.7)	0.6 (0.4 to 0.9)	0.025
NLR	2.4 (1.9, 3.4)	2.5 (1.8, 3.7)	2.2 (1.7, 2.9)	2.6 (1.7, 3.5)	0.9 (0.8 to 1.0)	1.0 (0.8 to 1.1)	1.1 (0.9 to 1.3)	0.362
MPO, ng/mL	2.9 (1.9, 3.7)	2.8 (2.0, 3.9)	2.7 (1.5, 3.9)	1.9 (1.3, 3.0)	1.0 (0.8 to 1.2)	0.8 (0.7 to 0.9)	0.8 (0.6 to 1.0)	0.047
AZU1, pg/mL	1.8 (1.5, 2.9)	2.0 (1.5, 2.8)	1.5 (1.2, 2.2)	1.2 (1.0, 1.7)	0.9 (0.7 to 1.0)	0.6 (0.5 to 0.8)	0.7 (0.6 to 0.9)	0.019

# Low-dose colchicine and high-sensitivity C-reactive protein after myocardial infarction: A combined analysis using individual patient data from the COLCOT and LoDoCo-MI studies

## Pre-treatment and post-treatment hs-CRP for COLCOT and LoDoCo-MI

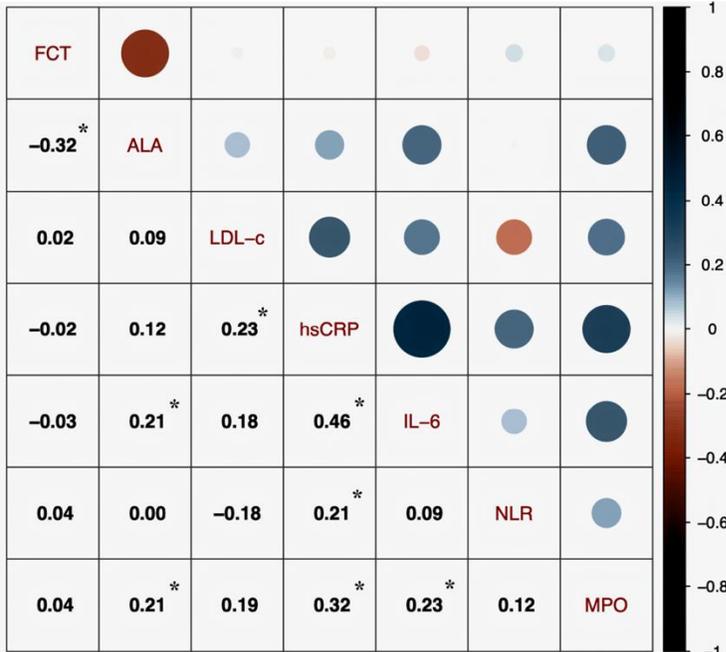
Characteristic	COLCOT				LoDoCo-MI			
	Overall, N = 207 <sup>a</sup>	Placebo, N = 108 <sup>a</sup>	Colchicine, N = 99 <sup>a</sup>	p-value <sup>b</sup>	Overall, N = 222 <sup>a</sup>	Placebo, N = 111 <sup>a</sup>	Colchicine, N = 111 <sup>a</sup>	p-value <sup>b</sup>
Pre-treatment hs-CRP, mg/L (continuous)				0.170				0.891
Mean (SD)	8.43 (12.09)	8.95 (11.28)	7.87 (12.95)		20.91 (38.20)	20.55 (37.79)	21.26 (38.77)	
Median (IQR)	4.28 (2.28, 8.78)	4.83 (2.47, 11.83)	4.00 (2.13, 6.98)		7.40 (3.00, 17.58)	7.70 (3.00, 18.90)	6.90 (3.10, 15.60)	
Absolute change				0.353				0.439
Mean (SD)	-5.99 (12.37)	-6.37 (11.22)	-5.57 (13.55)		-17.07 (37.82)	-16.47 (38.05)	-17.68 (37.75)	
Median (IQR)	-2.26 (-6.34, -0.80)	-2.67 (-9.42, -0.82)	-2.10 (-5.31, -0.80)		-4.00 (-13.93, -1.00)	-3.30 (-12.50, -0.90)	-4.30 (-13.75, -1.10)	
Range	-90.42, 31.69	-76.90, 13.72	-90.42, 31.69		-224.00, 33.50	-224.00, 20.30	-201.80, 33.50	
% change in hs-CRP (% continuous)				0.640				0.088
Mean (SD)	-38.33 (123.30)	-45.00 (70.57)	-31.05 (162.54)		-38.61 (115.62)	-34.01 (132.07)	-43.20 (96.82)	
Median (IQR)	-65.94 (-81.75, -39.78)	-66.79 (-81.18, -34.88)	-64.76 (-83.17, -40.69)		-73.53 (-89.32, -35.70)	-64.29 (-87.61, -31.06)	-77.85 (-91.56, -46.91)	

Colchicine was not significantly associated with post-treatment hs-CRP when it was considered as a continuous variable but was significantly associated with increased odds of achieving post-treatment hs-CRP values  $\leq 1.0$  mg/L compared to placebo (odds ratio: 1.64, 95% confidence interval: 1.07 to 2.51, P = 0.024).

# Colchicine on Coronary Plaque Stability in Acute Coronary Syndrome

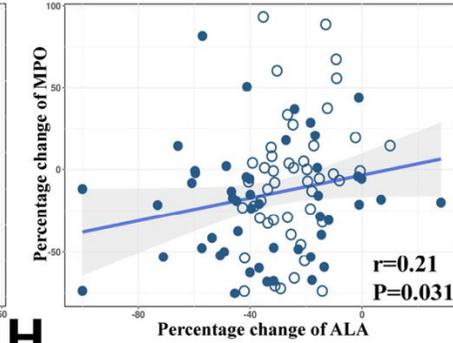
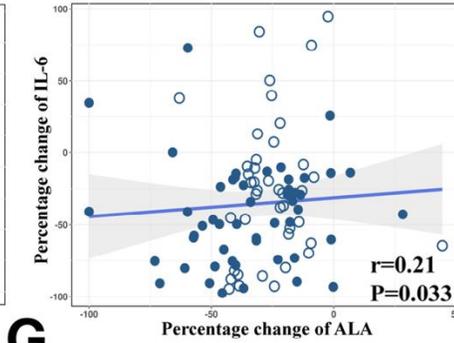
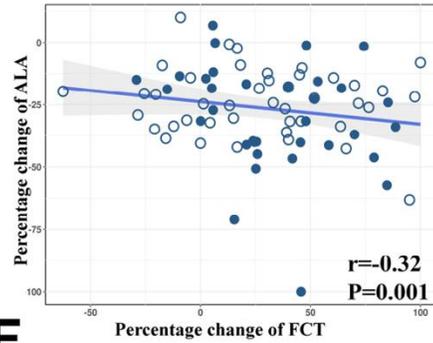
Optical Coherence Tomography - The COLOCT Randomized Clinical Trial

**A**

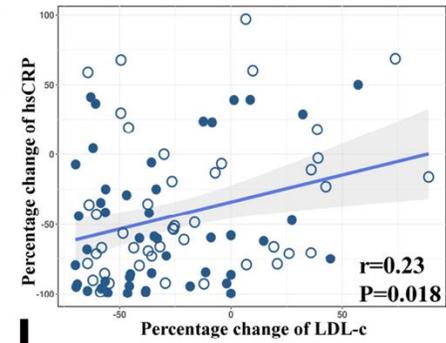


**B**

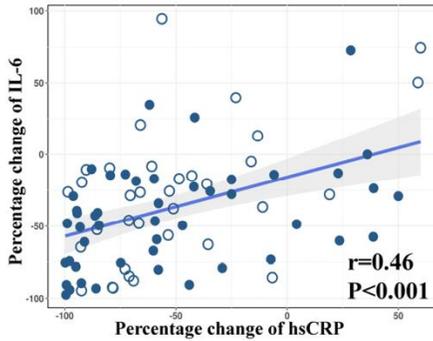
baseline to the 12-month follow-up



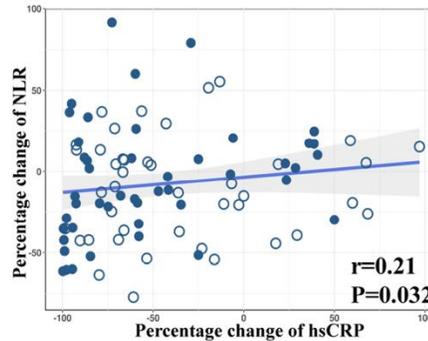
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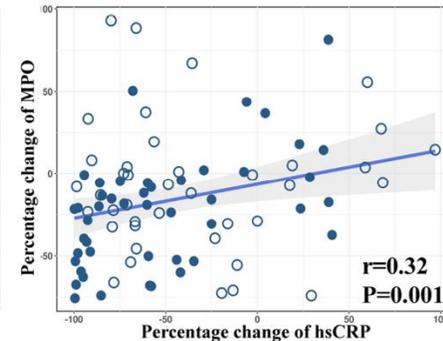
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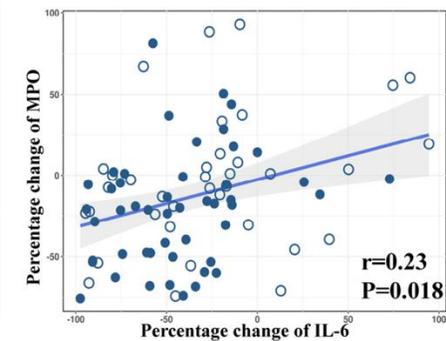
**G**



**H**



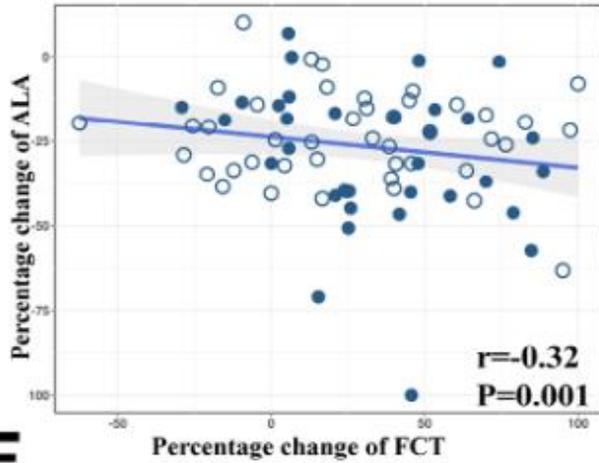
**I**



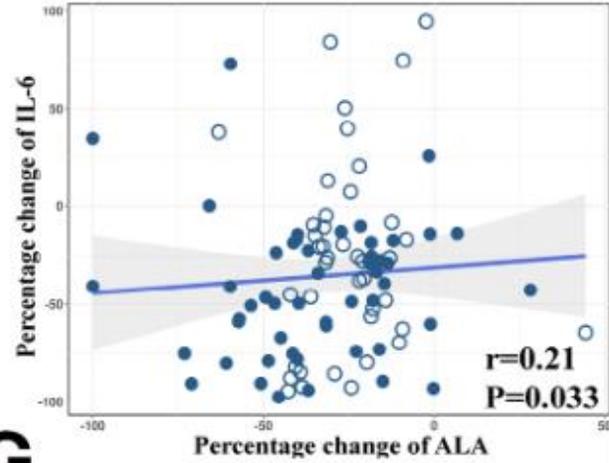
# Colchicine on Coronary Plaque Stability in Acute Coronary Syndrome

Optical Coherence Tomography - The COLOCT Randomized Clinical Trial

**B**

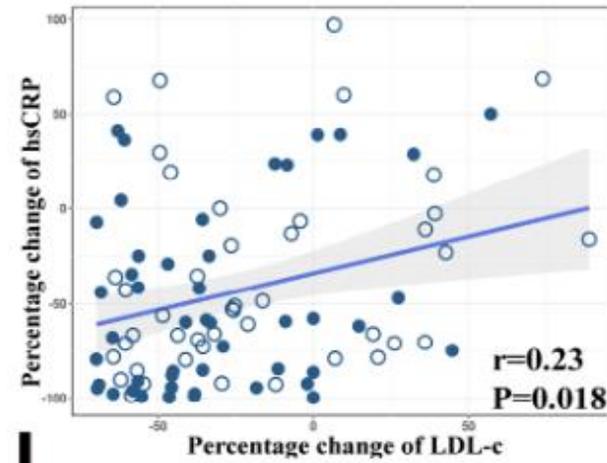


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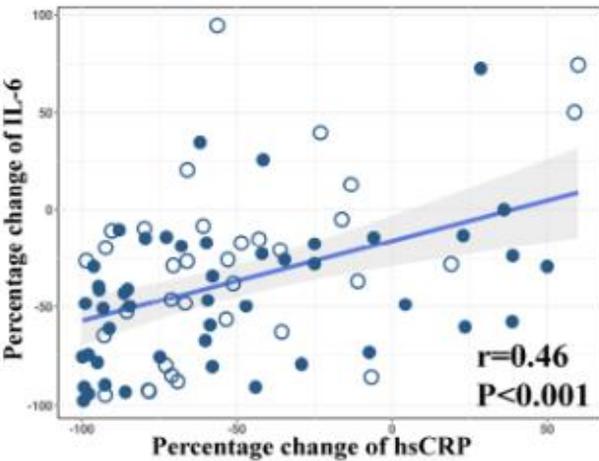


baseline to the 12-month follow-up

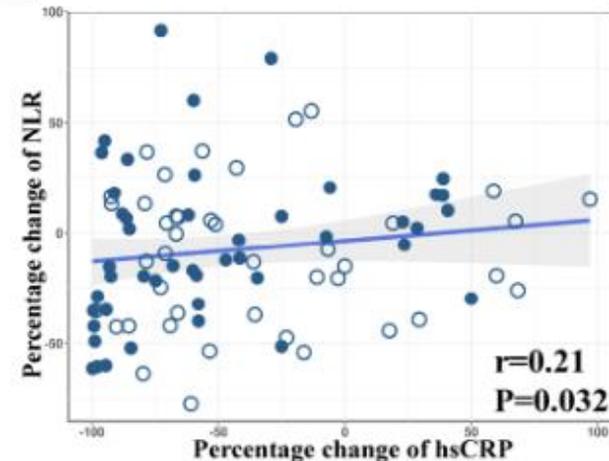
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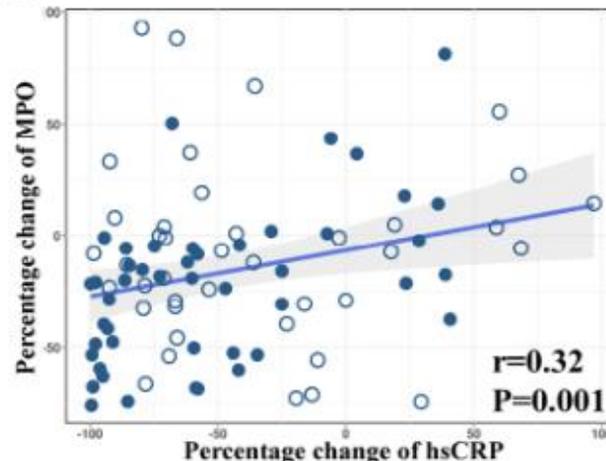
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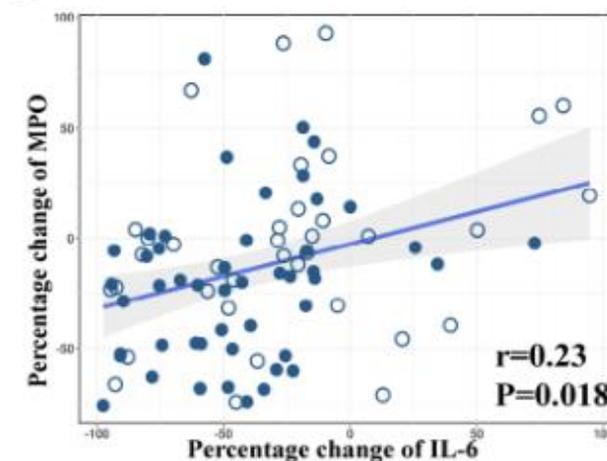
**G**



**H**



**I**



# Anti-Inflammatory Therapy Has Entered All Major Guidelines in the Americas and Europe



European Heart Journal (2024) 45, 3415–3537  
<https://doi.org/10.1093/eurheartj/ehae177>

ESC GUIDELINES

## 2024 ESC Guidelines for the management of chronic coronary syndromes

CLINICAL PRACTICE GUIDELINE

2023 AHA/ACC/ACCP/ASPC/NLA/PCNA  
Guideline for the Management  
of Patients With  
Chronic Coronary Disease

CLINICAL PRACTICE GUIDELINE

2025 ACC/AHA/ACEP/NAEMSP/SCAI  
Guideline for the Management of  
Patients With Acute Coronary Syndromes

### Recommendation Table 20 — Recommendations for anti-inflammatory drugs in patients with chronic coronary syndrome (see also Evidence Table 20)

Recommendation	Class <sup>a</sup>	Level <sup>b</sup>
In CCS patients with atherosclerotic CAD, low-dose colchicine (0.5 mg daily) should be considered to reduce myocardial infarction, stroke, and need for revascularization. <sup>714–716</sup>	<b>IIa</b>	<b>A</b>

CAD, coronary artery disease; CCS, chronic coronary syndrome.

<sup>a</sup>Class of recommendation.

<sup>b</sup>Level of evidence.

“In patients with chronic coronary disease (CCD), the addition of colchicine for secondary prevention may be considered to reduce recurrent ASCVD events”. (2B, B-R)

“In patients after ACS, low-dose colchicine may be reasonable to reduce risk of MACE”. (2B, B-R)

# Overview of Ongoing Randomized Controlled Trials of Anti-Inflammatory Drugs Across the Spectrum of CAD

Trial (Phase)	Population	Sample Size	Time of Intervention	Primary Endpoint	Follow-Up	Study Completion
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